CONVERTER/COMPRESSOR BUILDING, SWMU 089
2022 PERFORMANCE MONITORING REPORT
KENNEDY SPACE CENTER, FLORIDA

Prepared for:

National Aeronautics and Space Administration
Kennedy Space Center, Florida

October 2023
Revision 0

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National Aeronautics and Space Administration
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October 2023

PROFESSIONAL ENGINEER CERTIFICATION

This Performance Monitoring Report for the Converter/Compressor Building, Solid Waste Management Unit 089, Kennedy Space Center, Florida, dated October 2023, has been prepared by or under the responsible supervision, direction, or control of the Florida-licensed professional engineer whose signature and seal appear below. This document and the work described herein complies with standard professional practices and the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.) and other rules of the Florida Department of Environmental Protection according to Rule 62-780.400(1), F.A.C.

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ABBREVIATIONS AND ACRONYMS

516S	Area South of K7-516
ADP	Advance Data Package
AS	Air Sparging
bls	below land surface
CCB	Converter/Compressor Building
CCF	Components Cleaning Facility
cDCE	cis-1,2-Dichloroethene
COC	Contaminant of Concern
COPC	Chemicals of Potential Concern
CS	Confirmatory Sampling
CSR	Confirmatory Sampling Report
CSWP	Confirmatory Sampling Work Plan
DNAPL	Dense Non-Aqueous Phase Liquid
DPD	Decision Process Document
DPT	Direct Push Technology
EE	Engineering Evaluation
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
FDSA	Former Drum Storage Area
FSRA	Fluid Servicing Road Area
GCTL	Groundwater Cleanup Target Level
GSDO	Ground Systems Development and Operations
HCP	High Concentration Plume
HS	Hot Spot
IGWM	Interim Groundwater Monitoring
IM	Interim Measure
IMWP	Interim Measure Work Plan
IWP	Implementation Work Plan
KSC	Kennedy Space Center

ABBREVIATIONS AND ACRONYMS (Continued)

KSCRT	KSC Remediation Team
LCP	Low Concentration Plume
LOC	Location of Concern
LTM	Long-Term Monitoring
NADC	Natural Attenuation Default Concentration
NASA	National Aeronautics and Space Administration
NFA	No Further Action
ng/L	nanograms per liter
O&M	Operation and Maintenance
OMMR	Operations, Maintenance, and Monitoring Report
PFAS	Per- and Polyfluoroalkyl Substances
pGCTL	Provisional Groundwater Cleanup Target Level
PFOA	Perfluorooctanoic Acid
PFOS	Perfluorooctanesulfonic Acid
PM	Performance Monitoring
PMR	Performance Monitoring Report
POL	Paint and Oil Locker
PSBA	Propellants Support Building Area
RAE	Remedial Alternatives Evaluation
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SAR	SWMU Assessment Report
SSDS	Sub-Slab Depressurization System
SWMU	Solid Waste Management Unit
SZ	Source Zone
TCE	Trichloroethene
tDCE	trans-1,2-Dichloroethene
µg/L	micrograms per liter

ABBREVIATIONS AND ACRONYMS (Continued)

USEPA	United States Environmental Protection Agency
VC	Vinyl Chloride
VOC	Volatile Organic Compound

EXECUTIVE SUMMARY

This Performance Monitoring (PM) Report (PMR) presents the annual and biennial groundwater monitoring results for the Converter/Compressor Building (CCB) located at Kennedy Space Center (KSC), Florida. The reporting period covered under this PMR is from January 1, 2022, to December 31, 2022. This site has been designated Solid Waste Management Unit (SWMU) 089 under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program.

The 2022 reporting period represents the second year of post-air sparging (AS) PM at CCB (Post-AS PM, Year 2). The AS Interim Measure (IM) previously operated at CCB from April 2014 (expanded in May 2016) until December 2020 to treat five Hot Spots (HSs) that were delineated during previous site characterization efforts. The objective of the AS IM was to reduce concentrations of volatile organic compounds (VOCs) in groundwater to levels that support transition to a long-term monitoring (LTM) phase. In February 2019, a decision was made during the KSC Remediation Team (KSCRT) Meeting to discontinue active AS treatment at CCB because IM objectives were met; however, the Team agreed to continue operating the AS system until the system trailers could be moved and utilized at another site. The system operated until it was permanently shut down on December 1, 2020.

Upon completion of the AS IM, a plume evaluation and monitoring network optimization was performed in 2020, which reduced the monitoring network to 25 wells sampled annually and 23 wells sampled biennially for VOCs. Direct push technology (DPT) investigations were also conducted during this timeframe to further define plume boundaries and determine where additional wells may be needed. In December 2021, the first PM event was completed since the AS IM was discontinued (Post-AS PM, Year 1), with results showing concentrations of contaminants of concern (COCs) relatively stable with only slight changes since the AS system was shut down. All COC concentrations remained less than Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentrations (NADCs), with the exception of an area around monitoring well MW0021 where elevated groundwater concentrations were identified during DPT sampling in 2020-2021. The KSCRT reached consensus in March 2022 to conduct another round of sampling in 2022 with annual and biennial wells to provide additional data to support transition to a LTM program.

In December 2022, annual and biennial groundwater monitoring was conducted (Post-AS PM, Year 2); however, flooding from Hurricanes Ian and Nicole prevented sampling at seven wells located in wetland areas. These wells were later sampled in February 2023 once water subsided but are collectively referred to and evaluated as part of the December 2022 dataset. A total of 48 wells were sampled, which included 25 wells scoped for annual sampling and 23 wells scoped for biennial sampling. Results indicated that MW0021, located in former HS 5, continues to be the only well with concentrations greater than NADCs, including trichloroethene (TCE) at 2,300 micrograms per liter (μg/L). An IM Work Plan was presented to the KSCRT in April 2023 to address NADC exceedances in the MW0021 area via in-situ bioremediation and emulsified zero-valent iron injection. Further documentation of the MW0021 area will be provided under separate cover, to include an Implementation Work Plan to facilitate the IM and address field implementation details.

For remaining wells in the monitoring network, the December 2022 dataset shows that concentrations of TCE, cis-1,2-dichloroethene (cDCE), and vinyl chloride (VC) in annual and biennial wells remain less than FDEP NADCs with the majority of wells exhibiting stable or decreasing concentrations. Excluding MW0021, the December 2022 maximum detections were 80 μg/L of TCE in MW0026 (reduced from maximum of 25,400 μg/L in MW0088 in 2016), 110 μg/L of cDCE in MW0067 (reduced from maximum of 22,000 μg/L in MW0073 in 2013), and 43 μg/L of VC in MW0067 (reduced from maximum of 6,300 μg/L in MW0087 in 2016). Based on 2022 sampling results, the current size of the low concentration plume is 5.1 acres, reduced from 12.5 acres pre-IM, and the high concentration plume has been reduced from 5.8 acres to approximately 664 square feet around the MW0021 area.

The 2022 results continue to indicate that the corrective action objective for the AS IM has been met, which supports transition of the site from PM to LTM, except for the area around MW0021 where plans are in progress for an additional IM in this area. The current monitoring well network is recommended to be retained for the LTM program (25 wells annually and 23 wells biennially), but with the addition of two existing wells to the annual

LTM schedule for vertical monitoring in areas where the highest COC concentrations remain outside of the MW0021 area. The LTM network will continue to be reviewed and optimized as new data is collected to ensure wells are appropriately placed for vertical and horizontal monitoring of the plume, capture any potential COC migration, and provide an effective dataset for evaluating contaminant concentration trends.

The next reporting period will be January 1, 2023, to December 31, 2023, and will include the annual monitoring event scheduled for December 2023. The next biennial sampling event will be conducted in December 2024. All samples will be analyzed for VOCs by Method 8260D. The associated report will be called an LTM Report and will include statistical analysis of contaminant trends of the site's COCs. The contents of this PMR were presented at the June 2023 KSCRT Meeting, where Team consensus was reached on the recommendations and path forward for CCB (Meeting Minute 2306-M06, Decisions 2306-D05, D06).

SECTION I
INTRODUCTION

This Performance Monitoring (PM) Report (PMR) presents the annual and biennial groundwater monitoring results for the Converter/Compressor Building (CCB) located at Kennedy Space Center (KSC), Florida (Figure 1-1). The reporting period covered under this PMR is from January 1, 2022, to December 31, 2022. This site has been designated Solid Waste Management Unit (SWMU) 089 under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program. This document was prepared by Tetra Tech, Inc., for the National Aeronautics and Space Administration (NASA) under Indefinite Delivery Indefinite Quantity Contract 80KSC019D0011-80KSC019F0070.

An Air Sparging (AS) Interim Measure (IM) operated at CCB from April 2014 (expanded in May 2016) until December 2020 to treat five Hot Spots (HSs) that were defined during previous Site Characterization efforts. A Hot Spot is an area where groundwater concentrations exceed 10 times the NADC. HSs 1, 2, and 5 were located in the southern portion of the site and HSs 3 and 4 were located in the northern portion of the site. The AS system treating HSs 1, 2, and 5 began operation in April 2014 and, in May 2016, the system was expanded to include HSs 3 and 4. In February 2019, active AS was recommended to be discontinued based on completion of the IM objective. However, the system remained operational to prevent any long-term maintenance issues until the system trailer could be moved and utilized at another site. The AS system was permanently shut down on December 1, 2020, and relocated to the Paint and Oil Locker (POL) remediation site at KSC. The AS wells and underground conveyance piping were left in place but are no longer operational.

The network of wells used for PM of the AS system during operation was evaluated and optimized in 2020 to reduce the number of wells and the sampling frequency to a representative post-IM well network of 25 wells sampled annually and 23 wells sampled biennially. The established post-IM well network has remained unchanged. The following activities were completed during the 2022 reporting period and detailed in this PMR:

- Annual sampling of 24 monitoring wells in December 2022 and one monitoring well in February 2023 for volatile organic compound (VOC) analysis.

- Biennial sampling of 17 monitoring wells in December 2022 and six monitoring wells in February 2023 for VOC analysis.

- Collection of water level measurements from 42 wells in November 2022, prior to the annual/biennial sampling event.

Note, all annual and biennial wells were scoped to be sampled in December 2022, but because of flooding due to Hurricanes Ian and Nicole, sampling of seven wells was delayed until February 2023 and incorporated into the dataset for the 2022 reporting period.

1.1 BACKGROUND

CCB is part of the Fluid Servicing Road Area (FSRA) grouping of remediation sites, which includes the Area South of K7-516 (516S), Components Cleaning Facility (CCF), Propellants Support Building Area (PSBA), and CCB. CCB encompasses approximately 15 acres bordered by wooded areas to the north and east, open land including the Crawlerway to the south, and CCF to the west. CCB includes one primary building (K7-468) and several secondary support buildings located east of Fluid Servicing Road and south of the railroad tracks. Buildings K7-367, K7-415, K7-416, and K7-417 are located north of the railroad tracks and support the Propellants North Facility, which is located north of CCB (Figure 1-2).

The main building at CCB, K7-468, was constructed between 1963 and 1965, and the POL Flammables Storehouse (K7-417) was constructed in 1967. CCB is still operational and converts liquid helium received in tankers to a low-pressure helium gas that is pumped to high-pressure compressors and stored in pipelines and customer storage batteries. The site also controls and maintains high-pressure gaseous nitrogen that is supplied through an underground pipeline to various customers at KSC and Cape Canaveral Space Force Station. During the 1980s, the on-site storage tank previously used to supply nitrogen was removed and replaced with a pipeline connecting to an off-site facility. In 1993, the Ammonia Boiler Refurbishment/Test Building (K7-367) was constructed, and in 2005, the Cylinder Test and

Fill Facility (K7-415) and retention pond were constructed. No record of spills was identified for the CCB area.

1.2 SITE HISTORY

This section provides a summary of investigation activities, documents, and Engineering Evaluation (EE) Process and reports for CCB. The EE Multi-Step Process, as outlined in the Decision Process Document (DPD) for the RCRA Corrective Action Program at KSC (NASA, 2019a), includes Site Characterization (formerly known as Step 1), Remedial Alternatives Evaluation (RAE) (formerly known as Step 2), IM Design and Implementation (formerly known as Step 3), and IM Optimization and Monitoring (formerly known as Step 4), and the results of these steps are presented as advance data packages (ADPs) at KSC Remediation Team (KSCRT) Meetings. The EE Process is being used to address groundwater contamination at CCB and allows input from all KSCRT members for confirmation of contaminated groundwater delineation, evaluation of remedial technologies, review of preliminary designs, and evaluation and optimization of remediation systems following installation and operation. Site activities and document submittals are summarized below.

The SWMU Assessment for CCB was conducted in October 2003 to identify potential environmental impacts related to historical operations. The SWMU Assessment Report (SAR) identified four locations of concern (LOCs), which consisted of LOC 1A – the transformer bank and four transformer pads adjacent to building K7-468, LOC 1B – the transformer pad in the eastern portion of the parking lot, LOC 2 – the drainage area south of the parking lot, and LOC 3 – the aboveground storage tank in the northern portion of the site (NASA, 2004a). Based on the SAR findings, a Confirmatory Sampling (CS) Work Plan (CSWP) was completed, which proposed a sampling strategy to investigate the presence or absence of chemicals of potential concern (COPCs) at these LOCs (NASA, 2004b).

The first phase of CS was conducted in June 2004. Soil, groundwater, and surface water samples were collected, and results were screened against Florida Department of Environmental Protection (FDEP) cleanup criteria. Based on the initial findings, a CSWP Addendum was completed which proposed a second phase to define the boundaries and potential contaminant sources, and also incorporate a new LOC (LOC 4) identified as the Hazardous Waste Staging Area, an adjacent area to the west of CCB (NASA, 2004c).

The CS Report (CSR) was completed in 2005, which presented the findings of the CS activities completed at CCB. The CSR indicated COPCs were present in soil, surface water, and groundwater at concentrations exceeding their respective media cleanup target levels (NASA, 2005). However, it was determined that surface water at the site was very limited in extent and only present during periods of high precipitation. It was recommended in the CSR that no further evaluation of surface water be conducted in the proceeding RCRA Facility Investigation (RFI). A RFI Work Plan was included in the CSR and detailed additional assessment of the vertical and horizontal extent of chlorinated constituents in groundwater and delineation of impacted soil exceeding industrial Soil Cleanup Target Levels. The CSR and RFI Work Plan were approved in July 2005 following consensus to submit an RFI Work Plan as an appendix to the CSR Report (Meeting Minute 0504-M14, Decisions 0504-D16).

The RFI Phase I results, which included the SWMU Assessment for the K7-417 Area, were presented to the KSCRT in September 2006 (NASA, 2006). The K7-417 SWMU Assessment evaluated the surrounding area of building K7-417 located adjacent, and north of K7-468. The SWMU Assessment included historical and then-current operations of buildings K7-417, K7-367, and K7-415 and surrounding areas. The findings were related to the data collected during the CCB RFI. During the SWMU Assessment, three additional LOCs were identified and comprised of LOC 5 – the K7-417 Decontamination Facility, POL, LOC 6 – the K7-367 Ammonia Boiler Test Facility, and LOC 7 – the railroad area and nitrogen vent line. The assessment of LOCs 5, 6, and 7 were included as part of the CCB RFI. In December 2007, a RFI Investigation Update was presented to the KSCRT, which included updated sampling results for all seven LOCs. The soil investigation at all seven LOCs resulted in approval of no further action (NFA) for soils at all LOCs except for LOC 1 (Meeting Minute 0712-M14, Decisions 0712-D13) (NASA, 2007). Team consensus was reached to prepare an Interim Measure Work Plan (IMWP) for LOCs 1A and LOC 1B (Meeting Minute 0712-M14, Decisions 0712-D14). The soil IM was conducted in October 2009 to mitigate human health risks associated with polycyclic aromatic hydrocarbons and polychlorinated biphenyls at LOC

1. During the IM, approximately 50 tons of soil and aggregate were transported off-site for disposal. A CCB IM Report was completed, which recommended NFA for soil at CCB (NASA, 2010a) and was approved by FDEP in February 2010. Groundwater remained the only medium of concern at CCB.

Activities associated with groundwater remediation continued from the sampling proposed in the RFI Work Plan which began in May 2006. The objective of the RFI groundwater investigation was to delineate the horizontal and vertical extent of chlorinated solvent groundwater contamination. Results from groundwater sampling efforts during the RFI were presented in the September 2006 Phase I RFI Results ADP, the December 2007 RFI Investigation Update ADP, July 2008 RFI Investigation Update ADP, and the February 2009 RFI Investigation Update – Round 2 Well Placement ADP (NASA, 2006; NASA, 2007; NASA, 2008; and NASA, 2009, respectively). Groundwater sampling efforts continued under the EE Process to delineate different concentration areas within CCB. In 2007, several trichloroethene (TCE) HSs were found at depths ranging from 15 to 45 feet below land surface (bls) with a maximum TCE concentration of 191,000 micrograms per liter (µg/L) at 15 feet bls. RFI Progress Reports were completed in 2012 and 2017 to update the progress of groundwater remediation (NASA, 2012a; NASA, 2017a). Note that the January 2017 RFI Progress Report (NASA, 2017a) summarizes all of the EEs and includes figures and cross sections delineating the contamination prior to remediation.

Site Characterizations were conducted for the low concentration plume (LCP), high concentration plume (HCP), HS, and source zone (SZ) areas at CCB. These areas are defined by NASA in the DPD for the RCRA Corrective Action Program at KSC, which are used to support site characterizations (NASA, 2019a). In the DPD, the LCP is defined as areas of concentrations of contaminants of concern (COCs) greater than State of Florida Groundwater Cleanup Target Levels (GCTLs). The HCP is defined as areas with concentrations of COCs greater than FDEP Natural Attenuation Default Concentrations (NADCs). HSs are defined as locations with groundwater concentrations exceeding 10 times the NADCs. The SZ is defined as the area in which the majority of the mass of dense non-aqueous phase liquid (DNAPL), characterized by a 1 percent solubility in water, is present.

A Site Characterization for the LCP was presented at the October 2010 KSCRT Meeting (NASA, 2010b). Team consensus was reached for the LCP delineation for TCE, cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), and vinyl chloride (VC) (Meeting Minute 1010-M2, Decisions 1010-D2 and D3). During the August 2011 KSCRT Meeting, the Site Characterization was presented for the HCP (NASA, 2011a). Team consensus was reached that the HCP was delineated with the exception of HS 4. Additionally, consensus was reached that HSs 1, 2, 3, and 5 were delineated and would move to a RAE (Meeting Minute 1108-M2, Decisions 1108-D5 and D6). The HCP Site Characterization included a screening of technologies for the plumes identified at CCB. Team consensus was reached on the proposed technologies to be evaluated in the RAE, which included bioremediation (injection), bioremediation (recirculation), AS, and thermal (Meeting Minute 1108-M2, Decision 1108-D7).

Additional Site Characterization of HSs 1 and 2 was conducted in support of the RAE and was presented to the KSCRT in October 2011 (NASA, 2011b). The effort included additional sampling to refine the delineation of the SZ within HS 1 and to further delineate COC distribution within the HS 2 area. The additional Site Characterization also summarized the screening of technologies for the LCP and HCP areas, HS 1 and 2, and the SZ. Team consensus was reached for the LCP to maintain land use controls and continue the FSRA Interim Groundwater Monitoring (IGWM) Program. Team consensus was also reached for the HCP and HSs to retain technologies, including AS, that would be evaluated in the RAE. A Land Use Control Implementation Plan for groundwater at CCB was finalized in April 2012 (NASA, 2012b).

The RAE for HSs 1 and 2 was presented during the December 2011 KSCRT Meeting (NASA, 2011c). AS was recommended to reduce COCs to concentrations that would enable a transition to a long-term monitoring (LTM) phase. Team consensus was reached to proceed to an IMWP ADP for HSs 1 and 2. AS was the selected alternative for the IM (Meeting Minute 1112-M3, Decision 1112-D2).

The IMWP was presented at the June 2012 KSCRT Meeting (NASA, 2012c). The ADP provided an overview of the design of the AS system and supporting construction details and calculations, and Team consensus was reached at this meeting for the design of the AS system (Meeting Minute 1206-M11, Decision 1206-D29). The IMWP was approved by FDEP at the June 2012 KSCRT Meeting. After submittal of the IMWP for HSs 1 and 2, but prior to preparation of the Implementation Work Plan (IWP), the IM was expanded to address a larger footprint, including HS 5, to minimize the potential for contaminant exposure associated with Ground Systems Development and Operations (GSDO) redevelopment activities that were planned near Building K7-468. The IWP for HSs 1, 2, and 5 was submitted in March 2013 (NASA, 2013). The AS IM for HSs 1, 2, and 5 consisted of 228 AS wells in 13 treatment zones to depths ranging from 25 to 55 feet bls, two AS trailers (System #1, east trailer and System #3, west trailer), and a sub-slab depressurization system (SSDS) (System #2), which was installed to protect occupants in Building K7-468. The CCB AS system began operation in April 2014. The AS trailers also provided compressed air for sparging operations at the Former Drum Storage Area (FDSA) remediation site located at the northern end of Fluid Servicing Road, which began in June 2014. Detailed information about system startup and initial operation and maintenance (O&M) activities was provided in the June 2014 Construction Completion Report for the HSs 1, 2, and 5 IM (NASA, 2014a).

Following completion of the initial CCB AS system, follow-up investigations were conducted to complete site characterizations of HSs 3 and 4. The Site Characterization was presented for HS 4 during the November 2013 KSCRT Meeting. The ADP included a brief summary of the status of the HS 3 investigation and supporting evidence for delineation of HS 4 (Meeting Minute 1311-M2, Decision 1311-D4). Team consensus was reached to collect additional groundwater samples to evaluate if further investigation was required for delineation of HS 3 (Meeting Minute 1311-M2, Decision 1311-D3). Team consensus was also reached for five technologies to be evaluated in the RAE. The HS 4 RAE ADP was presented during the December 2013 KSCRT Meeting. Team consensus was reached to proceed to IM Design and Implementation for HS 4, with AS in the area of TCE concentrations greater than 3,000 µg/L as the selected alternative (Meeting Minute 1312-M7, Decisions 1312-D12 and D13).

The IMWP, which detailed the proposed IM for HS 4, was presented to the KSCRT in March 2014 (NASA, 2014b). Team consensus was reached for the design of an expanded AS system

(Meeting Minute 1403-M4, Decisions 1403-D7 and D8). The IMWP and ADP were approved by FDEP on December 5, 2014. During preparation of the HS 4 IMWP, additional investigation was being conducted to delineate the extent of contamination at HS 3. The Site Characterization ADP for HS 3 was presented at the November 2014 KSCRT Meeting, and consensus was reached on delineation of horizontal and vertical extents of contamination and to implement AS for both HSs 3 and 4 concurrently (Meeting Minute 1411-M17, Decision 1411-D36 and 37).

A proposed plan for the expanded system was presented in the HSs 1, 2, and 5 O&M ADP presented at the July 2015 KSCRT Meeting. Subsequently, an IWP that included both HSs 3 and 4 was prepared and submitted in October 2015 (NASA, 2015). Implementation of the IM was designed to reduce the likelihood of exposure to impacted groundwater at the site. Mobilization for construction began in August 2015, and full-scale operations began in May 2016. The AS IM for HSs 3 and 4 included 143 AS wells in eight treatment zones to depths ranging from 25 to 55 feet bls. During implementation of the IM for HSs 3 and 4, two additional AS wells were installed in September 2015, adjacent to MW0013 (NASA, 2016) located south of HSs 1, 2, and 5 between the Crawlerway lanes, to treat concentrations of VC in MW0013 greater than NADCs.

Pre-operation baseline groundwater sampling for HSs 1, 2, and 5 was conducted in December 2013, and the HSs 1, 2, and 5 AS system began operating in April 2014. For HSs 3 and 4, baseline groundwater sampling was conducted in January 2016, with AS system operations beginning in May 2016. Groundwater PM was conducted on a quarterly basis thereafter. Two wells located outside and downgradient of the HSs 1, 2, and 5 treatment area were assigned as IGWM locations and sampled annually. These were MW0012 and MW0056, located south of Saturn Causeway.

During the September 2016 KSCRT Meeting, it was decided quarterly sampling in HSs 1, 2, and 5 would continue at 21 wells with GCTL exceedances. Sparging would continue in a subset of AS wells in HSs 1, 2, and 5 in the areas of the wells with GCTL exceedances (i.e., the central portion of the site). At wells where GCTLs were attained, it was decided that sparging would discontinue in these areas and semi-annual performance monitoring would begin at these wells to evaluate potential rebounding (Meeting Minute 1609-M10, Decision 1609-D30 and 32). Quarterly PM began at all wells in HSs 3 and 4 in 2016 and continued through December 2017, then transitioned to semi-annual PM.

During the October 2017 KSCRT Meeting, the O&M results were presented for the reporting period from April 2016 to June 2017. It was decided to migrate the eastern area from active treatment to PM once the AS trailer was moved to Launch Complex 34 and begin semi-annual sampling for this area (Meeting Minute 1710-M2, Decision 1710-D4). In May 2018, the east trailer (System #1) was removed from CCB and relocated to Launch Complex 34 (SWMU CC054). Only the central portion of HSs 1, 2, and 5 and western portion of HSs 3 and 4 had active sparging at that point.

During the February 2019 KSCRT Meeting, consensus was reached to discontinue active AS because concentrations of COCs had met IM objectives (Meeting Minute 1902-M06, Decisions 1902-D33, D39). Team consensus was also reached to continue operating the AS system until the components were needed at another project site (Meeting Minute 1902-M06, Decision 1902-D33), which later occurred on December 1, 2020, when the AS system was permanently shut down and relocated to the POL remediation site at KSC. Continued groundwater monitoring was recommended to determine if concentrations would decrease to less than GCTLs. Several PM wells were transitioned to a reduced monitoring frequency: 20 wells were reduced from semi-annual to annual, and 24 wells were reduced from annual to biennial. Site-wide air monitoring, which had been conducted since December 2013 at HSs 1, 2, and 5, and since March 2016 at HSs 3 and 4, was discontinued because results continued to be significantly less than exposure levels. Team consensus was reached for these changes (Meeting Minute 1902-M06, Decisions 1902-D31 through D40). Details are provided in the April 2019 Operations, Maintenance, and Monitoring Report (OMMR) (NASA, 2019b).

During the February 2021 KSCRT Meeting, the operational data and PM results were presented for 2019 and 2020. Changes were proposed to the monitoring network including a reduction in sampling frequency of 14 wells from semi-annual to annual, a reduction in frequency of six wells from annual to biennial, and elimination of 27 wells which had achieved cleanup goals. Team consensus was reached for these recommendations (Meeting

Minute 2102-M08, Decisions 2102-D18-27, D29, D31-34). In addition, consensus was reached to conduct a supplemental direct push technology (DPT) investigation around wells MW0056, MW0096, MW0114, and MW0133 to address data gaps (Meeting Minute 2102-M08, Decisions 2102-D28, D30, D35, and D36). Also during the February 2021 KSCRT meeting, the results of a supplemental DPT investigation were presented for an area around MW0021 (screened 10-20 feet bls) where a localized TCE HS was identified between 12 and 20 feet bls with a maximum concentration of 5,900 µg/L. A recommendation was made to conduct additional DPT borings in the area of MW0021 to delineate the impacts and develop a path forward. Details of the initial DPT investigation in the MW0021 area are included in the 2019-2020 CCB PMR (NASA, 2021). Supplemental DPT data collected around MW0021 was included in the 2021 CCB PMR (NASA, 2022), where the highest TCE result was detected at DPT0430 in March 2021 at 85,100 µg/L at 10 feet bls. An RAE was performed to evaluate cleanup options for the MW0021 area and presented to the KSCRT in September 2022 along with Site Characterization data. Team consensus was reached that the MW0021 area was adequately delineated and for the selected remedy of in-situ bioremediation and zero valent iron/vegetable oil injection in the source area to support transition to LTM (Meeting Minute 2209-M02, Decisions 2209-D02 and D05). An IMWP was proposed to address COC concentrations in the MW0021 area, which was subsequently presented at the April 2023 KSCRT Meeting (NASA, 2023). An IWP will be submitted under separate cover for the MW0021 area to facilitate the IM and address field implementation details discussed during the April 2023 KSCRT Meeting.

During the September 2021 KSCRT Meeting, DPT sampling results collected in March 2021 around wells MW0056, MW0096, and MW0133 were presented to address data gaps. The area around MW0114 could not be sampled, as recommended, because it was flooded and therefore inaccessible. Consensus was reached to install three new wells based on DPT results (Meeting Minute 2109-M12, Decisions 2109-D46 to D48), which were subsequently installed in December 2021 (NASA, 2022). DPT sampling around MW0114 remains postponed due to continued flooding and wet conditions; however, because concentrations of COCs in MW0114 have remained less than method detection limits during recent sampling events, delineation sampling in this area will only be considered in the future if site conditions become feasible.

During the March 2022 KSCRT Meeting, results from the December 2021 annual PM were presented. This sampling event represented the first year of PM since the AS IM was discontinued. The data showed all results were less than NADCs, and results from newly installed downgradient boundary wells (MW0147 and MW0148) and replacement vertical delineation well (MW0096R) were less than method detection limits. The maximum concentration of TCE during the 2021 monitoring period was 290 µg/L in well MW0021. Aside from the MW0021 area, the highest TCE concentration was 100 µg/L in MW0026. A path forward was presented to conduct the December 2022 annual and biennial sampling event to include the wells in the established monitoring network, and following that event, a transition to long-term monitoring (LTM) would be recommended for the site with the exception of the MW0021 area (Meeting Minute 2203-M04, Decision 2203-D05).

Also during the December 2021 sampling event, select wells at CCB were sampled for per- and polyfluoroalkyl substances (PFAS). The results were compared to the current screening levels at the time, which were the State of Florida Provisional Groundwater Cleanup Target Levels (pGCTLs) of 70 nanograms per liter (ng/L) for perfluorooctanoic acid (PFOA) and perfluorooctanesulfonic acid (PFOS). Results showed detections of PFOA and PFOS less than pGCTLs. No further PFAS sampling was recommended (NASA, 2022). It should be noted that regulatory screening levels for PFAS have changed since these wells were sampled and the results have been re-screened against the new screening levels. Re-sampling for PFAS at CCB is currently not proposed. Any future PFAS investigations will be included under a separate cover.

Results from the 2022 annual and biennial PM event were presented at the June 2023 KSCRT Meeting (Meeting Minute 2306-M06, Decisions 2606-D05, D06). The June 2023 KSCRT Advance Data Package (ADP) and Meeting Minutes are included in Appendix A. This sampling event represents the second year of PM since the AS IM was discontinued. Results are presented in Section II of this report.

1.3 PURPOSE

The purpose of this PMR is to present groundwater monitoring activities conducted as part of the 2022 sampling event at CCB to monitor post-AS IM groundwater conditions. The sampling event was completed in December 2022; however, some groundwater samples were collected in February 2023 due to flooding issues but are collectively evaluated as part of the December 2022 dataset. Additionally, this report provides recommendations for future activities at CCB.

1.4 INTERIM MEASURE OBJECTIVES

The objective of the former AS IM at HSs 1 through 5 was to decrease concentrations of VOCs in groundwater in the treatment zones and surrounding HCPs, defined as areas where concentrations are greater than NADCs, via AS to concentrations that will enable transition to an LTM program. The objective was developed to provide a flexible treatment train approach during which metrics such as remedial performance, plume dynamics, and natural attenuation characteristics can be evaluated to determine attainment of remedial objectives and ultimately an endpoint to the IM.

It was decided during the February 2019 KSCRT Meeting that the objectives of the CCB AS IM were met because concentrations of COCs were below NADCs. The path forward at the time was to continue AS operations until the trailer and equipment were needed at another project site, and to continue routine groundwater monitoring. The remaining compressor trailer was moved from CCB to POL on December 1, 2020. The in-ground AS infrastructure was left in place in case PM conditions indicated that treatment needed to be reinstated. Contaminant rebound observed in the MW0021 area will be addressed through a separate IM (discussed under Section 1.2).

1.5 REPORT ORGANIZATION

This PMR is organized as follows:

Section I: Introduction – Provides a brief overview of the report and site background information and discusses the purpose and objective of the former AS IM and the current status of the monitoring program.

Section II: Groundwater Monitoring – Summarizes sampling activities, analytical results, and trend evaluations for the groundwater monitoring event conducted in December 2022, with select wells sampled in February 2023.

Section III: Conclusions and Recommendations – Provides a summary of the activities conducted and presents recommendations for future activities at CCB.

Section IV: References – Provides a listing of the references cited in this report.

FIGURE 1-1 LOCATION OF KENNEDY SPACE CENTER AND SWMU 089
SWMU 089, KENNEDY SPACE CENTER, FLORIDA

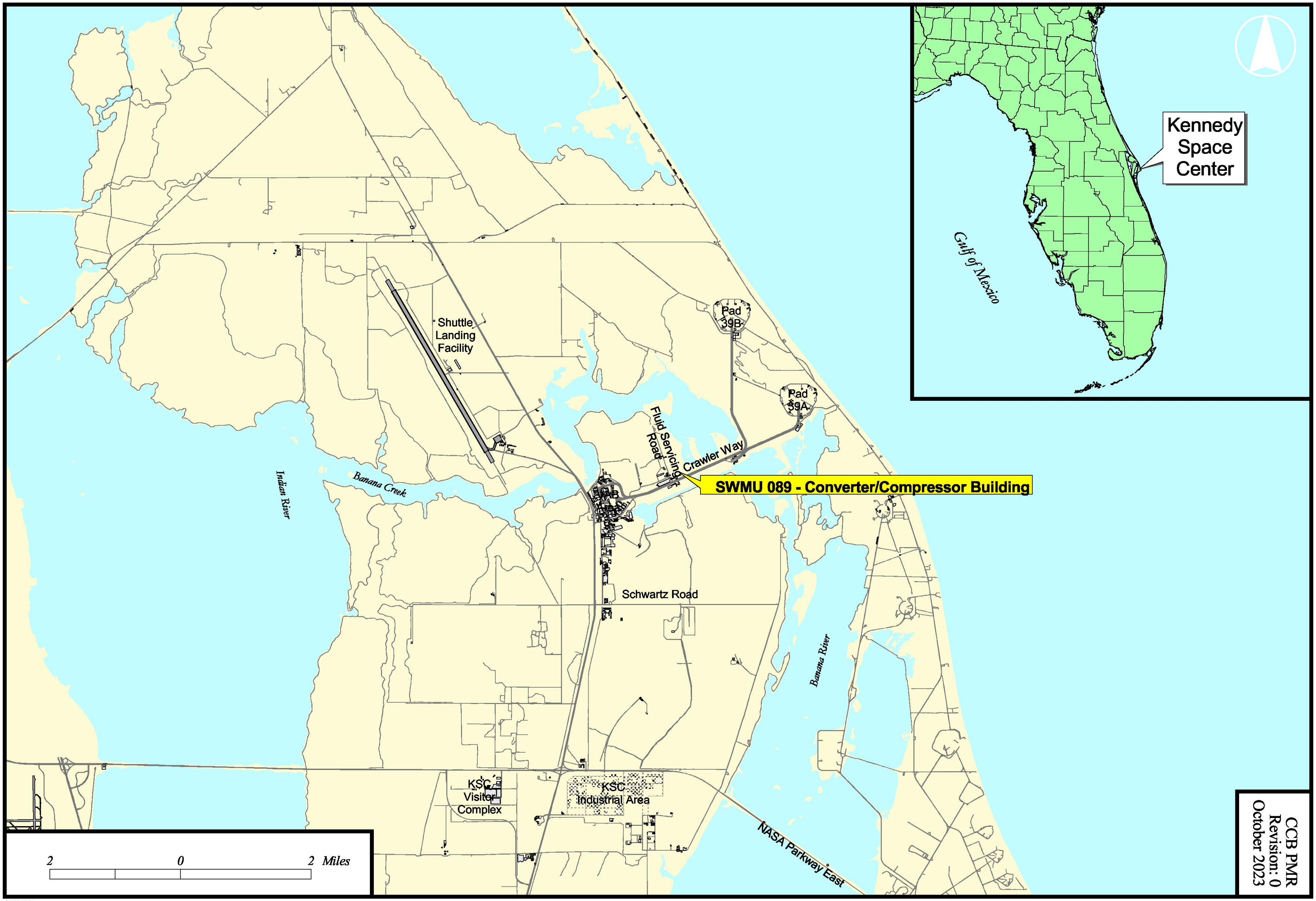

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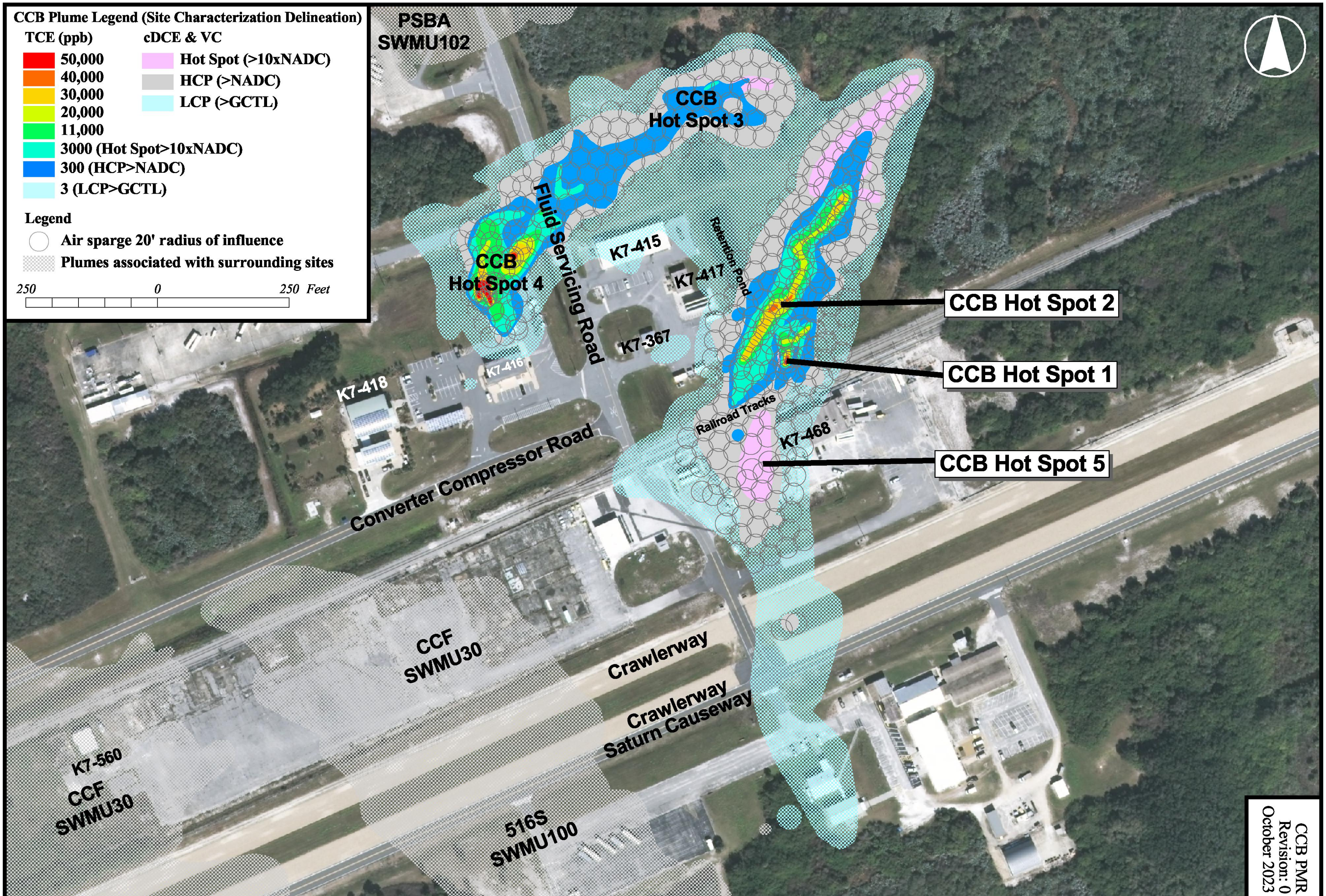
FIGURE 1-2 SITE MAP
SWMU 089, KENNEDY SPACE CENTER, FLORIDA



CCB PMR
Revision: 0
October 2023

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SECTION II
GROUNDWATER MONITORING

This section summarizes the 2022 groundwater monitoring event at CCB, which included monitoring wells sampled on an annual and biennial basis. The sampling event was conducted in December 2022; however, select wells were sampled in February 2023 due to flooding issues from hurricanes, but are collectively referred to and evaluated as part of the December 2022 dataset. This sampling event represents the second PM event conducted since the AS IM was discontinued in December 2020 (Post-AS PM, Year 2). Table 2-1 includes the Performance Monitoring Plan for 2022.

2.1 GROUNDWATER ELEVATION SUMMARY

Prior to the baseline sampling event for the CCB AS IM, water level measurements were collected during four gauging events between January 2012 and September 2013, and evaluated as part of an area-wide study for the FSRA. The area-wide water levels were collected from 331 wells, including available CCB wells, screened in three depth zones: the zone from the water table to 25 feet bls, the zone above the interbedded layer (approximately 50 feet bls), and the zone below the interbedded layer (approximately 70 to 80 feet bls). The water level elevations indicated that groundwater flow at FSRA is generally toward the south in all zones in the area south of the Crawlerway, with areas of radial flow north of the Crawlerway near CCB and PSBA. The FSRA is a relatively flat coastal area located between the Indian River to the west and the Atlantic Ocean to the east and is characterized by a shallow water table. As a result of precipitation recharge, a regional groundwater divide likely forms between the Indian River and Atlantic Ocean groundwater discharge zones, and shallow groundwater flow is locally controlled by the Banana Creek, which borders the FSRA to the east, north, and west, and by the Turning Basin and associated Barge Canal to the south (NASA, 2014c).

In June 2019, area-wide water level measurements were collected again, from 342 wells, including all available CCB wells. Consistent with the 2012-2013 study, the June 2019 water level elevation contours were drawn based on wells screened in three depth zones: water table to 25 feet bls, 40 to 50 feet bls (above the interbedded layer), and 50 to 85 feet bls (below interbedded layer). The groundwater flow direction was consistent with the 2012-2013 FSRA water level study in that they showed a groundwater divide in the area of the Crawlerway in all of the depth zones. In the area south of the Crawlerway, the groundwater flow direction is to the south, toward the Barge Canal. In the area north of the Crawlerway, groundwater flow in the area of CCB is to generally the northeast with localized radial flow around some wells.

On November 30, 2022, water level measurements were collected from 24 of the 25 annual wells and 18 of the 23 biennial wells scoped for sampling during the annual event. The PM network is shown on Figure 2-1. Six wells, MW0061, MW0073, MW0113, MW0114, MW0128, and MW0129, were not gauged because they were inaccessible during the water level collection event due to flooding. Of the 25 wells sampled annually, 12 are screened in the shallow zone, above 25 feet bls (mid-point of screen), with two wells screened from 10-20 feet bls, one well screened 13-23 feet bls, and nine wells screened 20-30 feet bls. The other 13 annual wells are screened in the deeper zone, below 25 feet bls, with one well screened from 25-30 feet bls, two wells screened from 25-35 feet bls, eight wells screened from 40-50 feet bls, one well from 41-51 feet bls, and one well screened from 60-70 feet bls. Of the 23 biennial wells, 10 are in the shallow zone (above 25 feet bls) with six wells screened 10-20 feet bls and four well screened 20-30 feet bls. In the deeper zone, seven are screened 25-35 feet bls, four are screened 30-40 feet bls, and two are screened 40-50 feet bls. The well screen intervals are included in Table 2-2.

Prior to measuring depth to water, all monitoring wells were uncapped and allowed to equilibrate. This step ensured equilibration of hydrostatic and atmospheric pressure to secure an accurate static water level. All water level measurements were collected from the same permanent point identified on top of the well casing to ensure consistency with historical measurements. Measurements were made to the nearest 0.01 foot using an electronic water level meter. To calculate the groundwater elevation in feet, the depth to water was subtracted from the top-of-casing elevation, which was previously determined by survey.

The water level readings were generally consistent with previous events. The water level readings and calculated groundwater elevations are included in Table 2-2. The potentiometric surface contours are depicted on Figure 2-2 (shallow 0 to 25 feet bls) and Figure 2-3 (deep 25 to 50 feet bls, above the interbedded layer). In the shallow zone the groundwater elevations ranged from 4.20 feet at MW0142, located in the western portion of the site, to 2.11 feet at MW0127, located in the northeastern portion of the site. The contours shown on Figure 2-2 depict a northeast flow direction in the shallow zone, which is consistent with historical groundwater flow data for this zone. In the deep zone, the groundwater elevations ranged from 4.13 feet at MW0088, located in the western portion of the site, to 1.74 feet at MW0130, located in the northeastern portion of the site. The contours shown on Figure 2-3 depict a general northeast flow direction in the deep zone with an area of possible mounding around well MW0088. The general northeast flow direction is similar to the shallow contours, with a southern flow direction located south of the Crawlerway. These contours are similar to historical groundwater flow data for this zone.

2.2 GROUNDWATER SAMPLING ACTIVITIES

Historically, PM results were used to evaluate the effectiveness of the CCB AS IM in reducing concentrations of COCs in groundwater by comparing current results to baseline results collected prior to the installation of the AS system. In 2020, the AS system was shut down because IM objectives were met across the site. The PM network was optimized to establish a network that would be suitable to transition the site from PM to LTM. The optimization effort reduced the network from 70 wells to 46 wells with a reduction in sampling frequency for 20 of the remaining wells. Subsequently, three new wells were installed in December 2021; two downgradient wells (MW0147, MW0148) and one replacement well (MW0096R). The current monitoring network consists of 48 wells (25 wells sampled annually and 23 wells sampled biennially), which captures monitoring of the historical plume footprint and potential migration. The 48 wells were scoped for sampling during the December 2022 annual/biennial monitoring event, but seven wells (MW0061, MW0073, MW0113, MW0114, MW0127, MW0128, and MW0129) were inaccessible due to flooding from two hurricanes in 2022 and were sampled in February 2023 once water subsided. Water level measurements were collected in November 2022 from those locations that were accessible, as discussed in the previous section. Figure 2-1 shows the well locations.

Peristaltic pumps were used for the purging of wells prior to sampling, and samples were collected using the low-flow purge technique. Monitoring well purging and sampling activities were conducted in accordance with the KSC Sampling and Analysis Plan (NASA, 2017b) and FDEP Standard Operating Procedures (FDEP, 2017). All purge and decontamination water generated through sampling was containerized into totes and characterized, prior to being transferred to KSC's on-site IDW treatment system located in the CCF East Area, per KSC's IDW disposal protocols.

Water quality parameters including temperature, pH, conductivity, turbidity, dissolved oxygen, and oxidation-reduction potential were measured at each well using a water quality meter and a flow-through cell. Samples were collected once parameters met stabilization criteria. The water quality parameters are included in Table 2-3, and on the sample log sheets included in Appendix B.

Groundwater samples were shipped under chain-of-custody to Eurofins Environmental Testing Southeast, LLC., in Altamonte Springs, Florida. All groundwater samples were analyzed for VOCs by United States Environmental Protection Agency (USEPA) Method 8260D. Samples were collected in both unpreserved and preserved vials to ensure headspace fell within accepted criteria as small bubbles were observed in some preserved vials during sample collection. All planned samples were collected for the designated parameters recommended in the 2021 PMR (NASA, 2022). All analytical results for the groundwater samples collected during the reporting period were reviewed and found to be generated in compliance with good analytical practices.

2.3 GROUNDWATER ANALYTICAL RESULTS AND CONTAMINANT EVALUATION

Summaries of TCE, cDCE, and VC results from baseline and all PM events to date are presented in Table 2-4 and on Figure 2-4. Results for tDCE are also presented in Table 2-4; however, tDCE results have not exceeded the GCTL since the baseline sampling events for the IM; therefore, tDCE results are not presented on the figures or discussed below. Note, MW0021 had the maximum concentrations of TCE (2,300 µg/L) and cDCE (570 µg/L) during this reporting period, which is where an IM is currently planned to address these elevated concentrations (previously discussed under Section 1.2). Therefore, results from MW0021 are not included in the overall evaluation with remaining wells in the network that are monitoring post-AS IM areas. Field documentation and sample log sheets are provided in Appendix B, and laboratory analytical reports are provided in Appendix C.

The 2022 monitoring event was conducted from December 1-8, 2022, and on February 1, 2023, and included groundwater samples collected from 25 annual monitoring wells and 23 biennial monitoring wells. As shown on Figure 2-1, the annual wells are mostly located in the interior portions of the plume, while the biennial wells are located around the plume boundaries. For all samples (except MW0021, as mentioned above), TCE, cDCE, and VC concentrations detected were less than NADCs and tDCE concentrations were less than GCTLs. This sampling event represents the second year of monitoring (Post-AS PM, Year 2) since the AS IM was shut down in December 2020; therefore, annual wells have had two sampling events post-shut down and biennial wells have had one. However, it should be noted that this is a site-wide timeline, and many of the biennial wells are in areas where active AS was discontinued prior to 2020.

A comparison of COC results over time was also conducted to evaluate whether concentrations of TCE, cDCE, and VC are increasing, decreasing, or generally stable since the AS system was shut down in December 2020. For this evaluation, stability was considered to be two results within approximately 10 percent of each other. Concentration graphs are included in Appendix D for each COC versus time and discussed below.

<u>TCE</u>: TCE was detected at concentrations greater than the GCTL of 3 μg/L in 12 of the 25 annually sampled wells and 4 of the 23 biennially sampled wells. Excluding MW0021, TCE exceedances ranged from 3.5 μg/L in biennial well MW0040 to 80 μg/L in annual well MW0026. At the remaining 13 annually sampled wells and 17 biennially sampled wells, TCE was less than the method detection limit or was detected at a concentration less than the GCTL. While some wells have experienced an increase in TCE concentrations since shut down (e.g., MW0061), the 2022 reporting period results show that overall TCE

concentrations are decreasing or relatively consistent with previous events and below the NADC.

The annually sampled wells displaying increased TCE concentrations since the previous sampling event (Post-AS PM, Year 1 in December 2021) were MW0050, MW0052, MW0061, and MW0088. Note, TCE also increased in MW0036, but the change from 6.6 µg/L to 6.9 µg/L is considered nominal. Wells MW0050 (screened 20-30 feet bls), MW0052 (40-50 feet bls), and MW0088 (40-50 feet bls) are located in the former HS 4 area and MW0061 (25-35 feet bls) is located in the former HS 1 area. In the former HS 1 area, the well downgradient of MW0061 in the same depth interval (MW0039) did not exceed the TCE GCTL and also had a stable concentration of VC just above the GCTL (1.5 µg/L). In the former HS 4 area, MW0088 had the greatest increase in TCE concentrations from 4.3 µg/L in December 2020 (post-shut down) to 22 µg/L during Post-AS PM, Year 1 in December 2021, to 35 µg/L during Post-AS PM, Year 2 in December 2022. This well is co-located with shallower well, MW0050, and also with MW0096R, screened 60-70 feet bls, which was less than the method detection limit for TCE, indicating vertical delineation in this area. Groundwater in HS 4 flows northeast into former HS 3 with some possible mounding around MW0088. In the 40-50 feet bls interval, the closest downgradient (northeast) well is MW0109 in former HS 3, sampled biennially, as described below.

Of the biennially sampled wells, MW0109 (screened 40-50 feet bls) and one other well, MW0137 (20-30 feet bls), displayed an increase in TCE concentrations since the previous biennial event (December 2020). These two wells are located in the former HS 4 area. At MW0109, TCE increased from 2.1 µg/L to 4.3 µg/L and at MW0137 TCE increased from 3.7 µg/L to 4.6 µg/L. Groundwater flow in this area is to the northeast from former HS 4 into HS 3. In the 20-30 feet bls depth interval, MW0134 is located within former HS 3 and there were no GCTL exceedances of TCE in 2022 indicating no evidence of downgradient migration.

<u>cDCE</u>: cDCE was detected at concentrations greater than the GCTL of 70 µg/L in three of the 25 annually sampled wells. In the biennially sampled wells and remaining annually sampled wells, cDCE was either less than the method detection limit or was detected at a concentration less than the GCTL. Excluding MW0021, cDCE exceedances in the annually

sampled wells were 93 µg/L in MW0061 and 110 µg/L in MW0067. Well MW0061, screened 25-35 feet bls, is located in former HS 1 and is also a well that exhibited TCE exceedances in 2022, as discussed above. The cDCE concentrations in this well have increased each year since AS system shut-down from 35.3 µg/L in 2020 to 71 µg/L in 2021, and to 93 µg/L in 2022. Groundwater flow in former HS 1 flows into former HS 2. Nearby well MW0029 (40-50 feet bls) and downgradient well MW0037 (40-50 feet bls) are screened deeper and have cDCE concentrations less than GCTLs indicating no impacts to downgradient areas at this depth. Downgradient wells in a similar depth interval, MW0034 (20-30 feet bls) and MW0122 (20-30 feet bls), and farther downgradient well in the same depth interval MW0039 (25-35 feet bls), had cDCE concentrations less than GCTLs indicating horizontal delineation in this area as well.

Well MW0067, screened 20-30 feet bls, is located in former HS 2 and downgradient of MW0061. In this well cDCE also increased each year, from 6.7 µg/L in 2020 to 60 µg/L in 2021, and to 110 µg/L in 2022. The 2022 result represents the first event where cDCE exceeded the GCTL in this well since the 2013 baseline event. Co-located well MW0068, screened 40-50 feet bls, did not detect cDCE at a concentration greater than the GCTL, indicating vertical delineation in this area. Downgradient well MW0128 (20-30 feet bls) did not detect cDCE at a concentration greater than the GCTL either, indicating horizontal delineation.

Although both MW0061 and MW0067 had cDCE results that showed an increase over the past two events, they are both well below the NADC of 700 µg/L and baseline values of 12,900 µg/L (MW0061) and 1,700 µg/L (MW0067) in 2013. cDCE concentrations in these wells will continue to be monitored and the need for additional monitoring points will continue to be evaluated.

<u>VC</u>: VC was detected at a concentration greater than the GCTL in 11 of the 25 annually sampled wells and 9 of the 23 biennially sampled wells. At the remaining 28 well locations, VC was less than the method detection limit or was detected at a concentration equal to or less than the GCTL. In the 20 wells with results greater than GCTLs, the concentrations ranged from 1.5 µg/L in biennial wells MW0039 and MW0138 to 43 µg/L in annual well MW0067.

At MW0067, VC concentrations have increased since AS system shut down from 27.5 µg/L in December 2020, 40 µg/L in December 2021, and 43 µg/L in December 2022; however, these concentrations are all below the NADC of 100 µg/L and two orders of magnitude less than the 2013 baseline value of 2,000 µg/L. The difference in VC concentrations at MW0067 from 2021 to 2022 is considered stable.

Excluding MW0021 (and MW0067 discussed above), seven of the annually sampled wells displayed increasing VC concentrations between Post-AS PM, Year 1 (2021) and Year 2 (2022) (MW0029, MW0037, MW0052, MW0061, MW0068, MW0088, and MW0133). Wells MW0029 (40-50 feet bls) and MW0061 (25-35 feet bls) are located in former HS 1; wells MW0037 (40-50 feet bls) and MW0068 (40-50 feet bls) are located in former HS 2; well MW0133 (25-35 feet bls) is located in former HS 3; and wells MW0052 (40-50 feet bls) and MW0088 (40-50 feet bls) are located in former HS 4. In former HS 1, MW0029 had a slight VC increase from 7.8 µg/L in December 2021 to 8.2 µg/L in December 2022. In MW0061, VC increased from 3.9 µg/L in December 2020 to 5.4 µg/L in December 2021 to 7.3 µg/L in February 2023. The wells with increasing VC in former HS 2 are located in the central portion of the former treatment area. Of the two, well MW0068 (which is also co-located with MW0067 with the maximum VC concentration in 2022, as discussed above) experienced the greatest increase post-shut down with concentrations of 12.6 µg/L in 2020, 16 µg/L in 2021, and 21 µg/L in 2022. While the central portion of the former HS 2 treatment area has exhibited increasing VC concentrations over the past few years, VC continues to be below the NADC and the 2013 baseline concentrations of 740 µg/L at MW0068 and 220 µg/L at MW0037. In former HS 3, MW133 had a slight increase from 7.9 µg/L in December 2021 to 8.4 µg/L in December 2022. In former HS 4, the VC concentration in MW0052 increased from less than the method detection limit in 2020 to 2 µg/L in 2021, and to 4.5 µg/L in 2022. Similarly, the VC concentration in MW0088 (also in former HS 4) increased from less than the method detection limit in 2020 to 9.8 µg/L in 2021, and to 18 µg/L in 2022. MW0088 also experienced an increase in TCE concentrations since AS system shut down, as previously discussed. A DPT sampling event conducted in March 2021 to vertically delineate COCs around co-located well MW0096R (60-70 feet bls) did not identify VOC impacts in the 60-70 feet bls interval, which indicates this area is vertically delineated (NASA, 2022).

Of the nine biennially sampled wells with VC greater than the GCTL, five wells displayed increasing concentrations since the previous event in December 2020 (MW0113, MW0125, MW0127, MW0129, and MW0131). Note, VC also increased in MW0109, but the change from 2.2 µg/L to 2.4 µg/L is considered nominal. Wells MW0113 (25-35 feet bls), MW0125 (10-20 feet bls), MW0127 (20-30 feet bls), and MW0129 (30-40 feet bls) are located in former HS 2, and well MW0131 (25-35 feet bls) is located just north of former HS 3. In the HS 2 area, the well with the greatest increase was MW0125, which increased from 6.2 µg/L in 2020 to 26 µg/L in 2022. In downgradient wells with similar depth intervals, such as MW0040 and MW0128 (both 10-20 feet bls), VC was not detected. The other biennial wells that experienced VC increases in the HS 2 area had low-level concentrations in 2022 (less than 3 µg/L). Well MW0131, located just north of former HS 3, had an increase in VC concentrations from less than GCTLs since its baseline event in 2016 to 9.4 µg/L in 2022. Groundwater contaminant migration in this area was determined to be to the north based on DPT results collected around MW0133 in March 2021 (NASA, 2022). At that time, MW0147 was installed as a downgradient well in this area and results from December 2021 and December 2022 were less than the method detection limit. Based on the increased VC concentration in MW0131, groundwater could also be migrating from MW0133, which is sampled annually and had a slight increase in VC concentrations from 2021 to 2022, to the northeast toward MW0131. VC in these wells will continue to be monitored and the need for additional monitoring points will continue to be evaluated as additional data is collected.

The area of MW0013 (screened 40-50 feet bls), located within the Crawlerway, has been routinely sampled since a baseline VC concentration of 570 µg/L was identified in 2013. This area was treated as part of the AS IM. The VC concentration was 1.1 µg/L during the December 2022 event, indicating effective AS treatment in this area with minimal rebound. Groundwater flow is to the south in this area of the Crawlerway. The area downgradient did not have active treatment but has been monitored through annual sampling of MW0012 (40-50 feet bls) and MW0056 (41-51 feet bls). In December 2022, VC concentrations were 9.4 µg/L in MW0012 and 19 µg/L in MW0056, which exhibited decreasing and stable concentrations, respectively. The downgradient monitoring point (MW0148), which was installed following a DPT event in this area in March 2021 (NASA, 2022), was less than the method detection limit for VC in December 2022.

Summary: Overall, the December 2022/February 2023 concentrations of VOCs were generally consistent with the previous monitoring event and have not exhibited evidence of significant rebounding in the two years since the AS system was shut down in December 2020. Wells that have shown an increase in concentrations over the past two years are anticipated to reach stabilization during the LTM phase. With the exception of MW0021, which will be addressed with a separate IM, VOC results continue to remain well below baseline and NADC values and display overall stable or decreasing concentrations.

Table 2-1. Performance Monitoring Plan for 2022

Location (CCB-)	Screen Interval (ft bls)	Sampling Frequency		Water Level Measurement (November 2022)
		Annual (December 2022)	Biennial (December 2022)	
MW0012	40-50	X		X
MW0013	40-50		X	X
MW0016	10-20		X	X
MW0021	10-20	X		X
MW0024	25-35	X		X
MW0025	40-50	X		X
MW0026	13-23	X		X
MW0029	40-50	X		X
MW0034	20-30	X		X
MW0036	20-30	X		X
MW0037	40-50	X		X
MW0039	25-35		X	X
MW0040	10-20		X	X
MW0045	20-30		X	X
MW0046	30-40		X	X
MW0048	20-30	X		X
MW0050	20-30	X		X
MW0052	40-50	X		X
MW0056	41-51	X		X
MW0061	25-35	X		
MW0067	20-30	X		X
MW0068	40-50	X		X
MW0073	10-20		X	
MW0086	30-40		X	X
MW0088	40-50	X		X
MW0096R	60-70	X		X
MW0109	40-50		X	X
MW0113	25-35		X	
MW0114	10-20		X	
MW0120	10-20	X		X
MW0122	20-30	X		X
MW0125	10-20		X	X
MW0127	20-30		X	X
MW0128	10-20		X	
MW0129	30-40		X	

Table 2-1. Performance Monitoring Plan for 2022 (continued)

Location (CCB-)	Screen Interval (ft bls)	Sampling Frequency		Water Level Measurement (November 2022)
		Annual (December 2022)	Biennial (December 2022)	
MW0130	25-35		X	X
MW0131	25-35		X	X
MW0132	25-35		X	X
MW0133	25-35	X		X
MW0134	20-30		X	X
MW0135	25-35		X	X
MW0136	25-35		X	X
MW0137	20-30		X	X
MW0138	30-40		X	X
MW0142	20-30	X		X
MW0144	20-30	X		X
MW0147	20-30	X		X
MW0148	40-50	X		X

All samples analyzed for volatile organic compounds (VOCs) by Method 8260D
CCB - Converter/Compressor Building
Water level measurements could not be taken from MW0061, MW0073, MW0113, MW0114, MW0128, and MW0129 in November 2022 because they were not accessible due to flooding.
Wells MW0061, MW0073, MW0113, MW0114, MW0127, MW0128, and MW0129 were sampled in February 2023 instead of December 2022 because of flooding.

Table 2-2. Water Level Measurements and Groundwater Elevations

Well ID	Screened Interval (feet bls)	Ground Surface Elevation (feet)	TOC Elevation (feet)	November 30, 2022	
				Depth to Water (feet below TOC)	Groundwater Elevation (feet)
CCB-MW0012	40-50	6.53	6.39	2.82	3.57
CCB-MW0013	40-50	6.53	6.36	2.39	3.97
CCB-MW0016	10-20	6.63	5.96	1.96	4.00
CCB-MW0021	10-20	6.66	5.91	1.94	3.97
CCB-MW0024	25-35	4.99	4.79	0.84	3.95
CCB-MW0025	40-50	4.99	4.81	0.96	3.85
CCB-MW0026	13-23	5.22	4.67	0.87	3.80
CCB-MW0029	40-50	6.76	6.39	2.56	3.83
CCB-MW0034	20-30	6.13	5.66	2.02	3.64
CCB-MW0036	20-30	4.20	8.24	5.19	3.05
CCB-MW0037	40-50	4.20	8.20	5.21	2.99
CCB-MW0039	25-35	1.90	5.91	3.42	2.49
CCB-MW0040	10-20	2.10	5.91	3.59	2.32
CCB-MW0045	20-30	4.69	9.12	5.55	3.57
CCB-MW0046	30-40	4.69	9.09	5.61	3.48
CCB-MW0048	20-30	4.49	3.86	0.00	3.86
CCB-MW0050	20-30	6.72	6.18	2.47	3.71
CCB-MW0052	40-50	7.09	6.80	3.01	3.79
CCB-MW0056	41-51	7.76	7.18	3.99	3.19
CCB-MW0061	25-35	0.60	3.41	NA	NA
CCB-MW0067	20-30	1.30	4.40	1.57	2.83
CCB-MW0068	40-50	1.30	4.35	1.45	2.90
CCB-MW0073	10-20	1.30	3.81	NA	NA
CCB-MW0086	30-40	5.80	8.75	5.35	3.40
CCB-MW0088	40-50	6.70	6.76	2.63	4.13
CCB-MW0096R	60-70	6.63	6.36	2.51	3.85
CCB-MW0109	40-50	4.67	7.94	4.12	3.82
CCB-MW0113	25-35	1.35	4.47	NA	NA
CCB-MW0114	10-20	1.56	4.75	NA	NA
CCB-MW0120	10-20	3.95	6.72	3.19	3.53
CCB-MW0122	20-30	4.65	7.53	4.13	3.40
CCB-MW0125	10-20	1.42	4.15	1.63	2.52
CCB-MW0127	20-30	1.21	4.03	1.92	2.11
CCB-MW0128	10-20	1.17	3.95	NA	NA
CCB-MW0129	30-40	0.95	3.52	NA	NA
CCB-MW0130	25-35	1.50	4.46	2.72	1.74
CCB-MW0131	25-35	2.23	4.97	2.96	2.01
CCB-MW0132	25-35	3.11	6.06	3.83	2.23
CCB-MW0133	25-35	2.76	5.63	2.98	2.65

Table 2-2. Water Level Measurements and Groundwater Elevations (continued)

Well ID	Screened Interval (feet bls)	Ground Surface Elevation (feet)	TOC Elevation (feet)	November 30, 2022	
				Depth to Water (feet below TOC)	Groundwater Elevation (feet)
CCB-MW0134	20-30	3.58	6.33	3.68	2.65
CCB-MW0135	25-35	3.33	6.54	3.97	2.57
CCB-MW0136	25-35	3.88	6.76	3.83	2.93
CCB-MW0137	20-30	5.44	8.19	4.89	3.30
CCB-MW0138	30-40	5.27	7.88	4.48	3.40
CCB-MW0142	20-30	7.26	7.05	2.85	4.20
CCB-MW0144	20-30	6.85	6.59	2.49	4.10
CCB-MW0147	20-30	2.90	6.50	3.81	2.69
CCB-MW0148	40-50	5.00	8.24	5.62	2.62

bls - Below land surface

NA - Not applicable

TOC - Top of casing

The top of casing elevations were surveyed using the North American Vertical Datum of 1988; groundwater elevations are relative to feet NAVD88.

Well MW0048 and MW0096R were not used for contouring due to anomalous reading.

Wells MW0061, MW0073, MW0113, MW0114, MW0128, and MW0129 were not accessible in November 2022.

Table 2-3. Water Quality Parameters Summary

Well ID (CCB-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)
MW0012	12/6/2022	6.67	26.10	1,497	0.11	7.30	79.2
MW0013	12/7/2022	6.62	25.80	2,623	0.04	4.42	-89.5
MW0016	12/1/2022	4.41	26.00	211.7	1.07	17.10	172.8
MW0021	12/1/2022	4.12	26.50	161.8	0.16	2.12	214.0
MW0024	12/6/2022	3.58	24.30	1,608	0.20	13.00	255.5
MW0025	12/6/2022	6.48	24.80	3,400	0.02	0.19	-52.0
MW0026	12/7/2022	5.17	24.70	330	0.05	1.01	34.0
MW0029	12/7/2022	6.54	26.40	3,275	0.01	0.85	-55.2
MW0034	12/6/2022	3.42	25.50	3,460	0.08	4.31	199.0
MW0036	12/1/2022	5.98	24.82	1,765	0.52	7.23	-30.7
MW0037	12/1/2022	6.94	24.49	3,422	0.61	0.65	15.0
MW0039	12/8/2022	6.47	24.70	2,679	0.12	1.56	-56.4
MW0040	12/5/2022	6.54	24.90	2,415	0.08	0.94	-60.1
MW0045	12/5/2022	3.93	25.10	1,235	0.36	7.13	194.5
MW0046	12/5/2022	6.39	25.30	2,728	0.14	10.70	-34.5
MW0048	12/1/2022	4.44	26.00	1,784	0.11	18.00	69.1
MW0050	12/1/2022	3.87	28.40	1,141	0.17	4.17	236.0
MW0052	12/7/2022	6.54	28.60	3,166	0.05	1.22	-60.5
MW0056	12/6/2022	6.65	24.60	1,054	0.09	9.80	-85.0
MW0061	2/1/2023	3.70	25.00	3,020	0.24	5.55	251.0
MW0067	12/1/2022	6.53	24.21	2,745	0.36	0.70	-60.5
MW0068	12/1/2022	6.90	23.78	3,850	0.46	0.30	-64.2
MW0073	2/1/2023	6.30	23.80	3,056	0.08	10.25	-69.5
MW0086	12/5/2022	6.30	25.30	3,150	0.13	17.20	-56.7
MW0088	12/1/2022	6.39	28.10	3,109	0.12	5.00	48.7
MW0096R	12/1/2022	7.16	27.60	1,937	0.12	11.40	-119.0
MW0109	12/5/2022	6.49	25.30	2,898	0.19	7.76	-17.0
MW0113	2/1/2023	6.50	24.00	2,711	0.11	4.44	-88.0
MW0114	2/1/2023	6.48	23.30	3,011	0.17	0.21	-88.0
MW0120	12/1/2022	5.62	24.95	388	0.35	16.70	32.0
MW0122	12/8/2022	4.67	24.90	2,108	0.05	0.95	106.6
MW0125	12/6/2022	6.42	24.40	2,988	0.05	1.19	-36.7
MW0127	2/1/2023	6.45	24.00	2,165	0.18	0	-16.0
MW0128	2/1/2023	6.46	25.20	2,273	0.08	1.22	-71.5
MW0129	2/1/2023	6.54	25.20	3,198	0.08	0	-93.0
MW0130	12/5/2022	6.46	24.40	2,842	0.02	2.02	-36.5
MW0131	12/5/2022	6.03	24.30	3,329	0.08	0.18	-112.0
MW0132	12/6/2022	6.23	24.70	3,104	0.12	1.88	-77.3

Table 2-3. Water Quality Parameters Summary (continued)

Well ID (CCB-)	Sample Date	pH (S.U.)	Temp. (ºC)	SC (µS/cm)	DO (mg/L)	Turb. (NTU)	ORP (mV)
MW0133	12/6/2022	6.19	23.50	2,926	0.17	14.40	-64.0
MW0134	12/6/2022	3.85	23.90	4,109	0.09	<1000	159.8
MW0135	12/6/2022	6.12	24.40	3,505	0.15	9.35	-92.2
MW0136	12/6/2022	5.05	25.20	461.6	0.13	16.10	79.0
MW0137	12/5/2022	4.79	25.00	1,372	0.14	43.20	93.9
MW0138	12/5/2022	6.17	25.00	3,516	0.18	3.73	-94.0
MW0142	12/1/2022	4.00	27.80	3,048	0.08	3.04	178.3
MW0144	12/6/2022	3.65	26.70	3,402	0.20	7.10	199.1
MW0147	12/5/2022	6.18	23.50	706	0.22	0.17	-95.0
MW0148	12/6/2022	6.70	22.90	819	0.16	0.52	-95.2

Low pH in several wells may be a result of air sparging, which introduces carbon dioxide into the aquifer that can be converted to carbonic acid, which can decrease the pH in the aquifer.

Values have been rounded from the source material field notes as follows: conductivity and temperature have been rounded to two decimal places, and ORP is shown to one decimal place.

DO = Dissolved oxygen in milligrams per liter (mg/L)
ORP = Oxidation/reduction potential in millivolts (mV)
SC = Specific conductance in microSiemens per centimeter (µS/cm)
S.U. = pH in standard units
Turb. = Turbidity in nephelometric turbidity units (NTU)

Table 2-4. Monitoring Well Groundwater Results Summary

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0012 [40-50]	12/11/2013	1 U	**8**	**2**	**21**
	7/28/2014	1 U	**7**	1 U	**19**
	5/9/2015	1 U	**8**	1 U	**15**
	4/28/2016	1 U	**14**	1 U	**27**
	12/28/2016	1 U	**10**	**1**	**9**
	12/18/2017	1 U	**12**	1 U	**8**
	11/29/2018	0.35 U	**15.7**	**0.41 I**	**10.6**
	12/4/2019	1 U	**17**	1 U	**10**
	12/10/2020	0.35 U	**12.5**	**0.36 I**	**19.5**
	12/13/2021	0.89 U	**11**	0.73 U	**13**
	12/6/2022	0.79 U	**5.3**	0.95 U	**9.4**
MW0013 [40-50]	12/11/2013	1 U	**50**	**4**	**570**
	7/28/2014	3 U	**50**	3 U	**260**
	5/9/2015	3 U	**14**	**4**	**380**
	10/29/2015	1 U	1 U	1 U	**2**
	1/28/2016	1 U	**3**	1 U	**21**
	4/28/2016	1 U	**2**	1 U	**19**
	8/2/2016	1 U	1 U	1 U	**2**
	10/21/2016	1 U	1 U	1 U	**2**
	12/28/2016	1 U	1 U	1 U	1 U
	6/15/2017	1 U	1 U	1 U	**4**
	12/18/2017	1 U	1 U	1 U	**5**
	6/19/2018	0.35 U	**1.5**	0.22 U	0.41 U
	11/29/2018	0.35 U	0.28 U	0.22 U	0.41 U
	12/4/2019	1 U	1 U	1 U	1 U
	12/10/2020	0.35 U	0.28 U	0.22 U	0.41 U
	12/7/2022	0.79 U	0.71 U	0.95 U	**1.1 I**
MW0016 [10-20]	12/12/2013	1 U	**190**	1 U	**60**
	7/29/2014	1 U	1 U	1 U	1 U
	1/30/2015	1 U	**6**	1 U	1 U
	5/8/2015	1 U	**3**	1 U	1 U
	7/30/2015	1 U	**3**	1 U	1 U
	4/28/2016	1 U	**8**	1 U	1 U
	12/28/2016	1 U	**1**	1 U	1 U
	6/15/2017	1 U	**1**	1 U	1 U
	12/19/2017	1 U	1 U	1 U	1 U
	11/30/2018	0.35 U	**1.3**	0.22 U	0.41 U
	12/14/2020	0.35 U	0.28 U	0.22 U	0.41 U
	12/1/2022	0.79 U	0.71 U	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0021 [10-20]	12/12/2013	1 U	77	1	3
	7/28/2014	2 U	46	2 U	2 U
	1/30/2015	1 U	13	1	1 U
	5/8/2015	1 U	4	1 U	1 U
	7/30/2015	1 U	3	1 U	1 U
	4/28/2016	1 U	1 U	1 U	1 U
	12/28/2016	1 U	1 U	1 U	1 U
	6/15/2017	1 U	1 U	1 U	1 U
	12/19/2017	17	9	1 U	1 U
	6/19/2018	38.5	9.6	0.79 I	0.41 U
	11/30/2018	6.7	2.3	0.22 U	0.41 U
	12/6/2019	400	56	3 U	3 U
	1/20/2020	1,360	152	5.5 U	10 U
	3/12/2020	634	84	2.2 U	4.1 U
	4/7/2020	379	59	2.2 I	2 U
	5/14/2020	132	15.4	0.55 I	0.82 U
	6/10/2020	85.7	17.9	0.77 I	0.41 U
	7/14/2020	53.1	7.9	0.33 I	0.41 U
	12/14/2020	147	34.4	1.3	0.41 U
	12/14/2021	290	250	5.4	1.4 U
	12/1/2022	2,300	570	4.8	2.8
MW0024 [25-35]	12/12/2013	1 U	38	1 U	70
	7/29/2014	1 U	11	1	1
	10/27/2014	1 U	3	1 U	1 U
	1/29/2015	1 U	1	1 U	1 U
	5/6/2015	1 U	2	1 U	1 U
	7/29/2015	1 U	1 U	1 U	1 U
	4/27/2016	1 U	1 U	1 U	1 U
	10/22/2016	1 U	1 U	1 U	1 U
	12/27/2016	1 U	1 U	1 U	1 U
	6/14/2017	2	2	1 U	1 U
	12/18/2017	1 U	1 U	1 U	1 U
	6/19/2018	1.5	0.56 I	0.22 U	0.41 U
	11/29/2018	2.4	1.6	0.22 U	0.41 U
	12/4/2019	6	2	1 U	1 U
	12/9/2020	1.3	0.28 U	0.22 U	0.41 U
	12/13/2021	0.89 U	1.1 I	0.73 U	0.71 U
	12/6/2022	2.9 I	0.71 I	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0025 [40-50]	12/12/2013	1 U	**200**	**22**	**220**
	7/31/2014	1 U	**9**	**1**	**1**
	10/27/2014	1 U	**3**	1 U	**2**
	1/29/2015	1 U	**1**	1 U	**2**
	5/8/2015	1 U	**3**	1 U	**3**
	7/29/2015	1 U	**1**	1 U	1 U
	10/29/2015	1 U	1 U	1 U	1 U
	1/28/2016	1 U	**1**	1 U	1 U
	4/27/2016	1 U	1 U	1 U	**2**
	8/2/2016	1 U	1 U	1 U	1 U
	10/22/2016	1 U	1 U	1 U	1 U
	12/27/2016	1 U	1 U	1 U	1 U
	6/14/2017	**1**	**3**	1 U	**2**
	12/18/2017	1 U	1 U	1 U	1 U
	6/19/2018	0.35 U	0.28 U	0.22 U	0.41 U
	11/29/2018	**0.76 I**	**0.93 I**	0.22 U	0.41 U
	12/4/2019	1 U	**3**	1 U	**2**
	12/9/2020	0.35 U	0.28 U	0.22 U	**0.46 I**
	12/13/2021	**3.8**	**0.97 I**	0.73 U	0.71 U
	12/6/2022	0.79 U	**0.88 I**	0.95 U	**1.3 I**
MW0026 [13-23]	12/12/2013	**440**	**45**	1 U	**3**
	7/29/2014	**150**	**8**	5 U	5 U
	10/27/2014	**210**	3 U	3 U	3 U
	1/29/2015	**120**	**5**	1 U	1 U
	5/8/2015	**140**	1 U	1 U	1 U
	7/29/2015	1 U	**92**	1 U	1 U
	10/29/2015	**150**	1 U	1 U	1 U
	1/28/2016	**95**	1 U	1 U	1 U
	4/28/2016	**97**	1 U	1 U	1 U
	8/2/2016	**87**	1 U	1 U	1 U
	10/22/2016	**190**	1 U	1 U	1 U
	12/29/2016	**110**	1 U	1 U	1 U
	1/30/2017	**130**	1 U	1 U	1 U
	6/15/2017	**110**	1 U	1 U	1 U
	12/18/2017	**170**	1 U	1 U	1 U
	6/18/2018	**40.8**	0.28 U	0.22 U	0.41 U
	11/28/2018	**66.5**	0.28 U	0.22 U	0.41 U
	6/19/2019	**40.2**	0.28 U	0.22 U	0.41 U
	12/4/2019	**79**	1 U	1 U	1 U
	6/10/2020	**26.6**	0.28 U	0.22 U	0.41 U
	12/8/2020	**44.1**	0.28 U	0.22 U	0.41 U
	12/14/2021	**100**	**2.3 I**	0.73 U	0.71 U
	12/7/2022	**80**	**0.84 I**	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0029 [40-50]	12/12/2013	3 U	**750**	**49**	**190**
	7/29/2014	1 U	**9**	1 U	1 U
	10/27/2014	1 U	**8**	1 U	1 U
	1/30/2015	1 U	**5**	1 U	1 U
	5/8/2015	1 U	**5**	1 U	1 U
	7/30/2015	1 U	**2**	1 U	1 U
	10/29/2015	1 U	**1**	1 U	1 U
	1/28/2016	1 U	**1**	1 U	1 U
	4/28/2016	1 U	1 U	1 U	**2**
	8/2/2016	1 U	**1**	1 U	**4**
	10/22/2016	1 U	1 U	1 U	1 U
	12/27/2016	1 U	**1**	1 U	1 U
	6/15/2017	**2**	**7**	1 U	**13**
	12/18/2017	**1**	**2**	1 U	1 U
	6/19/2018	0.35 U	0.28 U	0.22 U	**0.77 I**
	11/29/2018	**1.2**	**1.7**	**0.44 I**	**3.1**
	6/19/2019	**1.8**	**4.4**	**0.79 I**	**22.5**
	12/4/2019	1 U	**5**	1 U	**11**
	6/10/2020	**0.38 I**	**0.36 I**	0.21 U	**0.47 I**
	12/8/2020	**0.37 I**	0.28 U	0.22 U	**1**
	12/13/2021	**1.1 I**	**3.2**	0.73 U	**7.8**
	12/7/2022	**1.1 I**	**2.6**	0.95 U	**8.2**
MW0034 [20-30]	12/13/2013	**100**	**3,400**	**21**	**39**
	7/29/2014	**7**	**15**	1 U	1 U
	10/27/2014	**3**	**4**	1 U	1 U
	1/29/2015	**4**	**6**	1 U	1 U
	5/7/2015	**6**	**7**	1 U	1 U
	7/28/2015	**5**	**5**	1 U	1 U
	10/28/2015	**6**	**6**	1 U	1 U
	1/28/2016	**5**	**4**	1 U	1 U
	4/27/2016	**4**	**7**	1 U	1 U
	8/1/2016	**4**	**4**	1 U	1 U
	10/23/2016	**4**	**4**	1 U	1 U
	12/29/2016	**4**	**3**	1 U	1 U
	1/30/2017	**4**	**2**	1 U	1 U
	6/14/2017	**5**	**3**	1 U	1 U
	12/18/2017	**9**	**6**	1 U	1 U
	6/15/2018	**3.4**	**2.3**	**0.22 I**	0.41 U
	11/28/2018	**9.1**	**8.3**	**0.52 I**	0.41 U
	6/19/2019	**13.9**	**10.3**	**0.74 I**	**0.58 I**
	12/5/2019	1 U	**13**	**10**	1 U
	6/10/2020	**15**	**15.3**	**1**	0.41 U
	12/9/2020	**14.7**	**11.9**	**0.86 I**	0.41 U
	12/14/2021	**10**	**2.7**	0.73 U	0.71 U
	12/6/2022	**10**	**3.5**	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0036 [20-30]	12/13/2013	210	790	5	25
	7/30/2014	14	94	1	2
	10/28/2014	2	22	1 U	1 U
	1/28/2015	1	6	1 U	1 U
	5/5/2015	4	4	1 U	1 U
	7/28/2015	5	4	1 U	1 U
	10/28/2015	18	9	1 U	1
	1/27/2016	1	1 U	1 U	1 U
	4/26/2016	4	1	1 U	1 U
	8/1/2016	7	3	1 U	1 U
	10/23/2016	6	3	1 U	1 U
	12/29/2016	7	3	1 U	1 U
	1/30/2017	5	2	1 U	1 U
	6/13/2017	5	2	1 U	1 U
	12/14/2017	10	1 U	1 U	1 U
	6/15/2018	6	1.8	0.22 U	0.41 U
	11/27/2018	8.4	3.2	0.22 U	0.41 U
	6/19/2019	7.7	2.7	0.22 U	0.41 U
	12/5/2019	1 U	4	1 U	1 U
	6/10/2020	8.2	3	0.34 I	0.41 U
	12/9/2020	8.2	2.4	0.22 U	0.65 I
	12/14/2021	6.6	3.4	0.73 U	0.71 U
	12/1/2022	6.9	5.4	0.95 U	0.64 U
MW0037 [40-50]	12/13/2013	5 U	1,900	23	220
	8/1/2014	1 U	13	1 U	9
	10/28/2014	1 U	6	1 U	1 U
	1/28/2015	1 U	4	1 U	1 U
	5/5/2015	1 U	2	1 U	1 U
	7/28/2015	1 U	2	1 U	1 U
	10/28/2015	1 U	2	1 U	1 U
	1/27/2016	1 U	1 U	1 U	1 U
	4/26/2016	1 U	1 U	1 U	1 U
	10/23/2016	1 U	1 U	1 U	1 U
	12/29/2016	1 U	5	1 U	1 U
	6/13/2017	1 U	6	1 U	1 U
	12/14/2017	1 U	7	1 U	3
	6/15/2018	0.35 U	0.73 I	0.22 U	0.41 U
	11/27/2018	0.44 I	4.3	0.22 U	0.41 U
	12/5/2019	1 U	4	1 U	2
	12/10/2020	0.51 I	3.6	0.22 U	5.2
	12/14/2021	0.89 U	5.0	0.73 U	5.6
	12/1/2022	0.79 U	4.0	0.95 U	6.7

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0039 [25-35]	12/13/2013	3 U	**680**	**8**	**420**
	7/30/2014	1 U	**7**	1 U	1 U
	10/28/2014	1 U	**2**	1 U	1 U
	1/27/2015	1 U	**2**	1 U	1 U
	5/7/2015	1 U	**3**	1 U	1 U
	7/28/2015	1 U	**2**	1 U	1 U
	10/28/2015	1 U	1 U	1 U	1 U
	1/26/2016	1 U	1 U	1 U	1 U
	4/26/2016	1 U	1 U	1 U	1 U
	12/29/2016	**1**	**3**	1 U	1 U
	6/13/2017	1 U	**2**	**3**	1 U
	12/14/2017	**4**	**7**	1 U	**1**
	6/15/2018	**0.42 I**	**0.85 I**	0.22 U	0.41 U
	11/28/2018	**1.5**	**2**	0.22 U	0.41 U
	12/7/2020	**2.3**	**3.5**	**0.25 I**	**1.6**
	12/8/2022	**1.7 I**	**2.6**	0.95 U	**1.5 I**
MW0040 [10-20]	12/13/2013	**47**	**5,600**	**46**	**550**
	7/31/2014	**8**	**38**	1 U	1 U
	10/28/2014	**8**	**11**	1 U	1 U
	1/27/2015	1 U	**3**	1 U	1 U
	5/5/2015	**9**	**8**	1 U	1 U
	7/27/2015	**5**	**4**	1 U	1 U
	10/27/2015	**8**	**4**	1 U	1 U
	1/26/2016	**3**	**2**	1 U	1 U
	4/26/2016	1 U	**1**	1 U	1 U
	8/1/2016	**3**	**2**	1 U	1 U
	12/29/2016	**5**	**3**	1 U	1 U
	1/30/2017	**4**	**2**	1 U	1 U
	6/13/2017	**4**	**2**	1 U	1 U
	12/19/2017	**16**	**9**	1 U	1 U
	6/15/2018	**1**	**0.63 I**	0.22 U	0.41 U
	11/27/2018	**6.9**	**3.8**	0.22 U	0.41 U
	12/6/2019	**9**	**4**	1 U	1 U
	12/7/2020	**5.2**	**2.9**	**0.24 I**	**0.48 I**
	12/5/2022	**3.5 I**	**2.1**	0.95 U	0.64 U
MW0045 [20-30]	1/30/2016	1 U	**2**	**2**	**33**
	10/20/2016	1 U	1 U	1 U	1 U
	3/16/2017	1 U	1 U	1 U	1 U
	6/11/2017	1 U	1 U	1 U	1 U
	12/13/2017	**3**	1 U	1 U	1 U
	11/27/2018	**2.4**	**0.3 I**	0.22 U	0.41 U
	12/9/2020	**4**	0.28 U	0.22 U	0.41 U
	12/5/2022	**3.8 I**	0.71 U	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0046 [30-40]	1/30/2016	1 U	1 U	1 U	**150**
	10/20/2016	**1**	**1**	1 U	1 U
	3/16/2017	1 U	1 U	1 U	1 U
	6/11/2017	**1**	**1**	1 U	1 U
	12/13/2017	**1**	1 U	1 U	1 U
	11/27/2018	**2.6**	**1.8**	0.22 U	**1.7**
	12/6/2019	**4**	**4**	1 U	**3**
	12/9/2020	**2.9**	**2.2**	0.22 U	**2.8**
	12/5/2022	**1.6 I**	**1.5**	0.95 U	**1.4 I**
MW0048 [20-30]	1/31/2016	**2**	**1**	1 U	**63**
	8/2/2016	**4**	**67**	3 U	**59**
	10/19/2016	**23**	**34**	**2**	**13**
	12/27/2016	**5**	**9**	1 U	**4**
	6/12/2017	**8**	**7**	1 U	**3**
	12/12/2017	**6**	**6**	1 U	**4**
	6/16/2018	**5.5**	**3.9**	0.22 U	**2.1**
	11/29/2018	**5.9**	**3.8**	0.22 U	**2.6**
	6/18/2019	**5.2**	**3.1**	0.22 U	**1.5**
	12/6/2019	**7**	**3**	1 U	**1**
	6/10/2020	**3.4**	**2**	0.22 U	**0.96 I**
	12/9/2020	**3.2**	**1.6**	0.22 U	**0.47 I**
	12/14/2021	**4.7**	**2.6**	0.73 U	**1.1 I**
	12/1/2022	**4.5 I**	**1.6**	0.95 U	0.64 U
MW0050 [20-30]	1/31/2016	**41**	**43**	5 U	**93**
	7/28/2016	3 U	**17**	**150**	**66**
	10/19/2016	**10**	**30**	**4**	**22**
	12/23/2016	**14**	**17**	**3**	**14**
	6/11/2017	**5**	**4**	1 U	**2**
	12/12/2017	**8**	**3**	1 U	**3**
	6/16/2018	**6**	**1.9**	0.22 U	**1.4**
	11/28/2018	**7.6**	**1.3**	0.22 U	**0.76 I**
	6/18/2019	**2.3**	**0.65 I**	0.22 U	0.41 U
	12/5/2019	**4**	**1**	1 U	1 U
	6/10/2020	**2.3**	**0.66 I**	0.22 U	0.41 U
	12/9/2020	**3.6**	**1**	0.22 U	**0.44 I**
	12/14/2021	**3.6**	**0.79 I**	0.73 U	0.71 U
	12/1/2022	**6.0**	**1.2**	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0052 [40-50]	1/30/2016	380	1,200	68	280
	10/19/2016	12	18	2	10
	6/12/2017	5	1	1	24
	12/12/2017	3	1 U	1 U	18
	6/16/2018	6.1	1.1	0.5 I	10.1
	11/29/2018	2.7	0.28 U	0.22 U	15.7
	6/18/2019	2.2	0.28 U	0.22 U	12.7
	12/5/2019	3	1 U	1 U	9
	6/10/2020	1.5	0.28 U	0.22 U	7.4
	12/9/2020	1.8	0.28 U	0.22 U	0.41 U
	12/14/2021	13	3.4	0.73 U	2 I
	12/7/2022	17	4.6	0.95 U	4.5
MW0056 [41-51]	12/16/2013	1 U	58	9	30
	7/28/2014	1 U	55	11	24
	5/9/2015	2 U	45	11	23
	4/28/2016	1 U	50	14	40
	12/28/2016	1 U	29	9	20
	12/18/2017	1 U	23	8	39
	11/29/2018	0.35 U	18.5	5.9	31.2
	12/4/2019	1 U	16	5	31
	12/14/2020	0.35 U	11.7	4.2	32.1
	12/13/2021	0.89 U	9.2	4.3	22
	12/6/2022	0.79 U	5.5	2.7	19
MW0061 [25-35]	12/13/2013	4,200	12,900	70	1,200
	7/31/2014	11	30	1	3
	10/28/2014	7	13	1 U	1 U
	1/29/2015	4	8	1 U	2
	5/8/2015	7	11	1 U	3
	7/29/2015	7	10	1 U	2
	10/29/2015	2	8	1 U	1
	1/28/2016	8	18	1 U	2
	4/27/2016	5	4	1 U	1
	8/2/2016	28	68	3	3
	10/22/2016	8	11	1 U	1 U
	12/29/2016	14	20	1	1
	1/30/2017	19	28	1 U	3
	6/15/2017	32	53	1 U	4
	12/19/2017	41	65	1 U	7
	6/19/2018	21.3	30	0.81 I	1.3
	11/28/2018	29.9	47.5	1.1	1.8
	6/19/2019	46.1	80.3	1.9	5.7
	12/5/2019	47	85	2	7
	6/10/2020	18.6	19.6	0.69 I	1.3
	12/7/2020	29.9	35.3	0.84 I	3.9
	12/14/2021	40	71	1.8 I	5.4
	2/1/2023	56	93	0.95 U	7.3

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0067 [20-30]	12/13/2013	10 U	1,700	12	2,000
	8/1/2014	23	540	15	7
	1/27/2015	1 U	29	5	2
	5/7/2015	2 U	120	3	2 U
	7/29/2015	1 U	39	2	1 U
	4/28/2016	1 U	11	2	1 U
	10/22/2016	1 U	2	2	1 U
	12/29/2016	1 U	2	1	1
	1/30/2017	1	2	1	2
	6/14/2017	1 U	1 U	1 U	3
	12/19/2017	1 U	1 U	1 U	9
	6/16/2018	0.35 U	4.1	0.63 I	0.41 U
	11/27/2018	0.48 I	1.4	0.49 I	1.4
	6/19/2019	0.55 I	0.55 I	0.22 U	2.3
	12/6/2019	1 U	1	1 U	8
	6/10/2020	0.63 I	1.1	0.54 I	9.1
	12/7/2020	0.78 I	6.7	1.1	27.5
	12/14/2021	2.0 I	60	5	40
	12/1/2022	1.0 I	110	8.9	43
MW0068 [40-50]	12/16/2013	2 U	59	2 U	740
	8/1/2014	10 U	870	19	1,000
	10/28/2014	10 U	690	20	480
	1/27/2015	5 U	1,100	29	400
	5/13/2015	2 U	25	2 U	5
	7/30/2015	1 U	27	1	6
	11/2/2015	3 U	11	3 U	4
	1/31/2016	2	1 U	1 U	1 U
	4/28/2016	1 U	1 U	1 U	1 U
	8/1/2016	2	3	1 U	1 U
	10/22/2016	2	3	1 U	1 U
	12/29/2016	2	4	1 U	1 U
	6/14/2017	4	7	1 U	3
	12/19/2017	4	11	1 U	22
	6/16/2018	1.3	7.6	0.77 I	0.51 I
	11/27/2018	3.2	6.5	0.87 I	3.9
	6/19/2019	3.4	6	0.75 I	7.1
	12/6/2019	2	4	1 U	7
	6/10/2020	3.8	6.1	1	9.5
	12/7/2020	2.8	4.3	0.7 I	12.6
	12/14/2021	3	5.3	0.92 I	16
	12/1/2022	2.4 I	4.4	0.95 U	21

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0073 [10-20]	12/16/2013	40 U	**22,000**	**200**	**1,800**
	7/31/2014	1 U	**36**	1 U	**6**
	10/28/2014	1 U	**34**	1 U	**2**
	1/28/2015	1 U	**19**	1 U	1 U
	5/5/2015	1 U	**15**	1 U	1 U
	7/27/2015	1 U	**6**	1 U	1 U
	10/27/2015	1 U	**28**	1 U	**4**
	1/26/2016	1 U	**12**	1 U	1 U
	04/27/2016	1 U	**7**	1 U	1 U
	8/1/2016	1 U	**15**	1 U	**2**
	12/29/2016	1 U	**17**	**1**	**2**
	6/12/2017	1 U	**12**	1 U	**1**
	12/19/2017	1 U	**28**	**2**	**3**
	11/27/2018	0.35 U	**9.2**	**0.37 I**	**0.98 I**
	12/8/2020	0.35 UQ	**12.7 Q**	0.21 UQ	**1.1 Q**
	2/1/2023	0.79 U	**8.4**	0.95 U	0.64 U
MW0086 [30-40]	1/30/2016	**1,500**	**6,200 J**	**98**	**1,400**
	10/21/2016	**2**	**760 J**	**30**	**23**
	3/16/2017	**2**	**110**	**14**	**4**
	6/11/2017	1 U	**4**	1 U	**3**
	12/13/2017	**1**	**2**	1 U	1 U
	11/27/2018	**0.47 I**	**0.61 I**	**0.25 I**	**2**
	12/6/2019	1 U	**1**	1 U	**3**
	12/10/2020	**0.44 I**	**0.55 I**	**0.43 I**	**6**
	12/5/2022	0.79 U	0.71 U	0.95 U	**2.5**
MW0088 [40-50]	1/31/2016	**25,400**	**11,000**	**50**	**580**
	7/28/2016	**1,100**	**2,700**	**270**	**230**
	10/19/2016	**370 J**	**820 J**	**32**	**170**
	12/23/2016	**310**	**650**	**52**	**310**
	6/11/2017	**91**	**240**	**7**	**97**
	12/12/2017	**11**	**34**	**3**	**47**
	6/16/2018	**30.4**	**12.6**	**2.3**	**29.6**
	11/27/2018	**7.7**	**1**	**0.34 I**	**1.6**
	6/18/2019	**4.6**	**0.87 I**	0.22 U	0.41 U
	12/5/2019	**7**	**1**	1 U	1 U
	6/10/2020	**4.8**	**0.85 I**	0.22 U	0.41 U
	12/9/2020	**4.3**	**0.60 I**	0.22 U	0.41 U
	12/14/2021	**22**	**6.9**	0.73 U	**9.8**
	12/1/2022	**35**	**9.7**	0.95 U	**18**

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0096 [65-70]	1/31/2016	**780**	**1,100**	10 U	**580**
	4/25/2016	**7**	**58**	**2**	**110**
	7/28/2016	**1**	**7**	**1**	**70**
	10/19/2016	**2**	**5**	1 U	**70**
	12/23/2016	**3**	**6**	**1**	**90**
	6/11/2017	1 U	**2**	1 U	**67**
	12/12/2017	1 U	**1**	1 U	**68**
	6/16/2018	**1**	**2.7**	**1.2**	**79.8**
	11/28/2018	0.35 U	**0.79 I**	**0.7 I**	**49.9**
	6/18/2019	**0.49 I**	**1.2**	**0.58 I**	**33.1**
	12/5/2019	1 U	**1**	1 U	**28**
	6/10/2020	0.35 U	**1.1**	**0.71 I**	**28.3**
	12/9/2020	0.35 U	**0.85 I**	**0.48 I**	**36.2**
MW0096R [60-70]	1/19/2022	1 U	1 U	1 U	1 U
	12/1/2022	0.79 U	0.71 U	0.95 U	0.64 U
MW0109 [40-50]	1/29/2016	3 U	**490**	**13**	**440**
	10/20/2016	**1**	**3**	1 U	**2**
	3/16/2017	1 U	1 U	1 U	1 U
	6/11/2017	1 U	1 U	1 U	1 U
	12/13/2017	1 U	1 U	1 U	1 U
	11/27/2018	**2.2**	**0.92 I**	0.22 U	0.41 U
	12/11/2020	**2.1**	**1.6**	0.22 U	**2.2**
	12/5/2022	**4.3 I**	**2.3**	0.95 U	**2.4**
MW0113 [25-35]	12/16/2013	20 U	**5,300**	**43**	**2,200**
	7/31/2014	1 U	**38**	1 U	1 U
	10/28/2014	1 U	**2**	1 U	1 U
	1/28/2015	1 U	**1**	1 U	1 U
	5/5/2015	1 U	1 U	1 U	1 U
	7/27/2015	1 U	1 U	1 U	1 U
	10/27/2015	1 U	1 U	1 U	1 U
	1/26/2016	1 U	1 U	1 U	1 U
	4/27/2016	1 U	1 U	1 U	1 U
	12/29/2016	1 U	1 U	1 U	1 U
	6/12/2017	1 U	**1**	1 U	1 U
	12/19/2017	1 U	**2**	1 U	1 U
	11/26/2018	0.35 U	**1.1**	0.22 U	0.41 U
	12/9/2020	0.35 U	**1.6**	0.22 U	**1.8**
	2/1/2023	0.79 U	**2.3**	0.95 U	**2.7**

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0114 [10-20]	12/16/2013	1 U	**38**	1 U	**5**
	8/1/2014	1 U	1 U	1 U	**4**
	10/28/2014	1 U	1 U	1 U	1 U
	1/28/2015	1 U	1 U	1 U	1 U
	5/5/2015	1 U	1 U	1 U	1 U
	7/27/2015	1 U	1 U	1 U	1 U
	10/29/2015	1 U	1 U	1 U	1 U
	1/28/2016	1 U	1 U	1 U	1 U
	4/27/2016	1 U	1 U	1 U	1 U
	8/1/2016	1 U	1 U	1 U	1 U
	12/28/2016	1 U	1 U	1 U	1 U
	6/12/2017	1 U	1 U	1 U	1 U
	12/19/2017	1 U	1 U	1 U	1 U
	11/26/2018	0.35 U	0.28 U	0.22 U	0.41 U
	12/9/2020	0.35 U	0.28 U	0.22 U	0.41 U
	2/1/2023	0.79 U	0.71 U	0.95 U	0.64 U
MW0120 [10-20]	12/17/2013	1 U	**2**	1 U	1 U
	7/30/2014	**89**	**89**	**8**	3 U
	10/29/2014	**79**	**20**	**2**	1 U
	1/27/2015	**54**	**12**	**1**	1 U
	5/7/2015	**5**	**14**	**2**	1 U
	7/29/2015	**2**	1 U	1 U	1 U
	10/29/2015	**10**	**3**	1 U	1 U
	1/27/2016	**16**	**1**	1 U	1 U
	4/26/2016	**26**	**3**	1 U	1 U
	8/1/2016	**16**	**3**	1 U	**1**
	10/22/2016	**13**	**2**	1 U	1 U
	12/29/2016	**6**	1 U	1 U	1 U
	1/30/2017	**6**	1 U	1 U	1 U
	6/14/2017	**3**	1 U	1 U	1 U
	12/14/2017	**3**	1 U	1 U	1 U
	6/18/2018	**2.6**	0.28 U	0.22 U	0.41 U
	11/27/2018	**2.5**	0.28 U	0.22 U	0.41 U
	12/4/2019	**5**	1 U	1 U	1 U
	12/7/2020	**3.4**	**0.28 I**	0.22 U	0.41 U
	12/14/2021	**1.9 I**	0.53 U	0.73 U	0.71 U
	12/1/2022	0.79 U	0.71 U	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0122 [20-30]	12/17/2013	5,500	7,200	48	150
	7/31/2014	10	160	4	3 U
	10/29/2014	1 U	7	1 U	1 U
	1/27/2015	1	2	1 U	1 U
	5/7/2015	1	3	1 U	1 U
	7/28/2015	1	4	1 U	1 U
	10/28/2015	1 U	3	1 U	1 U
	1/27/2016	2	2	1 U	1 U
	4/26/2016	2	1	1 U	1 U
	10/22/2016	2	2	1 U	1 U
	12/29/2016	1	1	1 U	1 U
	6/14/2017	2	1	1 U	1 U
	12/14/2017	6	3	1 U	1 U
	6/18/2018	3.8	0.77 I	0.22 U	0.41 U
	11/27/2018	6.1	2.5	0.22 U	0.41 U
	6/19/2019	7.6	2.3	0.22 U	0.41 U
	12/5/2019	11	3	1 U	1 U
	6/10/2020	10.3	2.7	0.29 I	0.41 U
	12/8/2020	9.7	1.8	0.22 U	0.41 U
	12/14/2021	10	2.8	0.73 U	0.71 U
	12/8/2022	7.8	1.7	0.95 U	0.64 U
MW0125 [10-20]	12/17/2013	4	38	1	300
	7/31/2014	1 U	43	1	12
	1/27/2015	1 U	3	1 U	1 U
	5/5/2015	1 U	2	1 U	1 U
	7/29/2015	1 U	1	1 U	1 U
	4/27/2016	1 U	1 U	1 U	1 U
	12/29/2016	1 U	1 U	1 U	1 U
	6/13/2017	1	1	1 U	1 U
	12/19/2017	2	1 U	1 U	1 U
	11/27/2018	1	0.54 I	0.22 U	0.41 U
	12/8/2020	0.76 I	0.59 I	0.76 I	6.2
	12/6/2022	0.79 U	5.4	0.95 U	26

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0127 [20-30]	12/17/2013	40 U	**15900**	**97**	**980**
	7/31/2014	2 U	**100**	2 U	2 U
	10/30/2014	1 U	**16**	1 U	1 U
	1/28/2015	1 U	**6**	1 U	1 U
	5/5/2015	1 U	**5**	1 U	1 U
	7/27/2015	1 U	**3**	1 U	1 U
	10/27/2015	1 U	**4**	1 U	1 U
	1/26/2016	1 U	**2**	1 U	1 U
	4/26/2016	1 U	**2**	1 U	1 U
	12/28/2016	1 U	**4**	1 U	1 U
	6/12/2017	1 U	**7**	1 U	1 U
	12/20/2017	1 U	**4**	1 U	**1**
	11/26/2018	0.35 U	**4.6**	0.22 U	0.41 U
	12/8/2020	0.35 UQ	**1.8 Q**	0.22 UQ	**1.4 Q**
	2/1/2023	0.79 U	**2.1**	0.95 U	**1.7 I**
MW0128 [10-20]	12/17/2013	20 U	**6,000**	**44**	**1,000**
	7/31/2014	1 U	**64**	1 U	**4**
	10/30/2014	1 U	**8**	1 U	1 U
	1/28/2015	1 U	**5**	1 U	1 U
	5/5/2015	1 U	**5**	1 U	1 U
	7/27/2015	1 U	**3**	1 U	1 U
	10/27/2015	1 U	**4**	1 U	1 U
	1/26/2016	1 U	**2**	1 U	1 U
	4/26/2016	1 U	**2**	1 U	1 U
	12/28/2016	1 U	**5**	1 U	1 U
	6/12/2017	**2**	**3**	1 U	1 U
	12/20/2017	**3**	**6**	1 U	1 U
	11/26/2018	**1.4**	**2.2**	0.22 U	0.41 U
	12/9/2020	**4.6**	**7.1**	0.22 U	0.41 U
	2/1/2023	**3.4 I**	**6.1**	0.95 U	0.64 U
MW0129 [30-40]	12/16/2013	40 U	**11300**	**86**	**2,000**
	8/1/2014	1 U	**31**	1 U	**4**
	10/30/2014	1 U	**8**	1 U	1 U
	1/28/2015	1 U	**5**	1 U	1 U
	5/7/2015	1 U	**2**	1 U	1 U
	7/27/2015	1 U	**1**	1 U	1 U
	10/27/2015	1 U	**1**	1 U	1 U
	1/26/2016	1 U	1 U	1 U	1 U
	4/27/2016	1 U	1 U	1 U	1 U
	12/29/2016	1 U	**4**	1 U	1 U
	6/12/2017	1 U	**3**	1 U	1 U
	12/20/2017	1 U	**4**	1 U	**2**
	11/26/2018	0.35 U	**2**	0.22 U	**0.46 I**
	12/10/2020	0.35 U	**2.2**	0.22 U	**1.8**
	2/1/2023	0.79 U	**2.0**	0.95 U	**2.4**

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0130 [25-35]	1/29/2016	1 U	1 U	1 U	1 U
	10/21/2016	1 U	1 U	1 U	1 U
	3/16/2017	1 U	1 U	1 U	1 U
	6/10/2017	1 U	1 U	1 U	1 U
	12/19/2017	1 U	1 U	1 U	1 U
	11/30/2018	0.35 U	0.28 U	0.22 U	0.41 U
	12/9/2020	0.35 U	0.28 U	0.22 U	0.41 U
	12/5/2022	0.79 U	0.71 U	0.95 U	0.64 U
MW0131 [25-35]	1/29/2016	1 U	1 U	1 U	1 U
	10/21/2016	1 U	1 U	1 U	1 U
	3/16/2017	1 U	1 U	1 U	1 U
	6/10/2017	1 U	1 U	1 U	1 U
	12/14/2017	1 U	1 U	1 U	1 U
	11/29/2018	0.35 U	0.28 U	0.22 U	0.41 U
	12/9/2020	0.35 U	0.28 U	0.22 U	**0.86 I**
	12/5/2022	0.79 U	0.71 U	0.95 U	**9.4**
MW0132 [25-35]	1/29/2016	3 U	**13**	**130**	**680**
	10/21/2016	1 U	1 U	**3**	**5**
	3/16/2017	1 U	1 U	1 U	1 U
	6/10/2017	1 U	1 U	1 U	1 U
	12/14/2017	1 U	1 U	1 U	1 U
	11/29/2018	0.35 U	0.28 U	**0.71 I**	0.41 U
	12/8/2020	**0.83 I**	**1.5**	**2.7**	**3.7**
	12/6/2022	0.79 U	**1.4**	**1.1**	**1.2 I**
MW0133 [25-35]	1/29/2016	3 U	3 U	3 U	3 U
	10/21/2016	1 U	1 U	1 U	1 U
	3/16/2017	1 U	1 U	1 U	**1**
	6/10/2017	1 U	1 U	1 U	**2**
	12/14/2017	1 U	1 U	1 U	**5**
	6/16/2018	0.35 U	0.28 U	0.22 U	**1.2**
	11/30/2018	0.35 U	0.28 U	0.22 U	**1.7**
	12/6/2019	1 U	1 U	1 U	**3**
	12/9/2020	0.35 U	**0.49 I**	0.22 U	**9.5**
	12/13/2021	0.89 U	**0.93 I**	0.73 U	**7.9**
	12/5/2022	0.79 U	**1.2**	0.95 U	**8.4**

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0134 [20-30]	1/29/2016	**21**	**110**	**92**	**550**
	10/21/2016	1 U	1 U	1 U	1 U
	3/16/2017	1 U	1 U	1 U	1 U
	6/10/2017	1 U	1 U	1 U	1 U
	12/13/2017	1 U	1 U	1 U	1 U
	11/29/2018	**0.78 I**	**0.52 I**	**0.65 I**	**0.79 I**
	12/9/2020	**1.1**	**0.97 I**	**0.76 I**	**2.3**
	12/6/2022	**2.6 I**	**1.4**	0.95 U	0.64 U
MW0135 [25-35]	1/29/2016	**40**	**55**	**220**	**990**
	10/21/2016	1 U	1 U	**6**	**3**
	3/16/2017	1 U	1 U	**2**	1 U
	6/10/2017	1 U	1 U	1 U	1 U
	12/13/2017	1 U	1 U	1 U	1 U
	11/29/2018	0.35 U	0.28 U	**1.3**	**1.1**
	12/5/2019	**1**	**2**	**2**	**1**
	12/9/2020	**1.5**	**1.9**	**1.4**	**2.2**
	12/6/2022	0.79 U	**1.5**	0.95 U	**1.3 I**
MW0136 [25-35]	1/29/2016	**4**	**51**	**1**	**30**
	10/21/2016	**1**	**21**	**1**	**2**
	3/16/2017	1 U	**12**	1 U	**4**
	6/10/2017	1 U	**4**	1 U	**5**
	12/13/2017	**1**	**5**	1 U	**3**
	6/16/2018	**1.2**	**5**	**0.33 I**	0.41 U
	11/29/2018	**1.4**	**3.2**	0.22 U	0.41 U
	12/8/2020	**1.7 Q**	**2.3 Q**	0.22 UQ	0.41 UQ
	12/6/2022	**1.1 I**	0.71 U	0.95 U	0.64 U
MW0137 [20-30]	1/29/2016	**1,600**	**1,300**	**610**	**180**
	10/21/2016	**7**	**5**	**2**	1 U
	3/16/2017	**2**	1 U	1 U	1 U
	6/10/2017	**2**	1 U	1 U	1 U
	12/13/2017	**2**	1 U	1 U	1 U
	11/28/2018	**4.7**	**0.58 I**	**0.74 I**	0.41 U
	12/6/2019	**6**	**1**	1 U	1 U
	12/9/2020	**3.7**	**1.2**	**0.45 I**	**0.52 I**
	12/5/2022	**4.6 I**	**2.0**	0.95 U	0.64 U

Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0138 [30-40]	1/29/2016	**340**	**640**	**110**	**1,700**
	10/20/2016	**1**	**6**	1 U	1 U
	3/15/2017	1 U	**17**	1 U	1 U
	6/11/2017	1 U	**3**	1 U	1 U
	12/13/2017	1 U	**2**	1 U	1 U
	11/27/2018	**1**	0.28 U	0.22 U	0.41 U
	12/9/2020	**1.6**	**0.84 I**	**0.30 I**	**2.5**
	12/5/2022	**1.2 I**	**0.80 I**	0.95 U	**1.5 I**
MW0142 [20-30]	1/30/2016	**17,600**	**2,200**	40 U	**290**
	8/2/2016	**44**	**2**	1 U	**1**
	10/19/2016	**36**	**3**	1 U	**2**
	12/27/2016	**14**	**3**	1 U	**1**
	6/11/2017	**7**	1 U	1 U	1 U
	12/12/2017	**11**	1 U	1 U	1 U
	6/16/2018	**13.1**	**0.69 I**	0.22 U	0.41 U
	11/28/2018	**4.8**	0.28 U	0.22 U	0.41 U
	6/18/2019	**2.3**	0.28 U	0.22 U	0.41 U
	12/5/2019	**9**	1 U	1 U	1 U
	6/10/2020	**8.1**	**0.42 I**	0.22 U	0.41 U
	12/8/2020	**4.4**	0.28 U	0.22 U	0.41 U
	12/14/2021	**7.3**	**0.57 I**	0.73 U	0.71 U
	12/1/2022	**7.0**	0.71 U	0.95 U	0.64 U
MW0144 [20-30]	1/30/2016	**7,200**	**1,300**	40 U	**700**
	8/2/2016	**87**	**90**	**4**	**48**
	10/19/2016	**43**	**17**	**1**	**4**
	12/27/2016	**37**	**10**	**1**	**3**
	6/12/2017	**7**	**2**	1 U	1 U
	12/12/2017	**2**	1 U	1 U	1 U
	6/16/2018	**3.8**	**0.47 I**	0.22 U	0.41 U
	11/28/2018	**1.6**	0.28 U	0.22 U	0.41 U
	12/5/2019	**6**	1 U	1 U	1 U
	12/8/2020	**7.5**	**0.64 I**	0.22 U	0.41 U
	12/14/2021	**11**	**1.6 I**	0.73 U	0.71 U
	12/6/2022	**9.5**	**1.1**	0.95 U	0.64 U

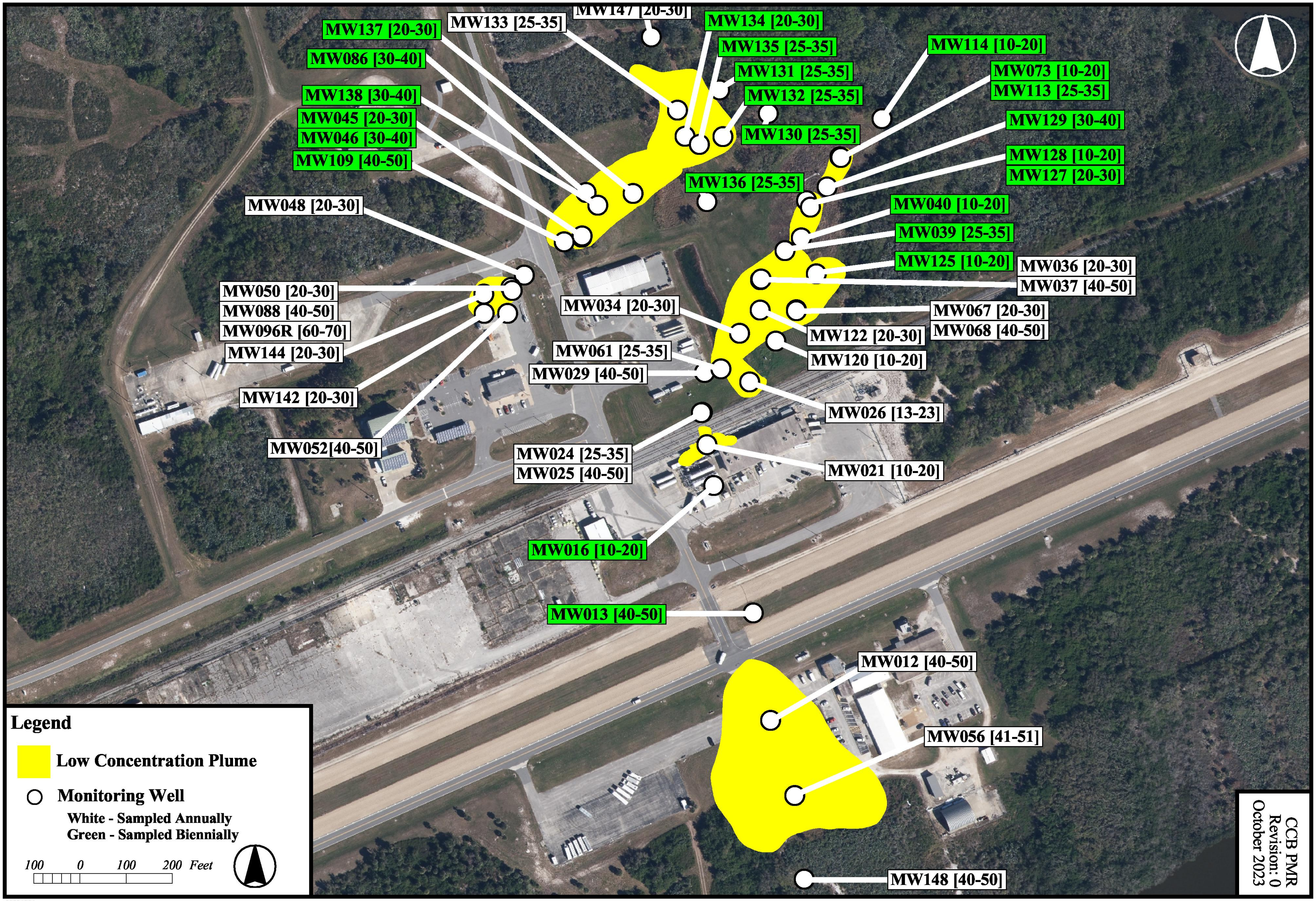
Table 2-4. Monitoring Well Groundwater Results Summary (continued)

Well ID	Sample Date	TCE	cDCE	tDCE	VC
MW0147 [20-30]	12/22/2021	0.89 U	0.53 U	0.73 U	0.71 U
	12/5/2022	0.79 U	0.71 U	0.95 U	0.64 U
MW0148 [40-50]	12/22/2021	0.89 U	**4**	0.73 U	0.71 U
	12/6/2022	0.79 U	**3.1**	0.95 U	0.64 U

Concentrations in µg/L
The screen interval is shown in brackets below the monitoring well ID in ft bls
Bolded monitoring well IDs indicate well was sampled during this reporting period
Bolded results indicate concentration exceeded the method detection limit
Shading indicates result is greater than the GCTL (TCE = 3 µg/L, cDCE = 70 µg/L, tDCE = 100 µg/L, VC = 1 µg/L)

bls = Below land surface
CCB = Converter Compressor Building
ft = Feet
TCE = Trichloroethene
cDCE = Cis-1,2-Dichloroethene
VC = Vinyl chloride
tDCE = Trans-1,2-Dichloroethene
I = Reported value is between method detection limit and practical quantitation limit
J = Estimated value
Q = Sample analyzed beyond hold time; reported results are considered minimum values
U = Not detected at or above method detection limit (associated value)

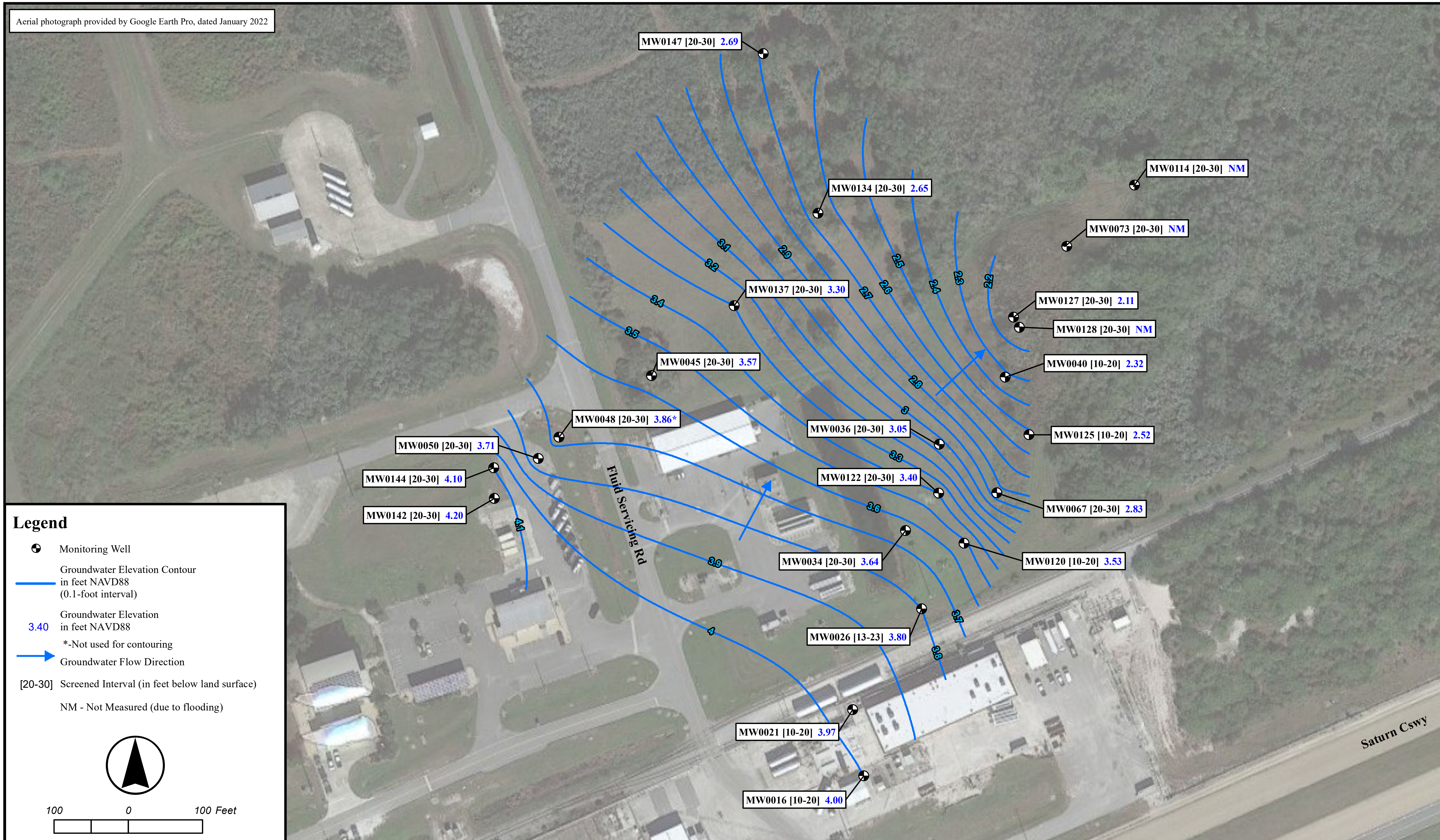
FIGURE 2-1 2022 PERFORMANCE MONITORING NETWORK
SWMU 089, KENNEDY SPACE CENTER, FLORIDA

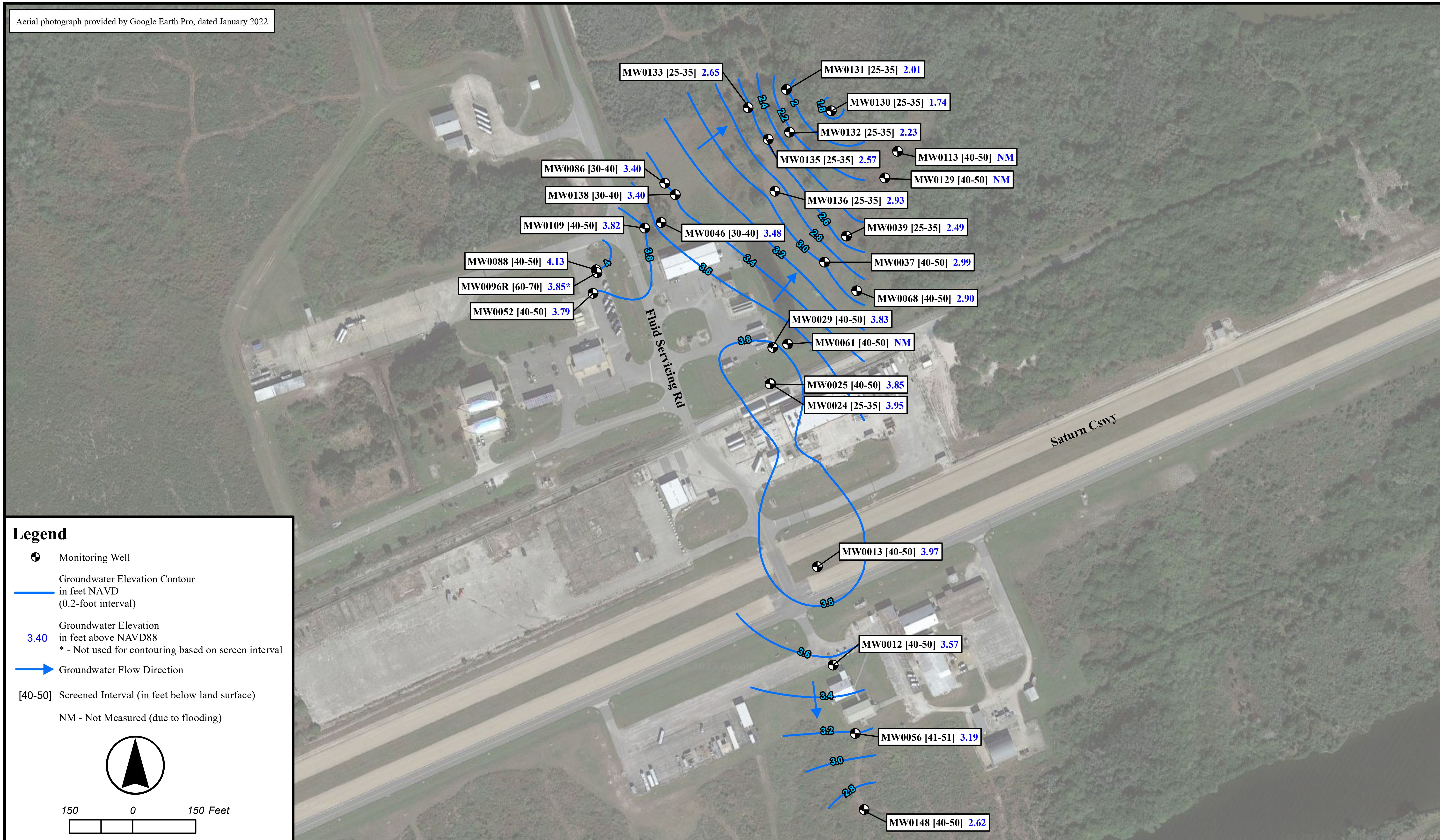


20221201

FIGURE 2-2 SHALLOW WELL POTENTIOMETRIC SURFACE MAP (0 TO 25 FEET BLS) - NOVEMBER 2022

SWMU 089, KENNEDY SPACE CENTER, FLORIDA





JAX C:\GIS\KSC\MXD\CCB\MXD\2-3_CCB_DEEP_GW_ELEVATIONS_REV3.MXD 07/27/23

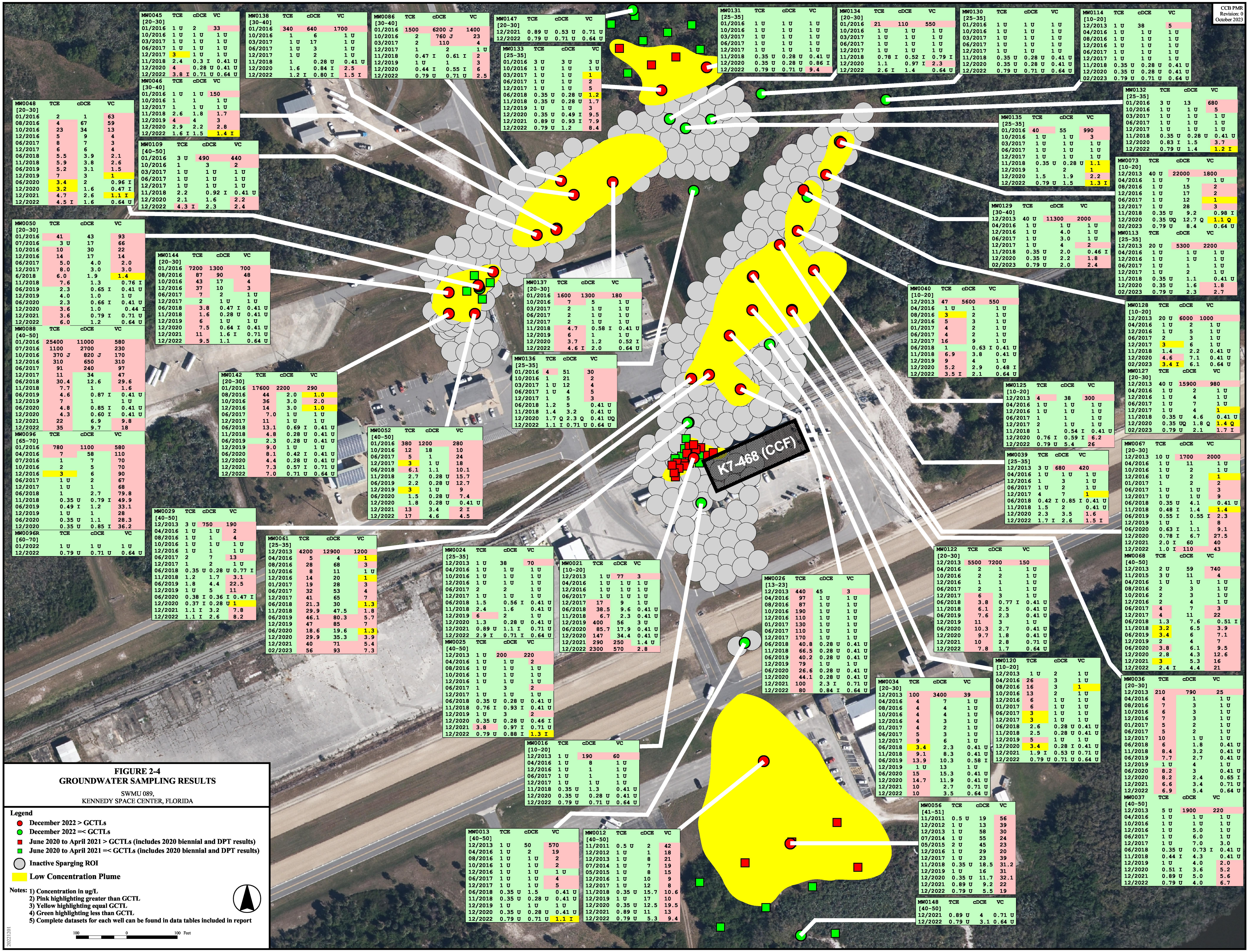


FIGURE 2-4
GROUNDWATER SAMPLING RESULTS

SWMU 089,
KENNEDY SPACE CENTER, FLORIDA

Legend
- December 2022 > GCTLs
- December 2022 =< GCTLs
- June 2020 to April 2021 > GCTLs (includes 2020 biennial and DPT results)
- June 2020 to April 2021 =< GCTLs (includes 2020 biennial and DPT results)
- Inactive Sparging ROI
- Low Concentration Plume

Notes:
1) Concentration in ug/L
2) Pink highlighting greater than GCTL
3) Yellow highlighting equal GCTL
4) Green highlighting less than GCTL
5) Complete datasets for each well can be found in data tables included in report

100 0 100 Feet

SECTION III
CONCLUSIONS AND RECOMMENDATIONS

The 2022 sampling event, which was completed in December 2022 and February 2023 (collectively referred to as the December 2022 event), represented the second year of groundwater PM since the AS IM was shut down in December 2020. A comparison of results between December 2021 and December 2022 at annually sampled wells and December 2020 and December 2022 at biennially sampled wells showed that concentrations of COCs remain relatively stable with only select wells showing increased concentrations. With the exception of MW0021, which showed an elevated TCE concentration of 2,300 µg/L in December 2022, all COC concentrations were less than NADCs and support transition of the majority of the site from an active cleanup phase to LTM. For MW0021, an IMWP was presented to the KSCRT in April 2023 to address the high concentrations present in this area. An IWP will be submitted under separate cover for the MW0021 area to facilitate the IM and address field implementation details discussed during the April 2023 KSCRT Meeting.

Excluding MW0021, the maximum detections during the December 2022 sampling event were 80 µg/L of TCE in MW0026 (reduced from pre-IM maximum DPT of 191,000 µg/L), 110 µg/L of cDCE in MW0067 (reduced from pre-IM maximum DPT of 24,000 µg/L), and 43 µg/L of VC in MW0067 (reduced from pre-IM maximum DPT of 3,400 µg/L). Currently, the size of the LCP is 5.1 acres, reduced from 12.5 acres pre-IM, and the HCP has been reduced from 5.8 acres to approximately 664 square feet in the MW0021 area. The updated plume footprint includes results from the 2022 annual and biennial sampled monitoring wells. Figure 3-1 depicts the past and current plume footprints. The most recent results support transition of the site from PM to LTM except for the area around MW0021, where plans for an additional IM is in progress.

Review of the current monitoring well network indicates that wells are placed appropriately to transition into an LTM program to continue monitoring the extents of the plume and track degradation progress. However, two existing wells are recommended to be added to the LTM program for vertical monitoring in areas where the highest COC concentrations remain outside of the MW0021 area. The two additional locations include: (1) MW0062 (screened

30-40 feet bls) to monitor beneath MW0026 (screened 13-23 feet bls), which had the highest TCE concentration of 80 µg/L in December 2022; and (2) MW0064 (screened 40-50 feet bls) to monitor beneath MW0034 (screened 20-30 feet bls), which had a TCE concentration of 10 µg/L during the past two sampling events. At other locations where the highest COC concentrations remain (e.g., MW0061, screened 25-35 feet bls), vertical monitoring points are already included in the monitoring program (e.g., MW0029, screened 40-50 feet bls).

The CCB LTM program is recommended to include the same 25 annual wells and 23 biennial wells that were sampled during the 2022 reporting period, but with the addition of two existing wells (MW0062 and MW0064) to the annual schedule for vertical monitoring. Contaminant trends will continue to be evaluated and the well network will continue to be optimized to ensure appropriate spatial coverage of the plume (vertical and horizontal delineation). As additional data is collected, statistical trend analysis will be used to determine whether VOCs are being reduced over time, to evaluate overall plume stability, and to evaluate the need for additional monitoring wells. The AS infrastructure will continue to remain in place as the LTM program is established to monitor any rebound but will be re-evaluated for removal/abandonment as long-term contaminant trends are generated.

The next reporting period will be January 1, 2023, to December 31, 2023. The next annual sampling event will be conducted in December 2023 and the next biennial sampling event will be conducted in December 2024. All samples will be analyzed for VOCs by USEPA Method 8260D. Table 3-1 summarizes the recommended LTM plan and Figure 3-2 shows the recommended LTM network at CCB. Future reports will be designated as LTM reports. These recommendations were presented and received concurrence at the June 2023 KSCRT Meeting (Meeting Minute 2306-M06, Decisions D05, D06). The ADP and KSCRT meeting minutes and decisions from June 2023 are included in Appendix A.

Table 3-1. Recommended Long-Term Monitoring Plan for 2023 and 2024

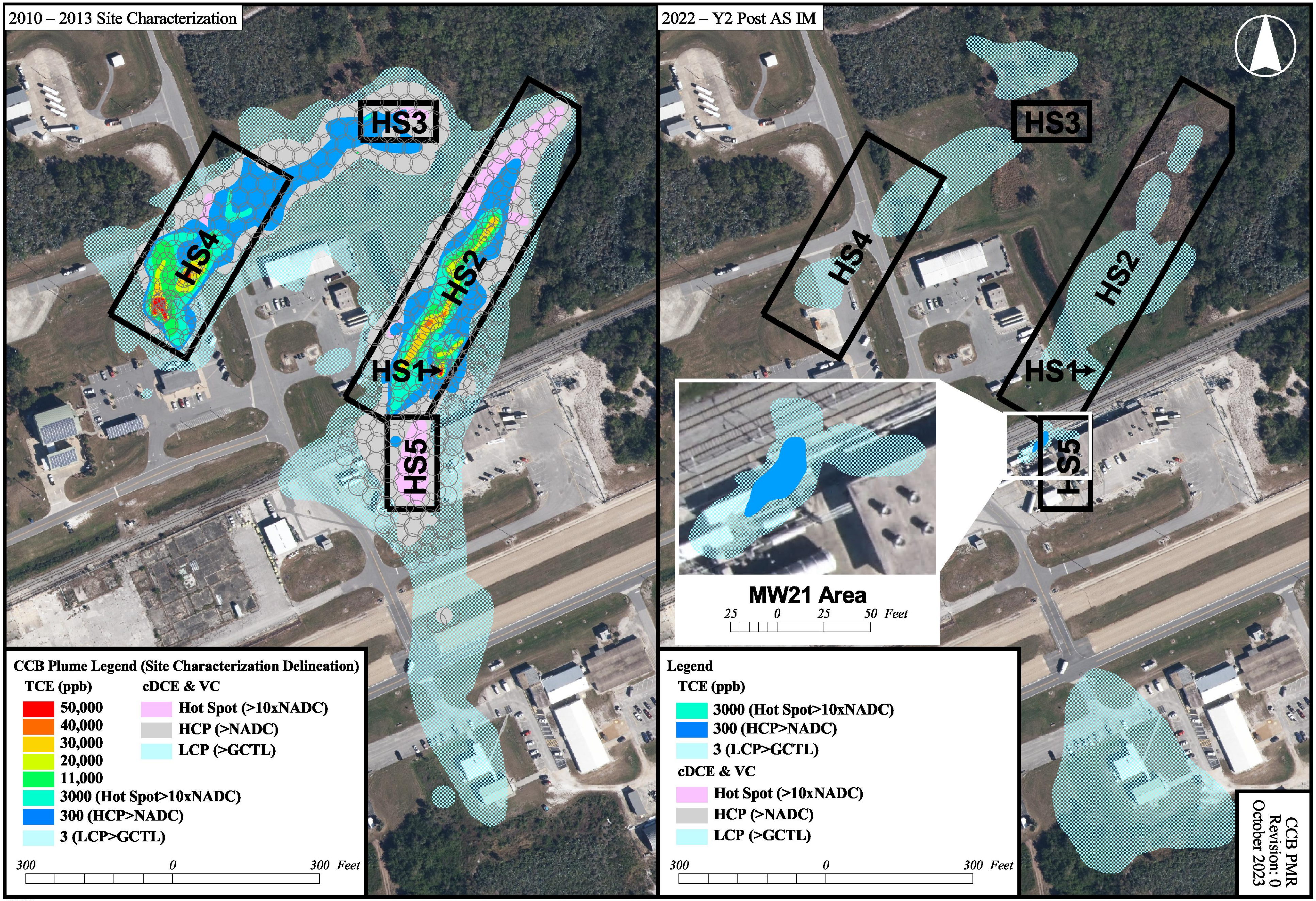
Location (CCB-)	Screen Interval (ft bls)	Sampling Frequency	
		Annual (December 2023)	Biennial (December 2024)
MW0012	40-50	X	
MW0013	40-50		X
MW0016	10-20		X
MW0021	10-20	X	
MW0024	25-35	X	
MW0025	40-50	X	
MW0026	13-23	X	
MW0029	40-50	X	
MW0034	20-30	X	
MW0036	20-30	X	
MW0037	40-50	X	
MW0039	25-35		X
MW0040	10-20		X
MW0045	20-30		X
MW0046	30-40		X
MW0048	20-30	X	
MW0050	20-30	X	
MW0052	40-50	X	
MW0056	41-51	X	
MW0061	25-35	X	
MW0062	30-40	X	
MW0064	40-50	X	
MW0067	20-30	X	
MW0068	40-50	X	
MW0073	10-20		X
MW0086	30-40		X
MW0088	40-50	X	
MW0096R	60-70	X	
MW0109	40-50		X
MW0113	25-35		X
MW0114	10-20		X

Table 3-1. Recommended Long-Term Monitoring Plan for 2023 and 2024 (continued)

Location (CCB-)	Screen Interval (ft bls)	Sampling Frequency	
		Annual (December 2023)	Biennial (December 2024)
MW0120	10-20	X	
MW0122	20-30	X	
MW0125	10-20		X
MW0127	20-30		X
MW0128	10-20		X
MW0129	30-40		X
MW0130	25-35		X
MW0131	25-35		X
MW0132	25-35		X
MW0133	25-35	X	
MW0134	20-30		X
MW0135	25-35		X
MW0136	25-35		X
MW0137	20-30		X
MW0138	30-40		X
MW0142	20-30	X	
MW0144	20-30	X	
MW0147	20-30	X	
MW0148	40-50	X	

Samples analyzed for volatile organic compounds (VOCs) by Method 8260D
CCB - Converter/Compressor Building
ft bls - Feet below land surface

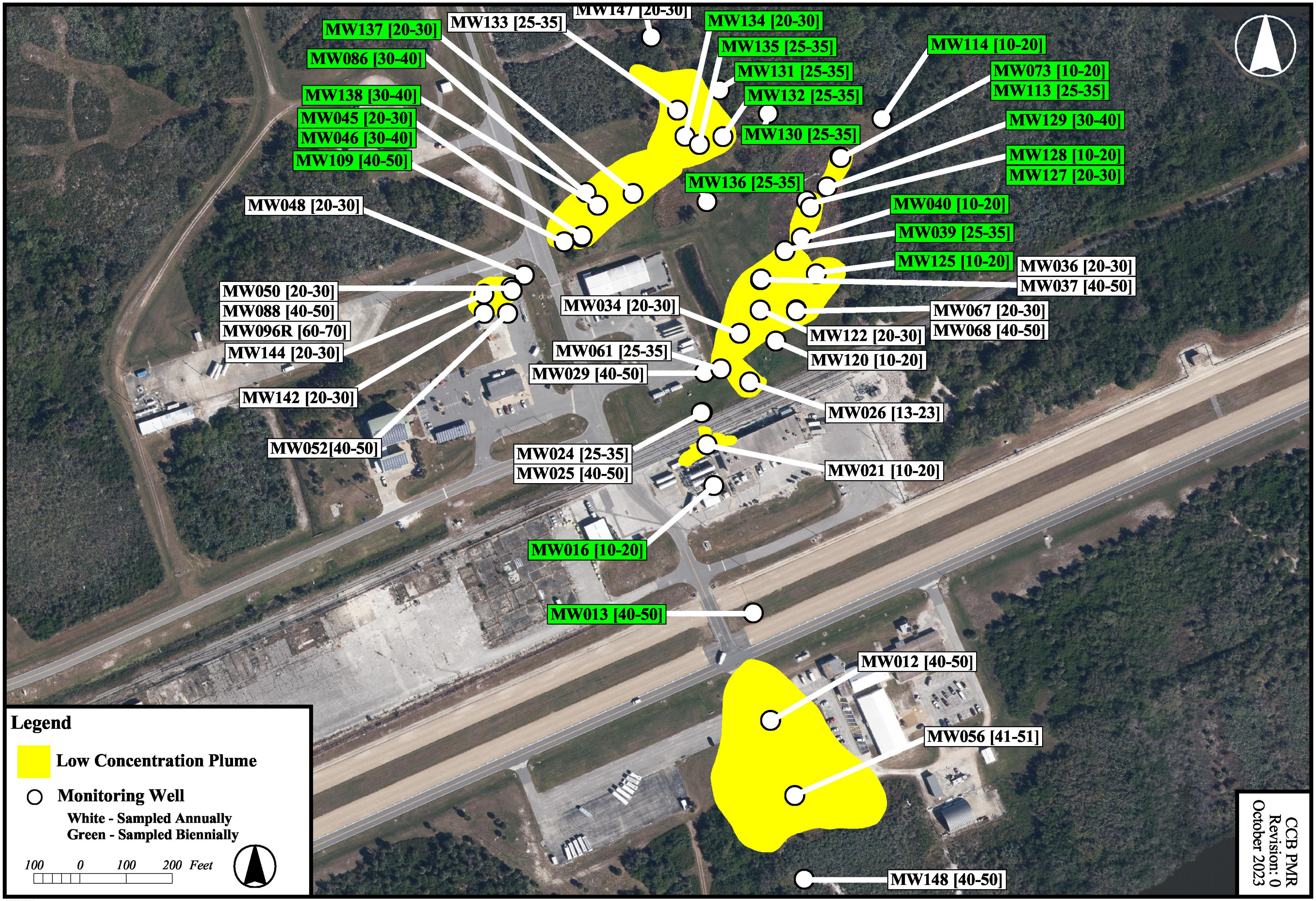
FIGURE 3-1 PRE- AND POST- IM PLUME DELINEATION MAP
SWMU 089, KENNEDY SPACE CENTER, FLORIDA



20221201

CCB PMR
Revision: 0
October 2023

FIGURE 3-2 RECOMMENDED LONG-TERM MONITORING PLAN
SWMU 089, KENNEDY SPACE CENTER, FLORIDA



SECTION IV
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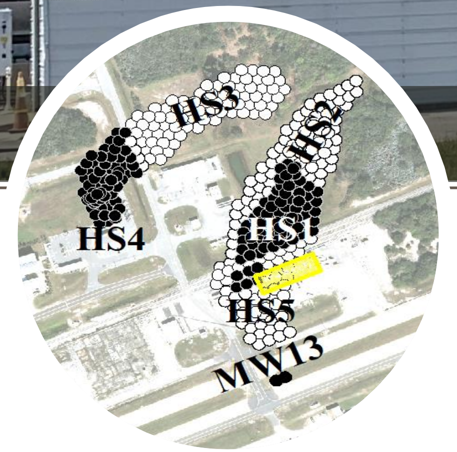
APPENDIX A

ADVANCE DATA PACKAGE AND
KSCRT MEETING MINUTES AND DECISIONS - JUNE 2023

(PROVIDED IN ELECTRONIC VERSION ONLY)

TETRA TECH

Converter Compressor Building (SWMU 089)
2022 Performance Monitoring Annual Update



June 2023

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Presentation Objectives

- Site Background / History
- Former Interim Measures (IM) Overview
- Annual Performance Monitoring Update
  - Groundwater Monitoring Program
  - Results and Evaluation
- Conclusions / Recommendations
- Test Consensus

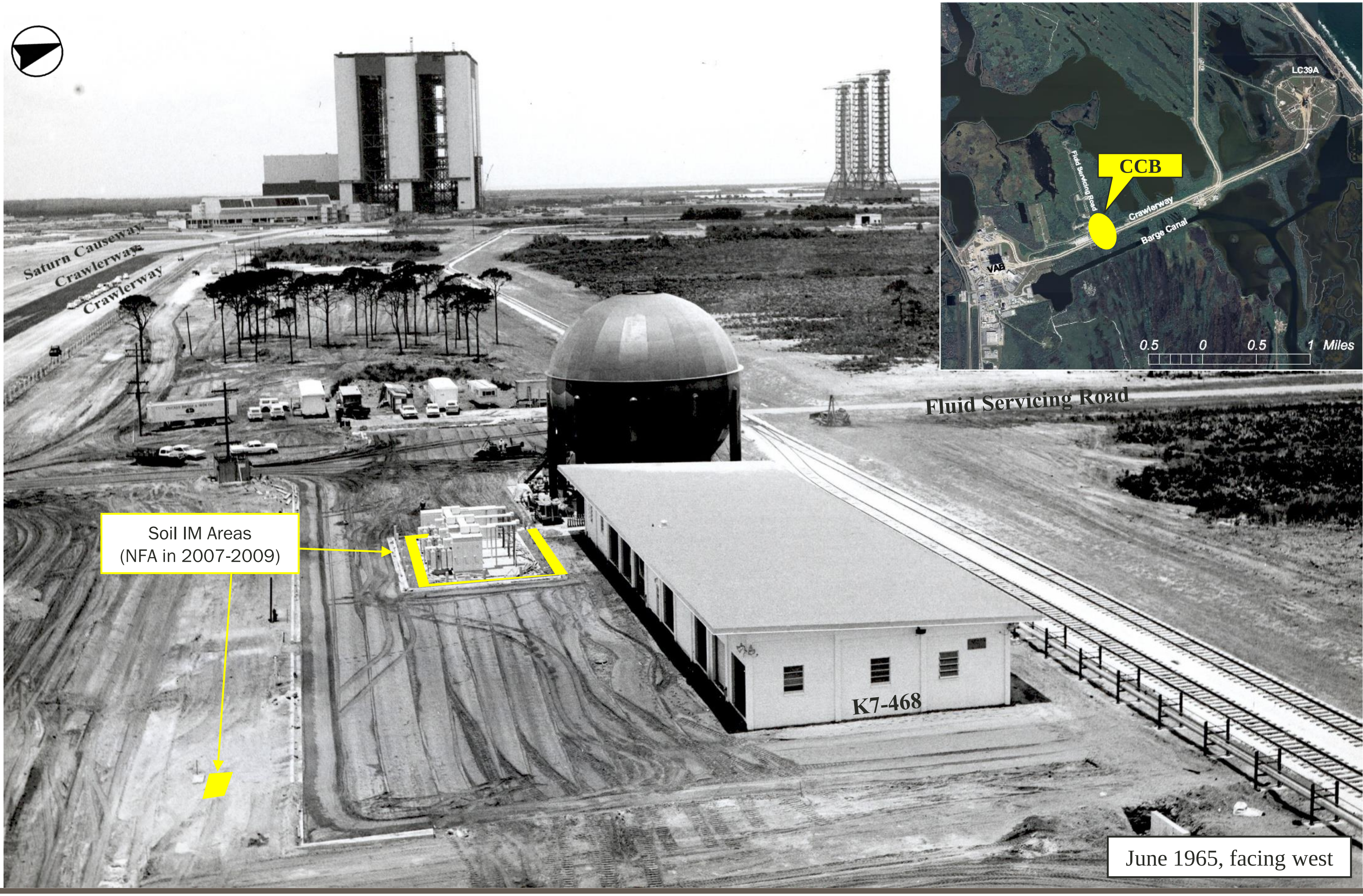
Hot Spot 2 wells, facing east

Site Background

K7-468

- Constructed in 1965, the CCB converts liquid helium from outside contractors (tankers) to a low-pressure helium gas which is pumped to the high-pressure gas compressors and stored in railcars, pipeline, and customer storage batteries.

- Control and maintain high pressure gaseous nitrogen (GN_2) that is supplied from an outside contractor via underground pipeline. The GN_2 pressure is reduced and flow is controlled to a variety of customers.



June 1965, facing west

Site Background

CCB is part of the Fluid Servicing Road Area (FSRA) grouping of sites:

- Area South of K7-516S (516S), SWMU 100
- Components Cleaning Facility (CCF), SWMU 30
- Propellants Support Building Area (PSBA), SWMU 102

Construction History

- 1963-65 - Construction of CCB (K7-468), commonly referred to as "CCF"
- 1967 - Construction of Petroleum Oil Locker (POL) Flammables Storehouse (K7-417) / Operations Building (K7-416)
- 1980s - The nitrogen aboveground storage tank (AST) was removed and replaced with a nitrogen pipeline to an off-site facility, electrical reactors were also removed
- 1993 - Construction of Ammonia Boiler Refurbishment / Test Building (K7-367)
- 2005 Construction of Cylinder Test and Fill Facility (K7-415) and retention pond

Site History

2003: SWMU Assessment identified potential impacts from historical operations.

2005: Confirmation Sampling Report with RFI Work Plan completed for soil and groundwater contamination.

2006 - 2009: RFI investigations identified TCE Hot Spots (HSs). CCB area expanded based on K7-417 SWMU Assessment including surrounding area (K7-417, K7-367, and K7-415).

2010: Soil IMs removed 65 yd³, and no further action (NFA) for soil approved by FDEP. Groundwater remained only media of concern. Land Use Control Implementation Plan active for groundwater (published 2012).

2010: Site Characterization completed (LCP).

2011: Remedial Alternatives Evaluation selected air sparging as remedial technology.

2014: Full-scale operations began at Hot Spots (HSs) 1, 2, and 5. Air monitoring performed from Dec-2013 to Nov-2014.

2015: AS initiated at two sparge wells adjacent to MW0013.

2016: Full-scale operations began at HSs 3 and 4. Air monitoring from Mar-2016 to Dec-2016

2017: Reduced monitoring frequency from quarterly to semi-annual, annual, or biennial

2018: One of the AS trailers (System #1) was moved to Launch Complex 34

2019: KSC Remediation Team (KSCRT) consensus to discontinue active AS. NASA elected to continue sparging operations until the compressor was needed for POL (SWMU 067) with continued performance monitoring.

2020: Systems #2 (SSDS) and #3 trailer permanently shut off December 1, 2020, and Trailer #2 moved to POL.

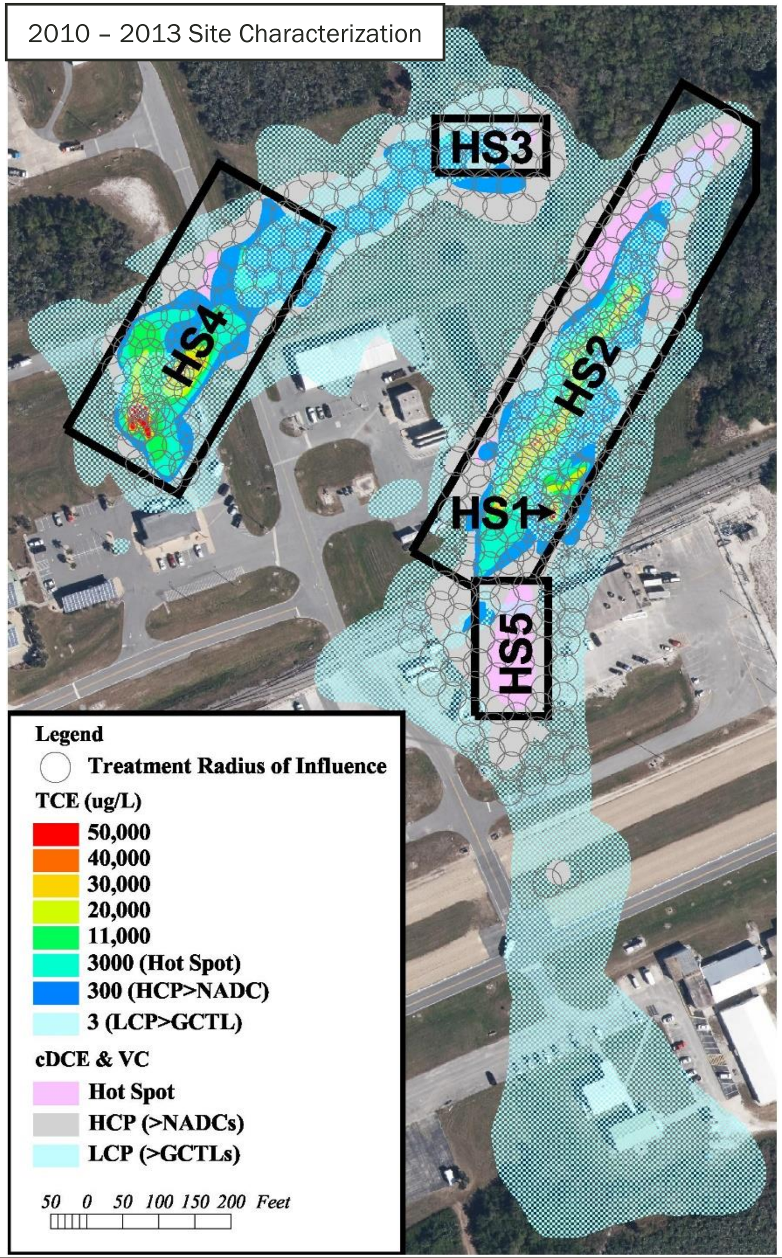
2021: Post-IM monitoring network optimized. Team reached consensus to conduct DPT in areas where delineation was needed to define boundaries of LCP and install additional monitoring wells where needed.

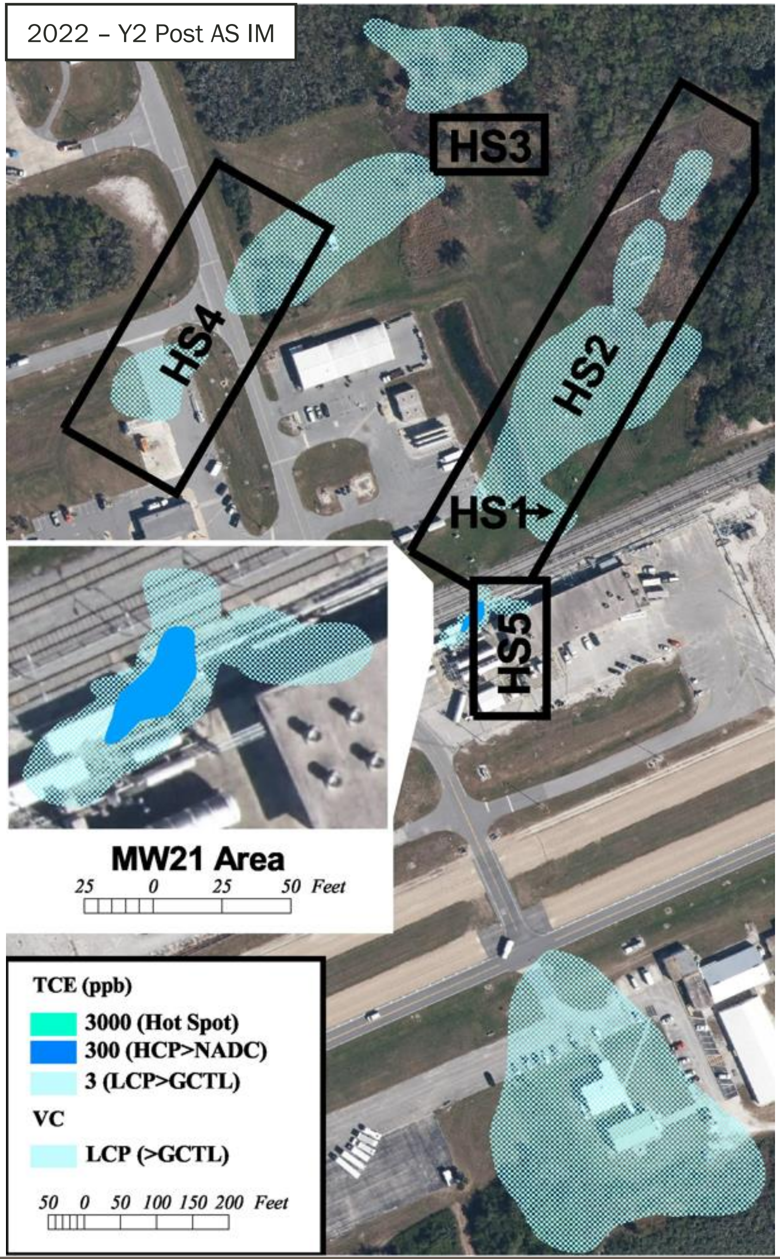
2022: Conducted second annual performance monitoring since active treatment. MW21 IMWP in progress.

Reporting History

Reporting	HS1	HS2	HS3	HS4	HS5
Site Characterization (LCP)	Oct 2010				
Site Characterization (HCP)	Aug 2011				
Site Characterization (SZ)	Oct 2011		Nov 2014	Nov 2013	-
Remedial Alternatives Evaluation	Dec 2011		-	Dec 2014	-
Interim Measure Work Plan	Jun 2012		-	Mar 2014	-
RFI/CMI Progress Report	Nov 2012				
Construction Completion	May 2014		Apr 2016		May 2014
Operations, Maintenance, and Monitoring	Aug 2015		-		Aug 2015
Operations, Maintenance, and Monitoring	Sep 2016		-		Sep 2016
Operations, Maintenance, and Monitoring	Apr 2016 - Jun 2017				
Operations, Maintenance, and Monitoring	Jun 2017 - Apr 2019				
Operations, Maintenance, and Monitoring	Apr 2019 - Dec 2020				
PARM Year 1	Jan 2021 - Dec 2021				
Current Reporting Period	Jan 2022 - Dec 2022				

IM Overview - Past and Current Plume





2022 – Y2 Post AS IM

- Excluding the MW21 area
  - IM objective has been achieved
  - All concentrations <NADCs
  - Maximum concentrations by VOC in µg/L

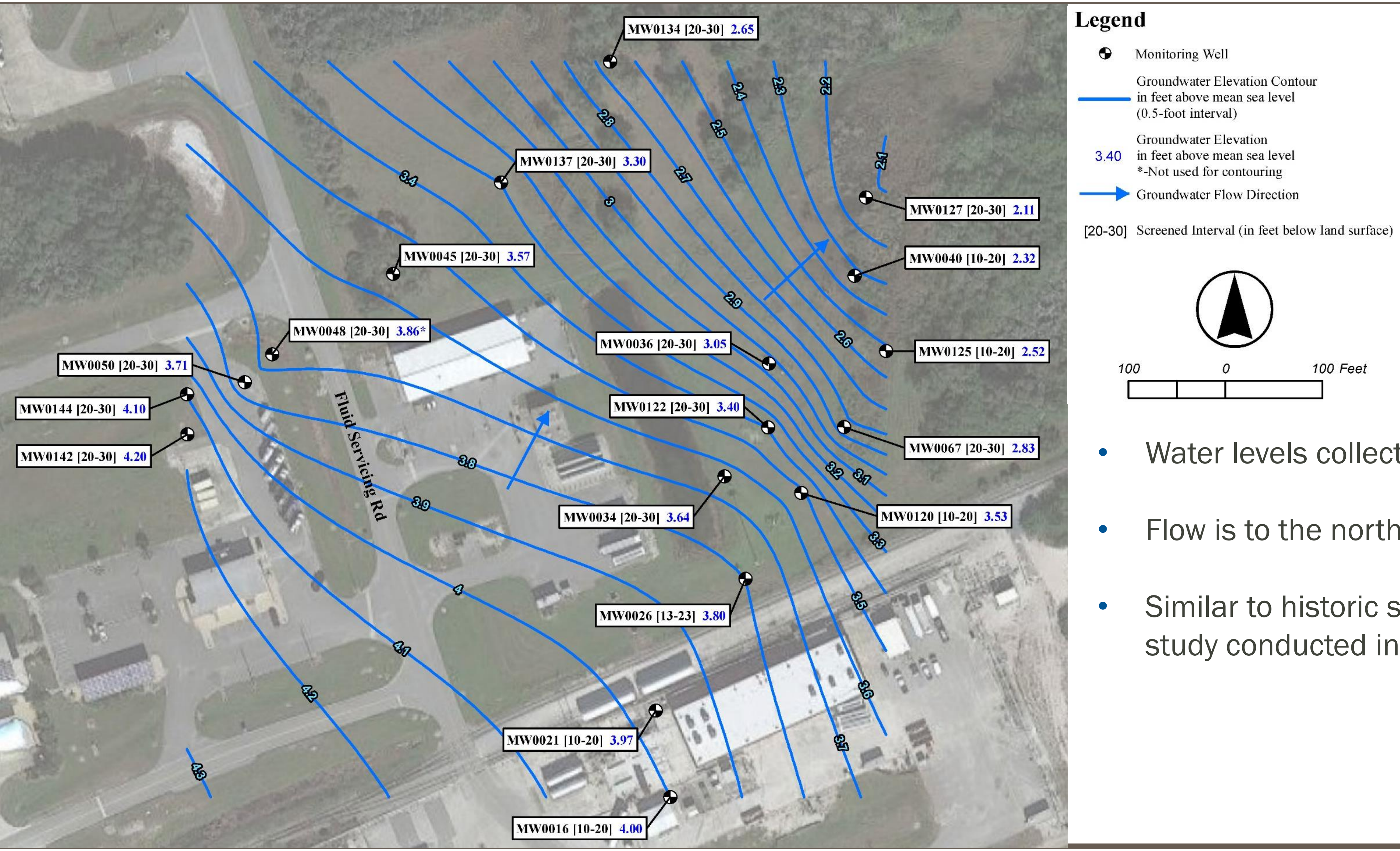
Maximum Concentrations (µg/L)		
	Site Characterization	December 2022
TCE	191,000	80
cDCE	24,000	110
VC	3,400	43

  - Plume footprints

Plume Footprint		
	Site Characterization (Acres)	December 2022
LCP	12.5	5.1 acres
HCP	5.8	664 ft^2
Hot Spot	2	199 ft^2
Source	0.6	$50t^2$

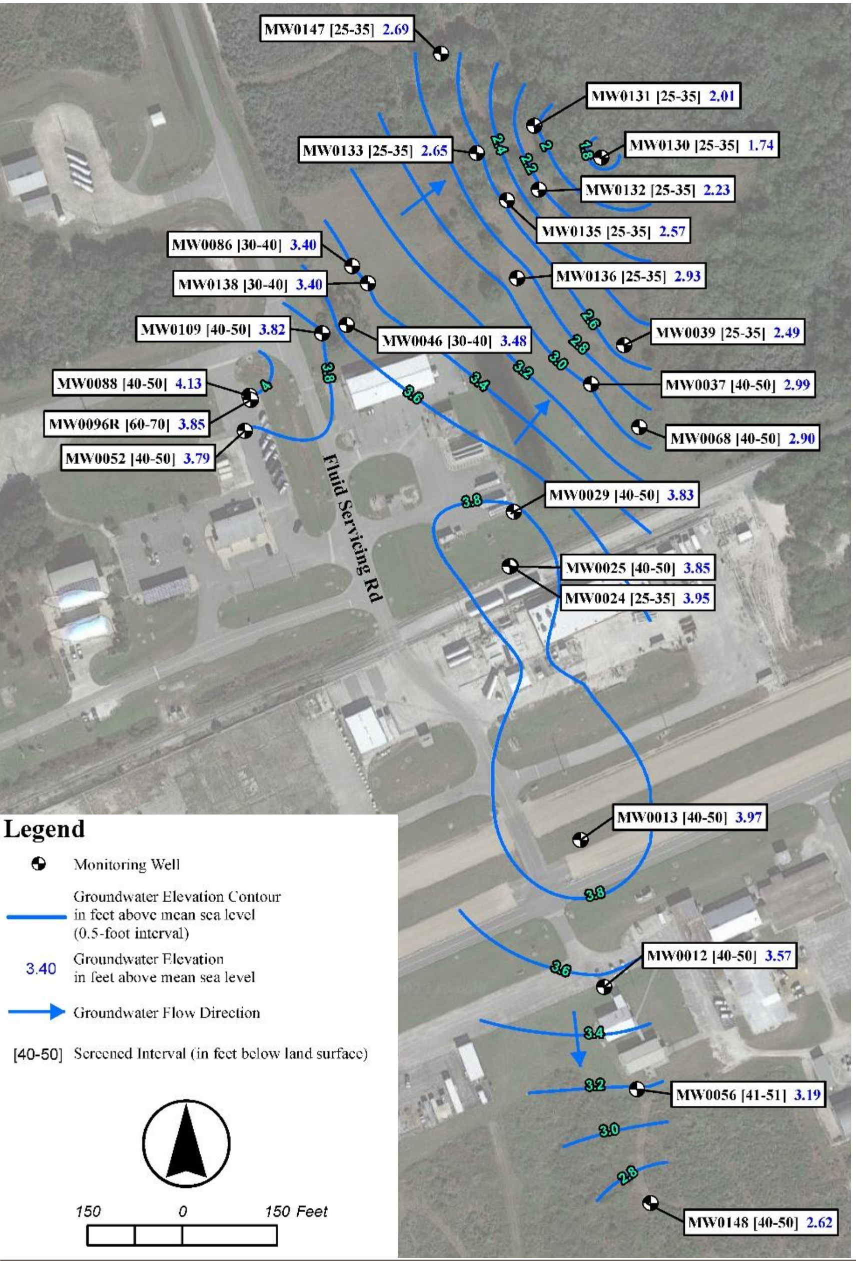
MW21 area HCP, Hot Spot, and Source based on March 2021 DPT concentrations

Fluid Servicing Road Area Groundwater Flow Shallow: 0-25ft bls



- Water levels collected in Nov-22
- Flow is to the northeast
- Similar to historic sitewide groundwater study conducted in 2019

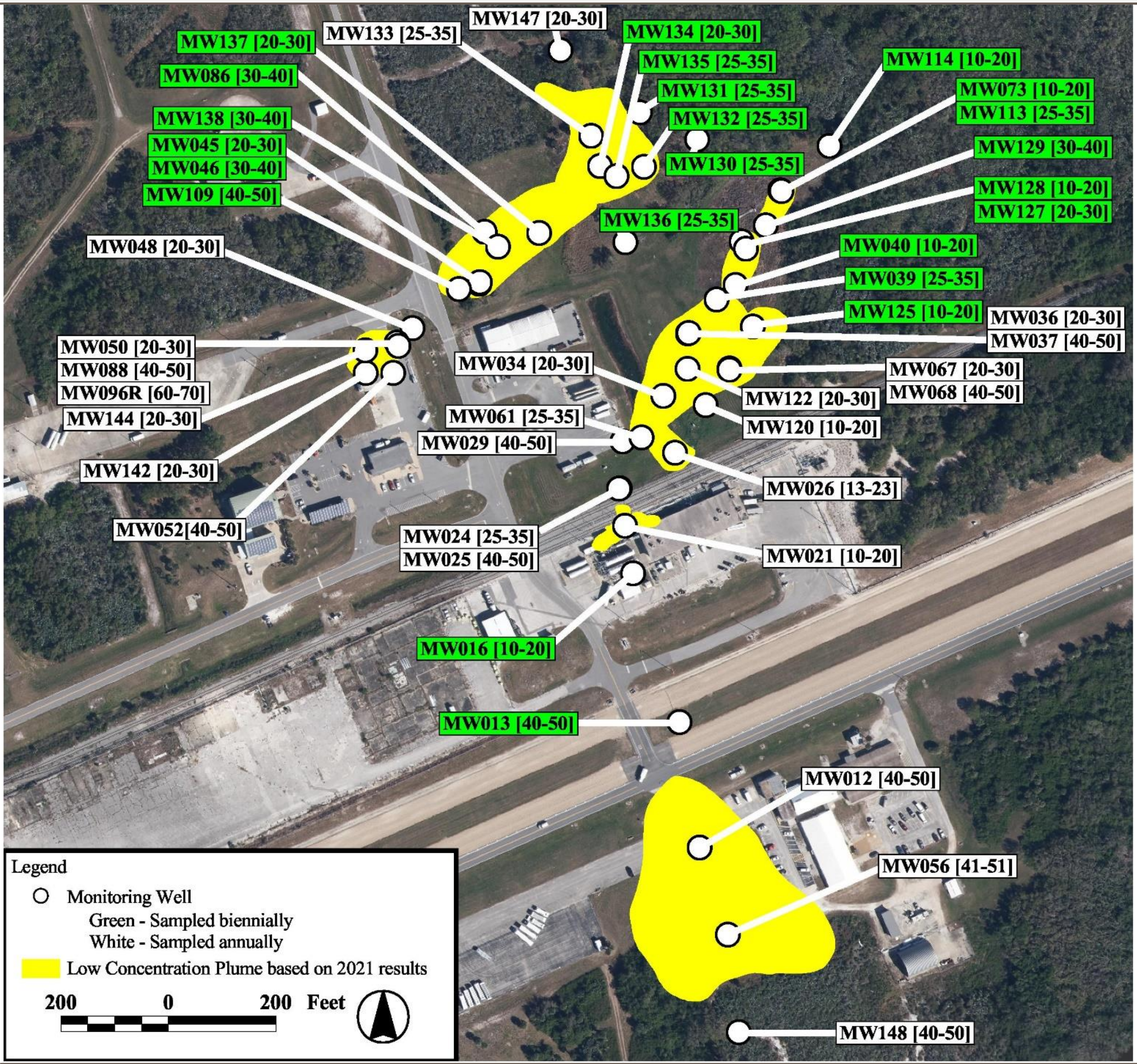
Fluid Servicing Road Area Groundwater Flow Intermediate: 30-55 ft bls



- Water levels collected in Nov-22
- North of railroad tracks flow is to the northeast
- South of railroad tracks flow is to the south-southeast
- Similar to historic sitewide groundwater study conducted in 2019

Performance Monitoring Plan - 2022

TETRA TECH



Performance Monitoring (Year 2 Post AS IM)

- December 2022 sampling:
  - 25 wells sampled annually
  - 23 wells sampled biennially
  - 48 wells, all analyzed for VOCs
- 24 wells in former Hot Spots 1, 2, and 5
- 20 wells in former Hot Spot 3 and 4
- 4 downgradient wells

Location (CCB-)	Sampling Frequency	
	Annual	Biennial
MW0012	X	
MW0013		X
MW0016		X
MW0021	X	
MW0024	X	
MW0025	X	
MW0026	X	
MW0029	X	
MW0034	X	
MW0036	X	
MW0037	X	
MW0039		X
MW0040		X
MW0045		X
MW0046		X
MW0048	X	
MW0050	X	
MW0052	X	
MW0056	X	
MW0061	X	
MW0067	X	
MW0068	X	
MW0073		X
MW0086		X

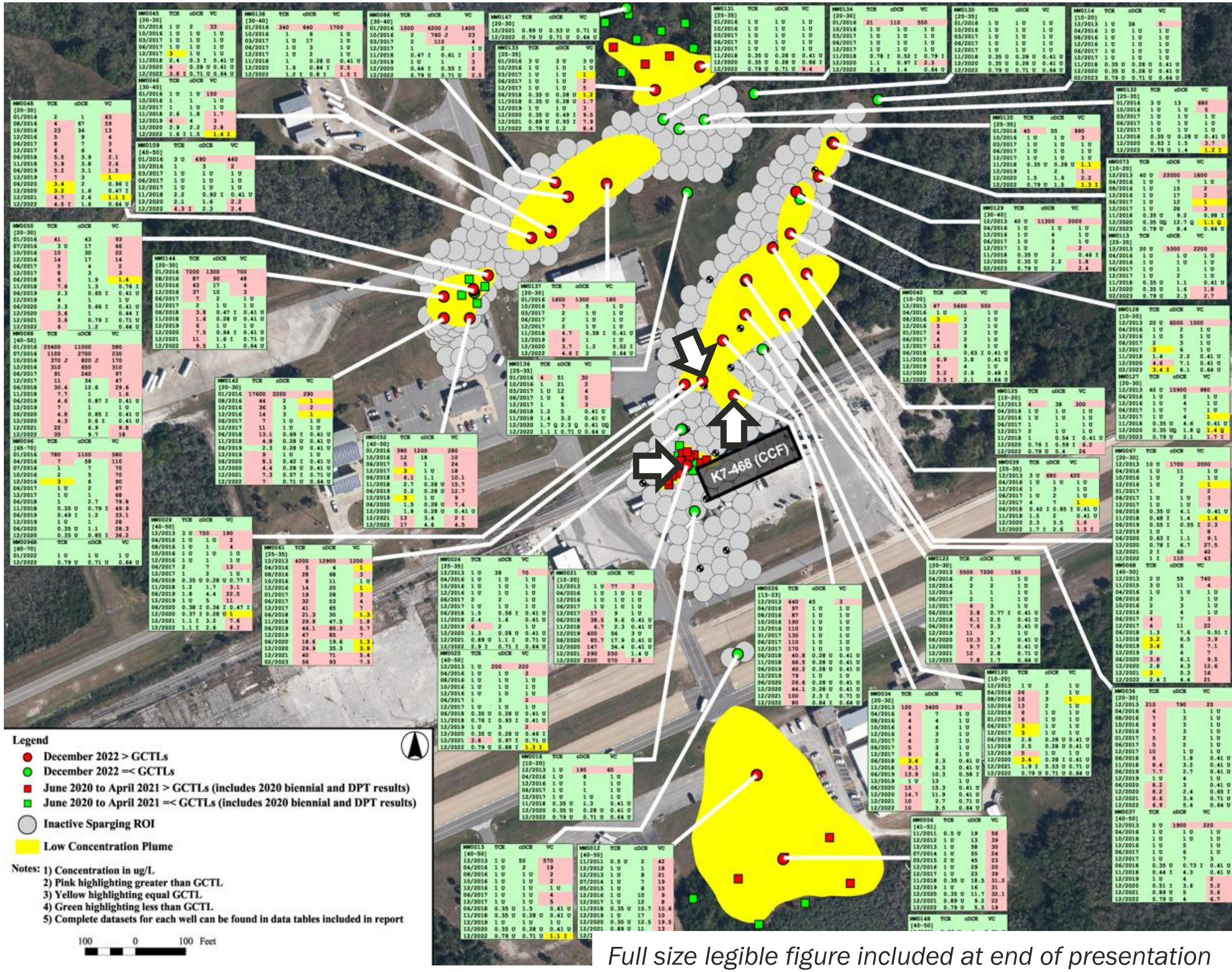
Location (CCB-)	Sampling Frequency	
	Annual	Biennial
MW0088	X	
MW0096R	X	
MW0109		X
MW0113		X
MW0114		X
MW0120	X	
MW0122	X	
MW0125		X
MW0127		X
MW0128		X
MW0129		X
MW0130		X
MW0131		X
MW0132		X
MW0133	X	
MW0134		X
MW0135		X
MW0136		X
MW0137		X
MW0138		X
MW0142	X	
MW0144	X	
MW0147	X	
MW0148	X	

Groundwater Results - 2022

TETRA TECH

Sampling summary

- 41 wells sampled in December 2022
  - Seven inaccessible wells sampled in February 2023
- 25 Annual wells located in interior portions of plume have highest concentrations
- 23 Biennial wells located around plume boundaries
- All results below NADCs except TCE at 2,300 µg/L in MW0021, IMWP presented to KSCRT during April 2023 meeting
- TCE exceeded GCTL in 11 wells
  - MW0026 maximum 80 µg/L, remaining concentrations range from 3.5 to to 35 µg/L
- cDCE exceeded GCTL in 3 wells
  - MW0021 maximum 570 µg/L, remaining concentrations are 93 and 110 µg/L
- VC exceeded GCTL in 15 wells
  - MW0061 maximum 43 µg/L, remaining concentrations range from 1.5 to 26 µg/L



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Groundwater Results – 2022 Hot Spots 1, 2, and 5

TETRA TECH

Hot Spot 1

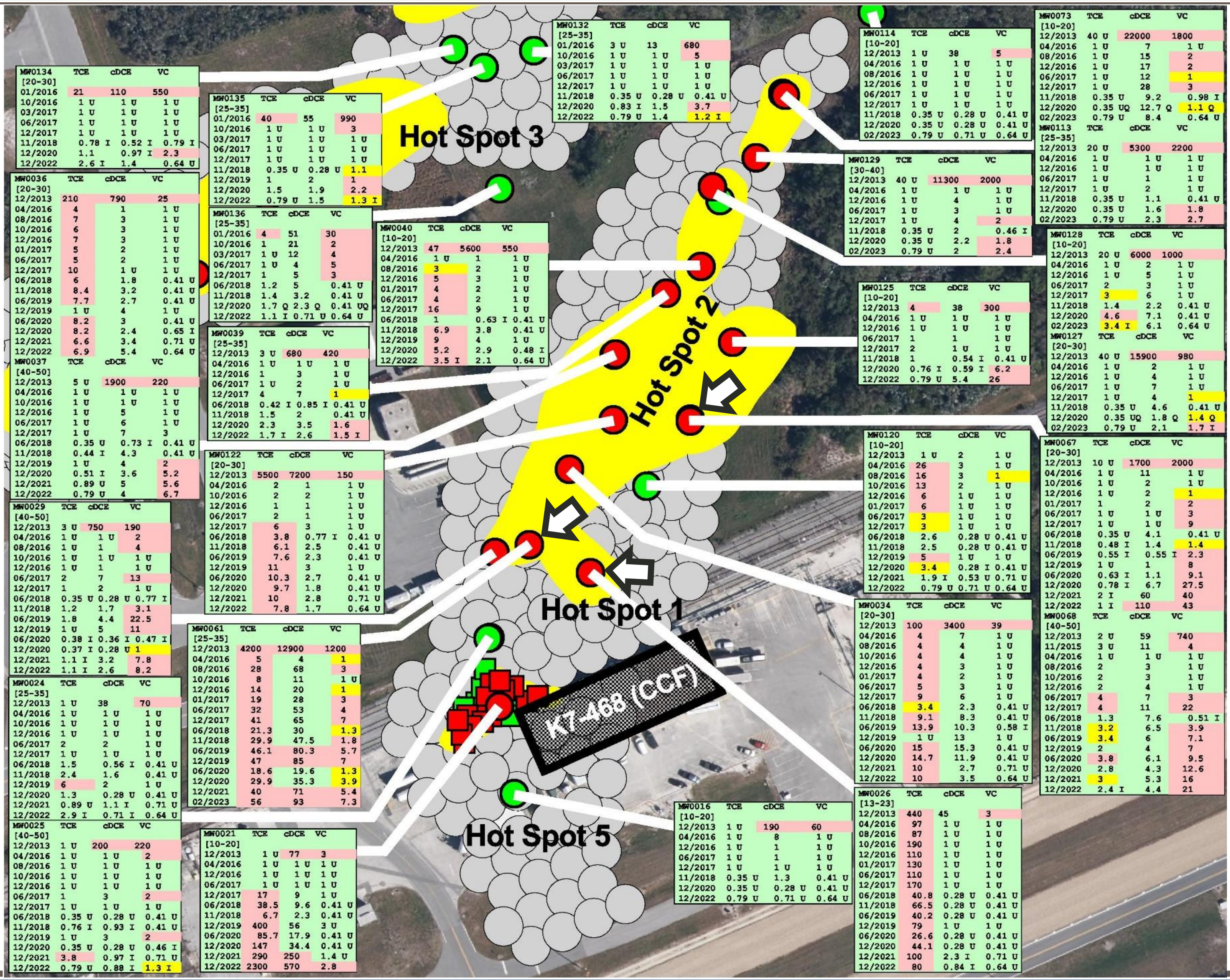
- Site Characterization maximum DPT detections for TCE, cDCE, and VC were 191,000, 8,200, and 2,800 µg/L
- Groundwater flows into Hot Spot 2
- MW0026 current results for TCE, cDCE, and VC are 80, 0.84 I, and 0.64 U µg/L

Hot Spot 2

- Site Characterization maximum DPT detections for TCE, cDCE, and VC were 46,800, 24,900, and 2,200 µg/L
- Current maximum results for TCE, cDCE, and VC are 56 (MW61), 110 (MW67), and 43 (MW67) µg/L
- Downgradient well MW0114 has been less than GCTLs since April 2016

Hot Spot 5

- Site Characterization maximum DPT detections for TCE, cDCE, and VC were 52, 4,000, and 1,800 µg/L in the 40 to 50 ft bls zone
- Current maximum results for TCE, cDCE, and VC are 0.79 U, 0.88 I, and 1.3 I µg/L in MW0025
- Note the IM for MW0021 area is to address VOCs in the 8 to 16 ft bls zone

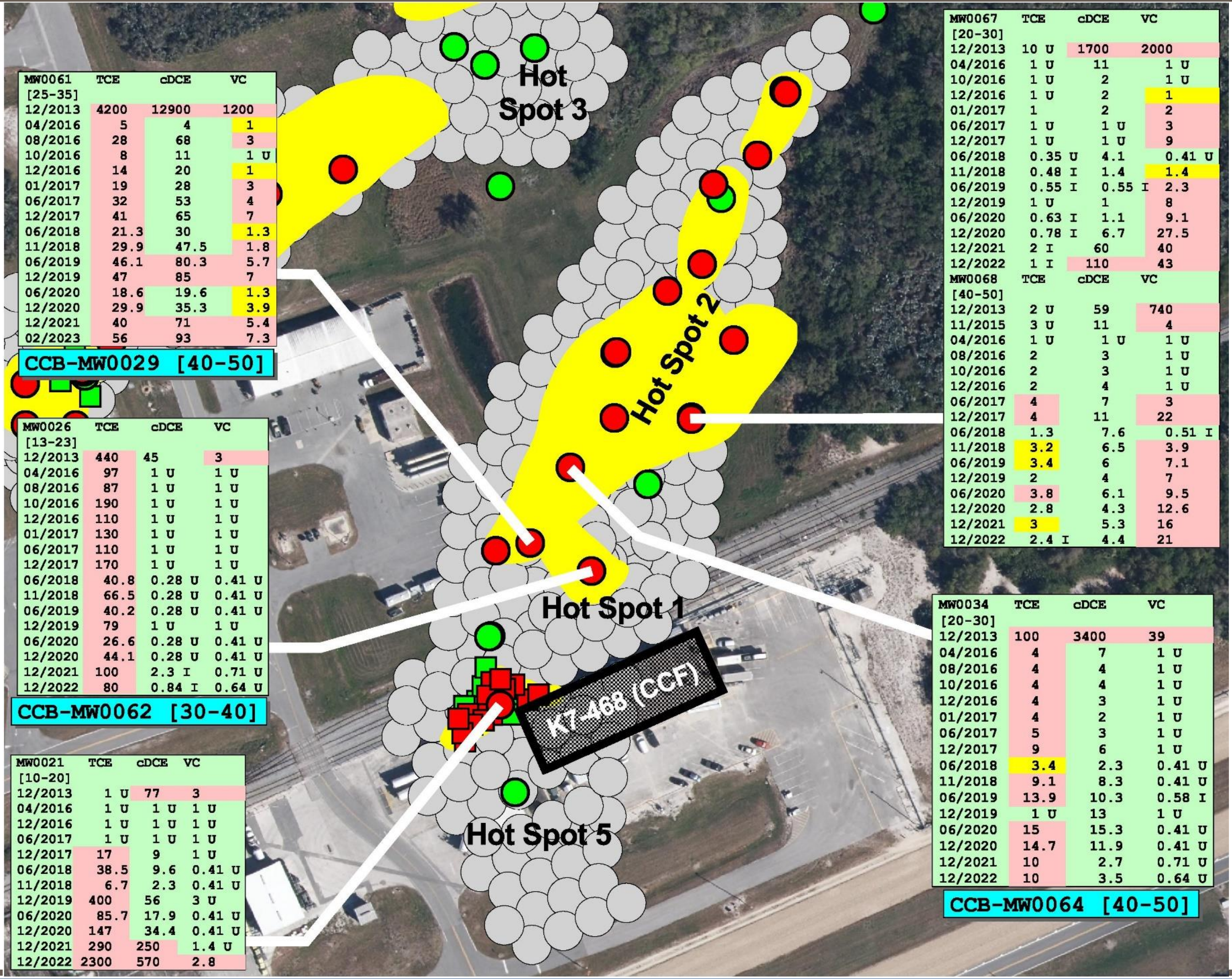


Groundwater Results – 2022 Hot Spots 1, 2, and 5

TETRA TECH

Hot Spots 1, 2, 5 Plume

- Propose adding existing wells for vertical monitoring in areas with highest TCE, cDCE, and/or VC concentrations
- IM planned at MW21 having maximum TCE and cDCE concentrations of 2,300 and 570 µg/L, sampling program will follow IMs
- Propose adding MW62 screened 30 to 40 ft bls to monitor beneath MW26 screened 13 to 23 ft bls that currently has second highest TCE detection of 80 µg/L
  - Air sparging occurred beneath MW62 since last sample results of TCE, cDCE, VC of 10 U, 110, and 2,000 µg/L in 2/2012
- MW29 currently sampled annually is screened 40 to 50 ft bls to monitor beneath MW61 screened 25 to 35 ft bls that currently has second highest TCE detection of 80 µg/L and cDCE of 110 µg/L
  - Air sparging occurred beneath MW61, MW29 is located 40 feet from MW61, most recent MW29 sample results of TCE, cDCE, VC of 1.1 I, 2.6, and 8.2 µg/L in 12/2022
- Propose adding MW64 screened 40 to 50 ft bls to monitor beneath MW34 screened 20 to 30 ft bls that currently has third highest TCE detection of 10 µg/L
  - MW64 recent sample results of TCE, cDCE, VC of 0.22 U, 1.8, and 0.71 J µg/L in 12/2020
- MW67 screened 20 to 30 ft bls has cDCE and VC of 110 and 43 µg/L, MW68 screened 40 to 50 ft bls has cDCE and VC of 4.4 and 21 µg/L propose continued monitoring of MW68 to vertically assess MW67



MW0061 [25-35]	TCE	cDCE	VC
12/2013	4200	12900	1200
04/2016	5	4	1
08/2016	28	68	3
10/2016	8	11	1 U
12/2016	14	20	1
01/2017	19	28	3
06/2017	32	53	4
12/2017	41	65	7
06/2018	21.3	30	1.3
11/2018	29.9	47.5	1.8
06/2019	46.1	80.3	5.7
12/2019	47	85	7
06/2020	18.6	19.6	1.3
12/2020	29.9	35.3	3.9
12/2021	40	71	5.4
02/2023	56	93	7.3

MW0026 [13-23]	TCE	cDCE	VC
12/2013	440	45	3
04/2016	97	1 U	1 U
08/2016	87	1 U	1 U
10/2016	190	1 U	1 U
12/2016	110	1 U	1 U
01/2017	130	1 U	1 U
06/2017	110	1 U	1 U
12/2017	170	1 U	1 U
06/2018	40.8	0.28 U	0.41 U
11/2018	66.5	0.28 U	0.41 U
06/2019	40.2	0.28 U	0.41 U
12/2019	79	1 U	1 U
06/2020	26.6	0.28 U	0.41 U
12/2020	44.1	0.28 U	0.41 U
12/2021	100	2.3 I	0.71 U
12/2022	80	0.84 I	0.64 U

MW0021 [10-20]	TCE	cDCE	VC
12/2013	1 U	77	3
04/2016	1 U	1 U	1 U
12/2016	1 U	1 U	1 U
06/2017	1 U	1 U	1 U
12/2017	17	9	1 U
06/2018	38.5	9.6	0.41 U
11/2018	6.7	2.3	0.41 U
12/2019	400	56	3 U
06/2020	85.7	17.9	0.41 U
12/2020	147	34.4	0.41 U
12/2021	290	250	1.4 U
12/2022	2300	570	2.8

MW0067 [20-30]	TCE	cDCE	VC
12/2013	10 U	1700	2000
04/2016	1 U	11	1 U
10/2016	1 U	2	1 U
12/2016	1 U	2	1
01/2017	1	2	2
06/2017	1 U	1 U	3
12/2017	1 U	1 U	9
06/2018	0.35 U	4.1	0.41 U
11/2018	0.48 I	1.4	1.4
06/2019	0.55 I	0.55 I	2.3
12/2019	1 U	1	8
06/2020	0.63 I	1.1	9.1
12/2020	0.78 I	6.7	27.5
12/2021	2 I	60	40
12/2022	1 I	110	43

MW0068 [40-50]	TCE	cDCE	VC
12/2013	2 U	59	740
11/2015	3 U	11	4
04/2016	1 U	1 U	1 U
08/2016	2	3	1 U
10/2016	2	3	1 U
12/2016	2	4	1 U
06/2017	4	7	3
12/2017	4	11	22
06/2018	1.3	7.6	0.51 I
11/2018	3.2	6.5	3.9
06/2019	3.4	6	7.1
12/2019	2	4	7
06/2020	3.8	6.1	9.5
12/2020	2.8	4.3	12.6
12/2021	3	5.3	16
12/2022	2.4 I	4.4	21

MW0034 [20-30]	TCE	cDCE	VC
12/2013	100	3400	39
04/2016	4	7	1 U
08/2016	4	4	1 U
10/2016	4	4	1 U
12/2016	4	3	1 U
01/2017	4	2	1 U
06/2017	5	3	1 U
12/2017	9	6	1 U
06/2018	3.4	2.3	0.41 U
11/2018	9.1	8.3	0.41 U
06/2019	13.9	10.3	0.58 I
12/2019	1 U	13	1 U
06/2020	15	15.3	0.41 U
12/2020	14.7	11.9	0.41 U
12/2021	10	2.7	0.71 U
12/2022	10	3.5	0.64 U

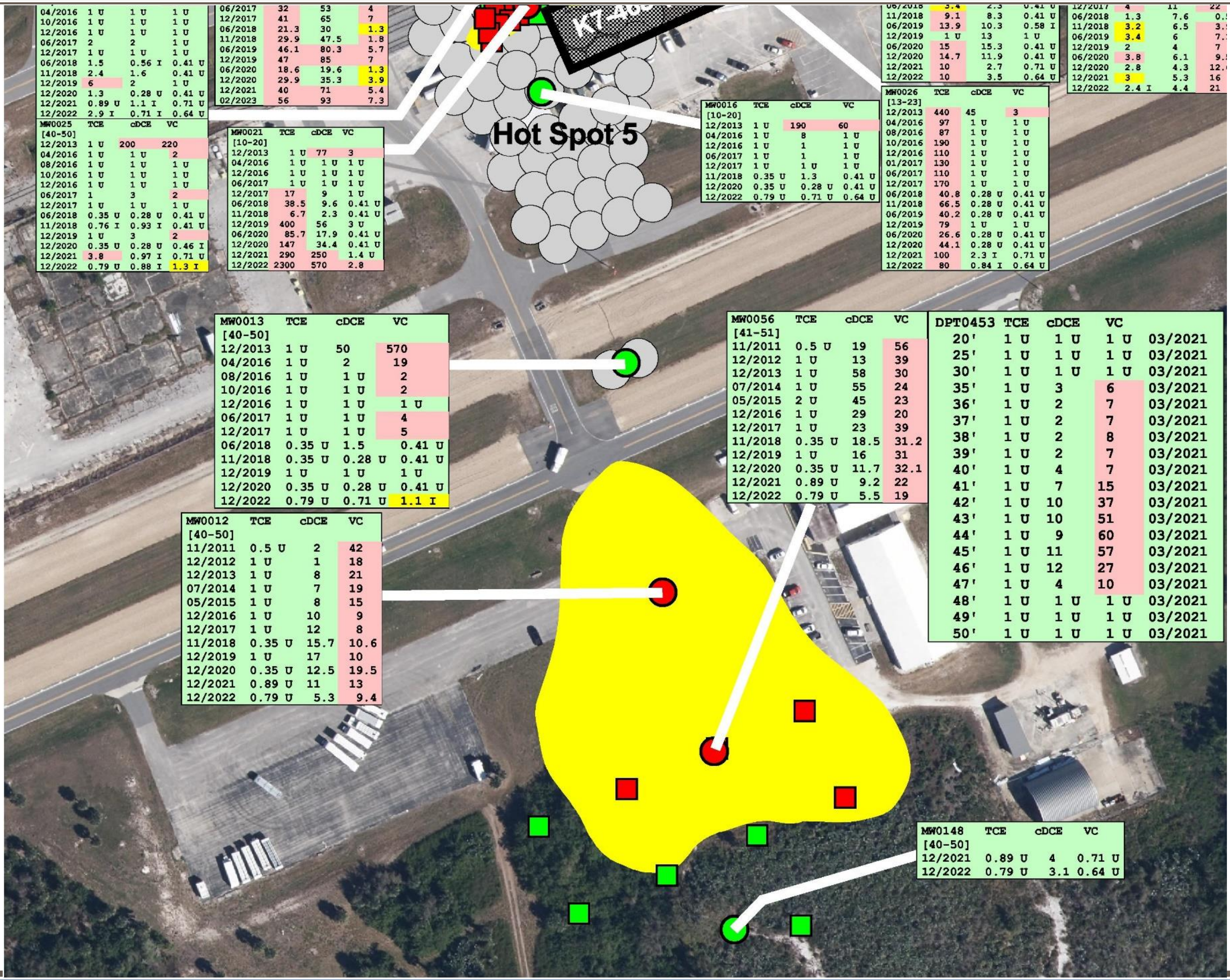
Groundwater Results – 2022 South of Hot Spots 1, 2, and 5

MW0013 Area

- MW0013 baseline concentration of VC exceeded NADC, two air sparging wells were installed to remediate VC
- Groundwater flows to the south in this area
- VC has been less than GCTLs since June 2018 in MW0013, current results for TCE, cDCE, and VC are 0.79 U, 0.71 U, and 1.1 I µg/L

Downgradient of MW0013 Area

- No active remediation has been conducted in this area
- VC is only VOC exceeding GCTL
- MW0012 concentrations of VC have decreased from 42 µg/L in 2011 to 9.4 µg/L in December 2022
- MW0056 concentrations of VC have decreased from 56 µg/L in 2011 to 19 µg/L in December 2022
  - DPT0453 collected adjacent to MW0056 in March 2021, 48, 49, 50 ft bls BDLs
- DPT investigation was conducted in 2021 to determine location of downgradient MW0148
  - Green squares represent samples less than GCTLs
  - Red squares represent samples exceeding GCTLs
  - Results were presented to KSCRT during September 2021 meeting
- MW0148 has been less than GCTLs in December 2021 and December 2022



Groundwater Results – 2022 Hot Spots 3 and 4

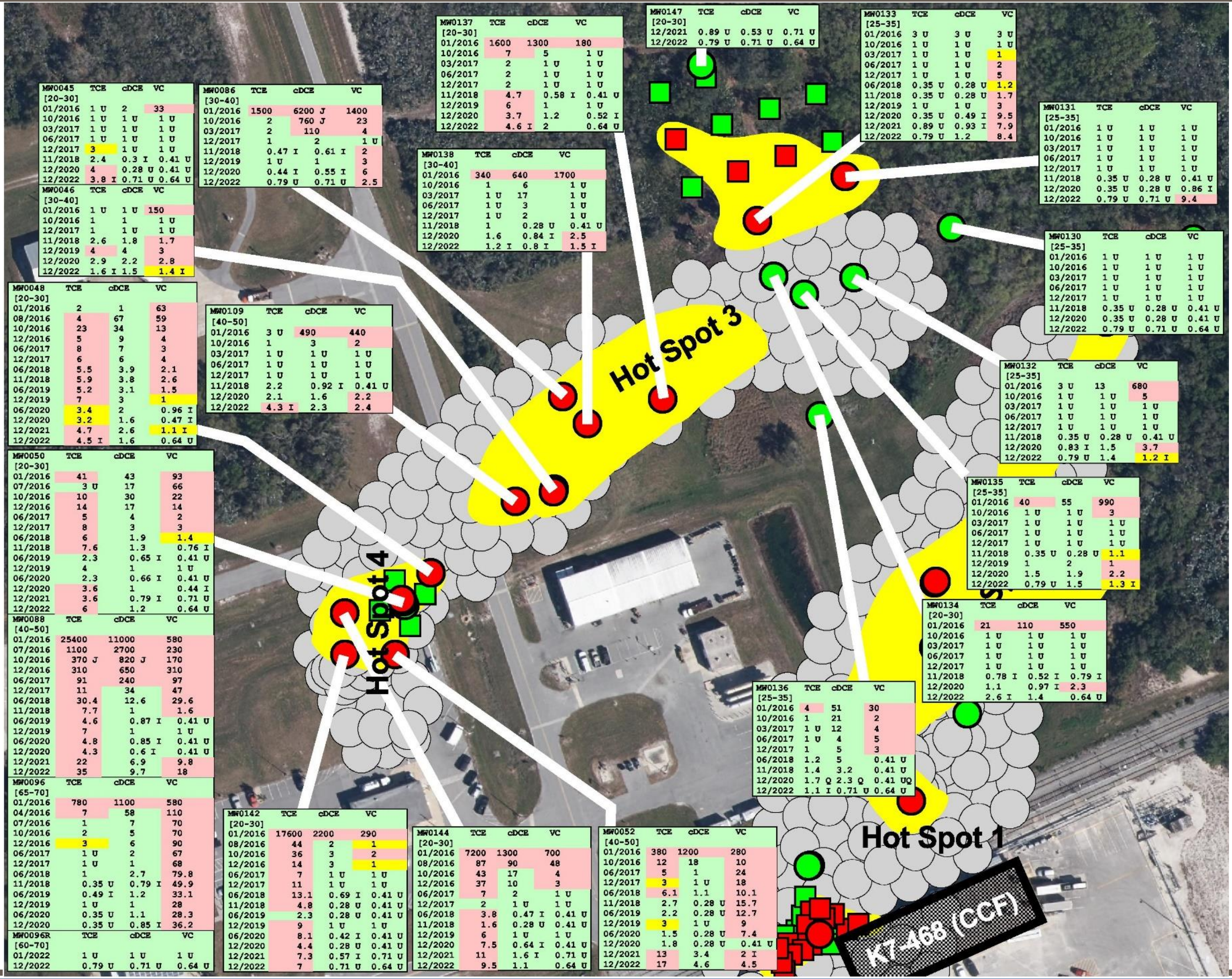
TETRA TECH

Hot Spot 3

- Site Characterization maximum DPT detections for TCE, cDCE, and VC were 3,300, 5,200, and 3,400 µg/L
- Groundwater flows to northeast
- DPT investigation was conducted in 2021 to VC extent north of treatment area and determine location of downgradient MW0147
  - Green squares represent samples less than GCTLs
  - Red squares represent samples exceeding GCTLs
  - Results were presented to KSCRT during September 2021 meeting
- Current maximum results for TCE, cDCE, and VC are 4.3 (MW109), 2.3 (MW109), and 9.4 (MW131) µg/L
- MW0147 has been less than GCTLs in December 2021 and December 2022

Hot Spot 4

- Site Characterization maximum DPT detections for TCE, cDCE, and VC were 146,000, 20,900, and 3,400 µg/L
- Groundwater flows to northeast to Hot Spot 3
- Current maximum results for TCE, cDCE, and VC are 35, 9.7, and 18 µg/L in MW0088
- MW0096R vertical delineation well co-located with MW0088 less than GCTLs in January and December 2022 sampling events



Year 2 Post AS IM Groundwater Results – Annual Wells

TETRA TECH

	Dec20 (Shut Down)			December 2021			December 2022		
	TCE	cDCE	VC	TCE	cDCE	VC	TCE	cDCE	VC
MW0012	0.35 U	13	20	0.89 U	11	13	0.79 U	5.5	19
MW0021*	147	34	0.41 U	290	250	1.4 U	2300	570	2.8
MW0024	1.3	0.28 U	0.41 U	0.89 U	1.1 I	0.71 U	2.9 I	0.71 I	0.64 U
MW0025	0.35 U	0.28 U	0.46 I	3.8	0.97 I	0.71 U	0.79 U	0.88 I	1.3 I
MW0026	44	0.28 U	0.41 U	100	2.3 I	0.71 U	80	0.84 I	0.64 U
MW0029	0.37 I	0.28 U	1	1.1 I	3.2	7.8	1.1 I	2.6	8.2
MW0034	15	12	0.41 U	10	2.7	0.71 U	10	3.5	0.64 U
MW0036	8.2	2.4	0.65 I	6.6	3.4	0.71 U	6.9	5.4	0.64 U
MW0037	0.51 I	3.6	5.2	0.89 U	5	5.6	0.79 U	4	6.7
MW0048	3.2	1.6	0.47 I	4.7	2.6	1.1 I	4.5 I	1.6	0.64 U
MW0050	3.6	1	0.44 I	3.6	0.79 I	0.71 U	6	1.2	0.64 U
MW0052	1.8	0.28 U	0.41 U	13	3.4	2 I	17	4.6	4.5
MW0056	0.35 U	12	32	0.89 U	9.2	22	0.79 U	5.5	19
MW0061	30	35	3.9	40	71	5.4	56	93	7.3
MW0067	0.78 I	6.7	28	2 I	60	40	1.0 I	110	43
MW0068	2.8	4.3	13	3	5.3	16	2.4 I	4.4	21
MW0088	4.3	0.60 I	0.41 U	22	6.9	9.8	35	9.7	18
MW0096R	0.35 U	0.85 I	36	1 U	1 U	1 U	0.79 U	0.71 U	0.64 U
MW0120	3.4	0.28 I	0.41 U	1.9 I	0.53 U	0.71 U	0.79 U	0.71 U	0.64 U
MW0122	9.7	1.8	0.41 U	10	2.8	0.71 U	7.8	1.7	0.64 U
MW0133	0.35 U	0.49 I	9.5	0.89 U	0.93 I	7.9	0.79 U	1.2	8.4
MW0142	4.4	0.28 U	0.41 U	7.3	0.57 I	0.71 U	7	0.71 U	0.64 U
MW0144	7.5	0.64 I	0.41 U	11	1.6 I	0.71 U	9.5	1.1	0.64 U
MW0147	-	-	-	0.89 U	0.53 U	0.71 U	0.79 U	0.71 U	0.64 U
MW0148	-	-	-	0.89 U	4	0.71 U	0.79 U	3.1	0.64 U

Dec20	Dec20 to Dec21	Dec21 to Dec22
- Not Sampled	Stable	Stable
Equal to GCTL	Decrease	Decrease
Exceeds GCTL	Increase	Increase

December 2022 Evaluation

- MW0021 IMWP presented to KSCRT during April 2023 meeting
- December 2022 results compared to December 2021
  - Wells less than GCTLs and MW21 not included in evaluation
  - TCE less than GCTL in 11 of 24 wells
    - Decreasing trend in 5 wells
    - Stable trend in 4 wells
    - Increasing trend in 4 wells
  - cDCE less than GCTL in 22 of 24 wells
    - Increasing trend in 2 wells
  - VC less than GCTL in 14 of 24 wells
    - Decreasing trend in 1 well
    - Stable trend in 4 wells
    - Increasing trend in 5 wells
- Excluding MW0021,
  - All concentrations less than NADCs
  - Maximum concentrations of TCE, cDCE, and VC were 80, 110, and 21 µg/L in MW26, MW67, and MW68, respectively

Year 2 Post AS IM Groundwater Results – Biennial Wells

TETRA TECH

	Dec20 (Shut Down)						December 2022					
	TCE		cDCE		VC		TCE		cDCE		VC	
MW0013	0.35	U	0.28	U	0.41	U	0.79	U	0.71	U	1.1	I
MW0016	0.35	U	0.28	U	0.41	U	0.79	U	0.71	U	0.64	U
MW0039	2.3		3.5		1.6		1.7	I	2.6		1.5	I
MW0040	5.2		2.9		0.48	I	3.5	I	2.1		0.64	U
MW0045	4		0.28	U	0.41	U	3.8	I	0.71	U	0.64	U
MW0046	2.9		2.2		2.8		1.6	I	1.5		1.4	I
MW0073	0.35	UQ	12.7	Q	1.1	Q	0.79	U	8.4		0.64	U
MW0086	0.44	I	0.55	I	6		0.79	U	0.71	U	2.5	
MW0109	2.1		1.6		2.2		4.3	I	2.3		2.4	
MW0113	0.35	U	1.6		1.8		0.79	U	2.3		2.7	
MW0114	0.35	U	0.28	U	0.41	U	0.79	U	0.71	U	0.64	U
MW0125	0.76	I	0.59	I	6.2		0.79	U	5.4		26	
MW0127	0.35	UQ	1.8	Q	1.4	Q	0.79	U	2.1		1.7	I
MW0128	4.6		7.1		0.41	U	3.4	I	6.1		0.64	U
MW0129	0.35	U	2.2		1.8		0.79	U	2		2.4	
MW0130	0.35	U	0.28	U	0.41	U	0.79	U	0.71	U	0.64	U
MW0131	0.65	U	0.28	U	0.86	I	0.79	U	0.71	U	9.4	
MW0132	0.83	I	1.5		3.7		0.79	U	1.4		1.2	I
MW0134	1.1		0.97	I	2.3		2.6	I	1.4		0.64	U
MW0135	1.5		1.9		2.2		0.79	U	1.5		1.3	I
MW0136	1.7	Q	2.3	Q	0.41	UQ	1.1	I	0.71	U	0.64	U
MW0137	3.7		1.2		0.52	I	4.6	I	2		0.64	U
MW0138	1.6		0.84	I	2.5		1.2	I	0.8	I	1.5	I

Dec20
- Equal to GCTL
- Exceeds GCTL

Dec20 to Dec22
- Stable
- Decrease
- Increase

December 2022 Evaluation

- December 2022 results compared to December 2020
  - Wells less than GCTLs not included in evaluation
  - TCE less than GCTL in 19 of 23 wells
    - Decreasing trend in 2 wells
    - Stable trend in 1 well
    - Increasing trend in 2 wells
  - cDCE less than GCTL in all 23 wells
  - VC less than GCTL in 14 of 23 wells
    - Decreasing trend in 7 wells
    - Stable trend in 3 wells
    - Increasing trend in 4 wells
  - All concentrations less than NADCs
  - Maximum concentrations of TCE and VC were 4.6 I and 26 µg/L in MW0137 and MW0125, respectively

Conclusions and Recommendations

TETRA TECH

Conclusions

- All concentrations remain well below NADCs except MW21, which is being addressed under separate IM
- Two years post-shut monitoring down shows no evidence of rebounding to pre-treatment concentrations, indicating AS IM was effective at removing VOCs
- Wells are placed appropriately to continue monitoring plume extents and tracking progress of interior portions of plume
- Site meets requirements to transition to LTM (typically 1 year of quarterly sampling) because concentrations demonstrate stability in both annual and biennial wells
- AS infrastructure remains in place and can be turned back on if needed

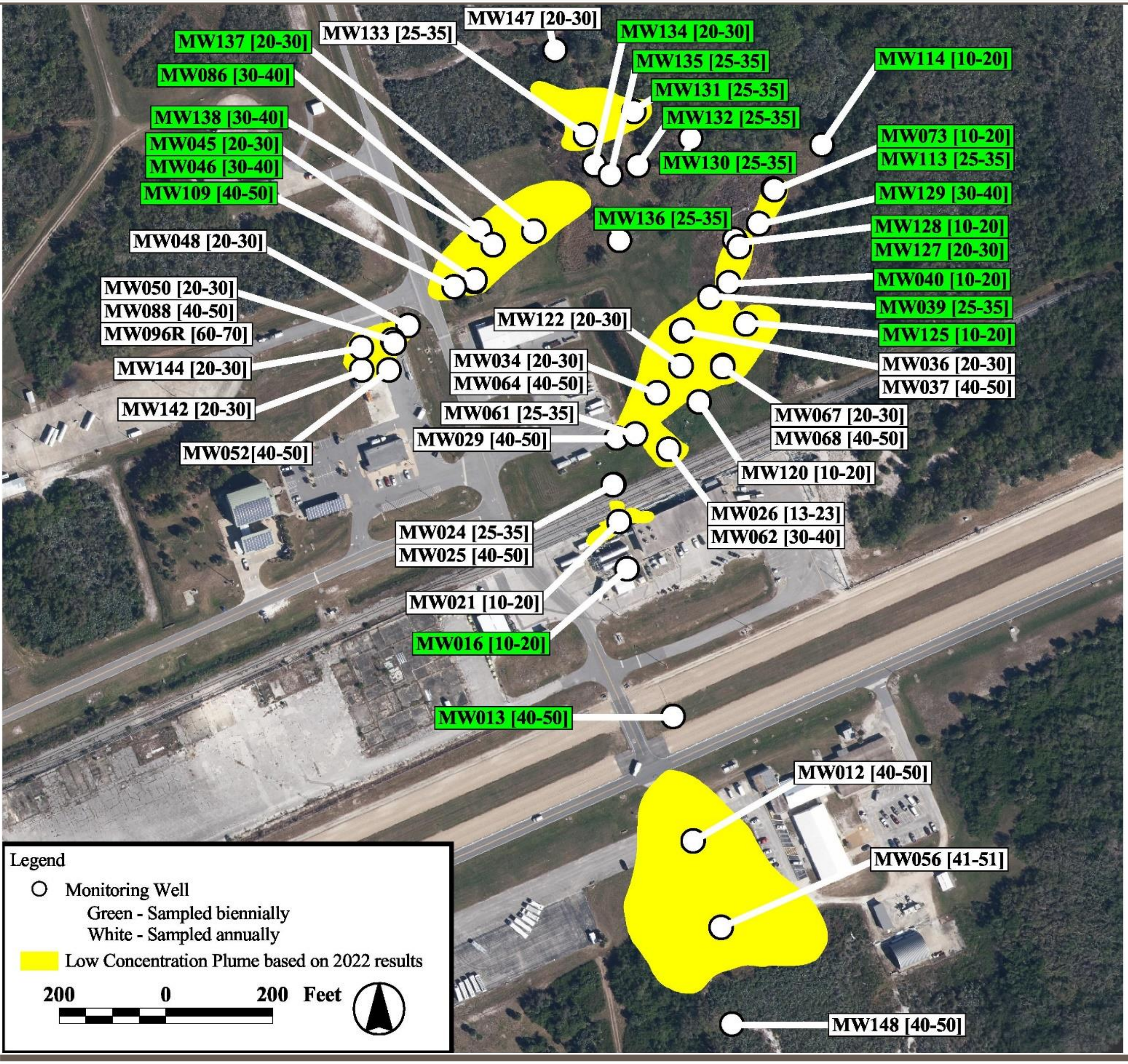
Recommendations

- Continue monitoring VOC contaminant trends with no changes to the analytical suite and sampling frequency
- Submit 2022 Annual Performance Monitoring Report with Recommended LTM Sampling Plan
- Subsequent annual reports for CCB will be called Annual LTM Reports and will include contaminant trend evaluation
- Once the site demonstrates stable/decreasing trends, a plan will be proposed to abandon the AS infrastructure

Team Consensus

- Transition from performance monitoring to LTM with next reporting period (January 2023 – December 2023) as Year 1 of LTM
- Continue sampling 25 wells plus MW62 and MW64 annually in December 2023 and 23 wells biennially in December 2024 to monitor VOC contaminant trends; well IDs shown on next slides
- Results will be presented to the KSCRT prior to submittal of 2023 Annual LTM Report

LTM Sampling Plan – 2023 and 2024



LTM Year 1 Plan

- December 2023 event includes 27 wells (annual)
- December 2024 event includes 50 wells, 27 wells (annual) and 23 wells (biennial)

Location (CCB-)	Sampling Frequency: Annual	Sampling Frequency: Biennial
MW0012	X	
MW0013		X
MW0016		X
MW0021	X	
MW0024	X	
MW0025	X	
MW0026	X	
MW0029	X	
MW0034	X	
MW0036	X	
MW0037	X	
MW0039		X
MW0040		X
MW0045		X
MW0046		X
MW0048	X	
MW0050	X	
MW0052	X	
MW0056	X	
MW0061	X	
MW0062	X	
MW0064	X	
MW0067	X	
MW0068	X	
MW0073		X

Location (CCB-)	Sampling Frequency: Annual	Sampling Frequency: Biennial
MW0086		X
MW0088	X	
MW0096R	X	
MW0109		X
MW0113		X
MW0114		X
MW0120	X	
MW0122	X	
MW0125		X
MW0127		X
MW0128		X
MW0129		X
MW0130		X
MW0131		X
MW0132		X
MW0133	X	
MW0134		X
MW0135		X
MW0136		X
MW0137		X
MW0138		X
MW0142	X	
MW0144	X	
MW0147	X	
MW0148	X	

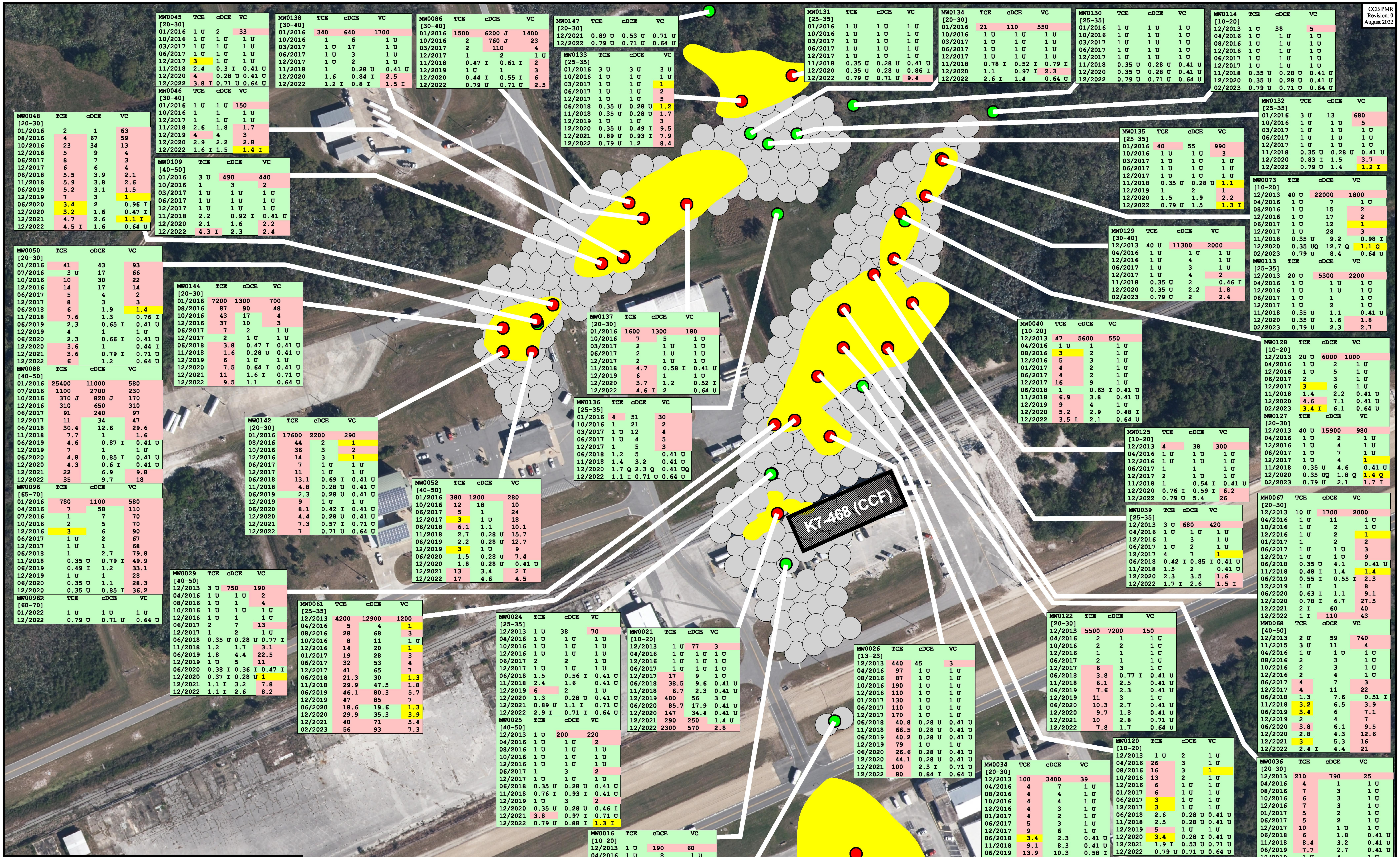


FIGURE 2-2
GROUNDWATER SAMPLING RESULTS

CONVERTER COMPRESSOR BUILDING, SWMU 089,
KENNEDY SPACE CENTER, FLORIDA

Legend

- December 2022 > GCTLs
- December 2022 =< GCTLs
- June 2020 to April 2021 > GCTLs (includes 2020 biennial and DPT results)
- June 2020 to April 2021 =< GCTLs (includes 2020 biennial and DPT results)
- Inactive Sparging ROI
- Low Concentration Plume

Notes:
1) Concentration in ug/L
2) Pink highlighting greater than GCTL
3) Yellow highlighting equal GCTL
4) Green highlighting less than GCTL
5) Complete datasets for each well can be found in data tables included in report

100 0 100 Feet

20221201

Revision 0 Meeting Minutes for June 28th & 29th, 2023

Attendees:

1. Evan Miller/FDEP
2. Jason French/FDEP
3. TJ Touran/FDEP
4. Ryan O'Meara/NASA
5. Deda Johansen/NASA
6. Natasha Darre/NASA
7. Anne Chrest/NASA
8. Michelle Moore/NEMCON
9. Mark Jonnet/Tetra Tech
10. Mark Speranza/Tetra Tech
11. Andrew Walters/Tetra Tech
12. Sarah Damphousse/Tetra Tech
13. Chris Pike/Tetra Tech
14. Jennifer Gootee/AECOM
15. Chris Marshall/AECOM
16. Chad Lee/AECOM
17. Linnea King Clark/AECOM
18. Megan Garcia/AECOM
19. Jennifer Buel/AECOM
20. Richard Smith/HGL
21. Scott Anderson/HGL
22. Robert Lynch/HGL
23. Bruce Moore/HGL

2306-M01 Michelle Moore/NEMCON

Meeting Minutes and Miscellaneous Items

Objective:

Reviewed the outstanding consensus items. Obtained consensus that Revision 1 of the April 2023 KSCRT meeting minutes and action items are final. Team members are aware and do not object that meeting minutes and decision/action items may become public as part of a report at a later date **(2306-D01).**

Discussion:

Open action items were reviewed and the following were closed out:

Launch Complex 39A (SWMU 008) and Launch Complex 39B (SWMU 009) Performance Monitoring, February 2023: Action item for NASA to provide a list of wells that will be sampled for PFAS at LC39A to FDEP prior to conducting the sampling.

The list of wells were provided to FDEP to close this action item out **(2302-A01).**

Launch Complex 39A (SWMU 008) and Launch Complex 39B (SWMU 009) Performance Monitoring, February 2023: Action

SWPS-SB0005, and collection of a groundwater sample from monitoring well SWPS-MW0001 for analysis of PCBs.

Analytical results indicate that PCB concentrations in the soils and groundwater were below the State of Florida SCTLs in the soil samples collected, and below State of Florida Groundwater Cleanup Target Levels in the groundwater sample collected.

The Team reached consensus for No Further Action (NFA) for soil and groundwater at the site **(2306-D03).**

The Team reached consensus that a Site Rehabilitation Completion Order Request Letter will be prepared **(2306-D04).**

Results: Decision Items 2306-D03, D04)

2306-M06 Mark Jonnet/Tetra Tech

Converter Compressor Building (SWMU 089) Annual Performance Monitoring Update, June 2023

Objective: The objective of the advance data package (ADP) is to summarize the annual performance monitoring and groundwater results for 2022, and test consensus on a path forward.

Discussion:

In 2022, Year 2 of post active remediation monitoring (PARM) was conducted at the site. Excluding the MW0021 area, the interim measure (IM) objective has been achieved with all volatile organic compound (VOC) concentrations below their respective natural attenuation default concentrations (NADC).

Water levels were collected at the site in November 2022. Flow north of the railroad tracks are to the northeast; flow south of the railroad tracks are to the south-southeast, which is similar to the historic sitewide groundwater study conducted in 2019.

2022 Performance Monitoring Plan

December 2022 sampling was planned to include 25 wells (sampled annually) and 23 wells (sampled biennially), with all 48 wells analyzed for VOCs. Twenty-four of the wells are located in former Hot Spots 1, 2, and 5. Twenty wells are located in former Hot Spots 3 and 4. Four wells are located downgradient.

Sampling Summary

Forty-one wells were sampled in December 2022. There were seven inaccessible wells at that time that were subsequently sampled in February 2023. Twenty-five annual wells located in interior portions of plume have the highest concentrations. Twenty-three biennial wells are located around plume boundaries. All results were below NADCs except trichloroethene (TCE) at 2,300 µg/L in MW0021. An IM Work Plan (IMWP) was presented to the KSC Remediation Team during April 2023 meeting. TCE exceeded its groundwater cleanup target level (GCTL) in 11 wells, cis-1,2-dichloroethene (cDCE) exceeded its GCTL in 3 wells, and vinyl chloride (VC) exceeded its GCTL in 15 wells.

2022 Groundwater Results for Hot Spots 1, 2, and 5

At Hot Spot 1, groundwater Site Characterization maximum direct push technology (DPT) detections for TCE, cDCE, and VC were 191,000, 8,200, and 2,800 µg/L. Groundwater flows from Hot Spot 1 into Hot Spot 2. In Hot Spot 1, MW0026 current results for TCE, cDCE, and VC are 80, 0.84 I, and 0.64 U µg/L.

At Hot Spot 2, Site Characterization maximum groundwater DPT detections for TCE, cDCE, and VC were 46,800, 24,900, and 2,200 µg/L. Current maximum results for TCE, cDCE, and VC are 56 (MW61), 110 (MW67), and 43 (MW67) µg/L. Downgradient well MW0114 results have been less than GCTLs since April 2016.

At Hot Spot 5, Site Characterization maximum DPT groundwater detections for TCE, cDCE, and VC were 52, 4,000, and 1,800 µg/L in the 40 to 50 ft bls zone. Current maximum results for TCE, cDCE, and VC are 0.79 U, 0.88 I, and 1.3 I µg/L in MW0025. Note the proposed IM for the MW0021 area is to address VOCs in the 8 to 16 ft bls zone.

For the Hot Spots 1, 2 and 5 plume, propose adding existing wells for vertical monitoring in areas with highest TCE, cDCE, and/or VC concentrations. An IM is planned at MW21, which had the maximum TCE and cDCE concentrations of 2,300 and 570 µg/L; a sampling program will follow the IM.

Propose adding MW62 screened 30 to 40 ft bls to monitor beneath MW26 screened 13 to 23 ft bls. MW26 currently has the second highest TCE detection of 80 µg/L. Air sparging occurred beneath MW62 since the last sample results of TCE, cDCE, VC of 10 U, 110, and 2,000 µg/L in 2/2012. MW29 currently sampled annually is screened 40 to 50 ft bls to monitor beneath MW61 (screened 25 to 35 ft bls), that currently has third highest TCE detection of 56 µg/L and cDCE of 93 µg/L. Air sparging occurred beneath MW61; MW29 is located 40 feet from MW61, most recent MW29 sample results of TCE, cDCE, VC of 1.1 I, 2.6, and 8.2 µg/L in 12/2022.

Propose adding MW64 screened 40 to 50 ft bls to monitor beneath MW34 screened 20 to 30 ft bls that currently has sixth highest TCE detection of 10 µg/L in this area. MW64 recent sample results of TCE, cDCE, VC of 0.22 U, 1.8, and 0.71 J µg/L in 12/2020. MW67 screened 20 to 30 ft bls has cDCE and VC of 110 and 43 µg/L, MW68 screened 40 to 50 ft bls has cDCE and VC of 4.4 and 21 µg/L. Propose continued monitoring of MW68 to vertically assess MW67.

FDEP inquired if there was still sparging at this location. Tetra Tech responded that air sparging ended in 2019, which was noted on previous slides of ADP.

FDEP inquired if the goal for the site is to reach FDEP groundwater cleanup target levels (GCTLs). Tetra Tech responded they will continue annual or biennial monitoring until the site achieves GCTLs. There is no plan to close this site out with conditions.

FDEP is concern with increasing VC trends since VC doesn't tend to achieve below GCTLs without some help. Tetra Tech will continue to monitor and won’t be surprised if there is not a lot of movement in the results.

FDEP noted that it is proposed to replace a well with a 5ft screen with a 10ft screen. DPT results were clean all the way down to 50ft.

Is there a clay layer (retarding unit) across the Fluid Servicing Road area? Tetra Tech stated that for the most part this material is present throughout the site and acts like a retarding unit, but noted that some VC has made its way through.

The Team reached consensus to transition from PARM to LTM with next reporting period (January 2023 – December 2023) as Year 1 of LTM **(2306-D05).**

The Team reached consensus to continue sampling 25 wells plus MW62 and MW64 annually in December 2023 and 23 wells biennially in December 2024 to monitor VOC contaminant trends; well IDs and sampling frequency are shown on Slide 18 of the presentation. Sampling results will be presented to the KSCRT prior to submittal of 2023 Annual LTM Report **(2306-D06).**

Results: Decision Items 2306-D05, D06

2306-M07 Chris Marshall/AECOM

Industrial Area (IA) Long-Term Monitoring (LTM) Update, June 2023

Objective: The purpose of this advance data package (ADP) is to present activities and data associated with eleven IA LTM sites: Ransom Road Landfill (RRLF) (Solid Waste Management Unit [SWMU] 003), Building M7-0505 Treatment Tank Area (M505) (SWMU 039), Operations and Checkout Building (O&C) (SWMU 076), Vertical Processing Facility (VPF) (SWMU 077), Environmental Health Facility (EHF) (SWMU 079), Kennedy Athletic, Recreation, and Social Park 1 LOC 9 (KARS Park 1) (SWMU 084), Engineering Development Laboratory (EDL) (SWMU 085), Mobil Service Station (MOBIL) (SWMU 093), General Services Administration Seized Property (GSSP) (SWMU 095), Space Station Processing Facility (SSPF) (SWMU 098), and Fuel Storage Area #1 Underground Storage Tank [Building 1044] (FS1) (Potential Release Location [PRL] 157).

Discussion:

Field efforts summarized in this ADP include LTM sampling from May 2022 through November 2022 and Direct Push Technology (DPT) groundwater assessment activities in January 2023 and March 2023. The objective of this ADP is to evaluate the groundwater quality based on current data and trends in order to determine if

June 2023 Decision Items Rev 0		Decision	Comments
Decision No.	Minutes Reference		
2306-D05	2306-M06	**<u>Converter Compressor Building (SWMU 089) Annual Performance Monitoring Update:</u>** The Team reached consensus to transition from PARM to LTM with next reporting period (January 2023 – December 2023) as Year 1 of LTM.	
2306-D06	2306-M06	**<u>Converter Compressor Building (SWMU 089) Annual Performance Monitoring Update:</u>** The Team reached consensus to continue sampling 25 wells plus MW62 and MW64 annually in December 2023 and 23 wells biennially in December 2024 to monitor VOC contaminant trends; well IDs and sampling frequency are shown on Slide 18 of the presentation. Sampling results will be presented to the KSCRT prior to submittal of 2023 Annual LTM Report.	

APPENDIX B

FIELD DOCUMENTATION

(PROVIDED IN ELECTRONIC VERSION ONLY)

11/30/2022 **CCB** **112G08952**

Personnel:	Aaron Kupper	(AK)	Engineer	Tt
	Robert Siegel	(RS)	EnvSci.	Tt

Weather: Partly Cloudy, High of 75 degrees F
Health and Safety (HAS): Topics: PPE; Heat stress, Insects/wildlife
PPE: Level D
Objective: CCB Annual GW performance Monitoring Sampling.

0630: Arrive at CCF trailer. Met with RS and performed daily safety tailgate talk. Gathered equipment to locate wells, clear and gauge. Opened wells to vent then took water levels. Could not access the following wells due to high water levels from hurricanes: MW0061, MW0073, MW0113, MW0114, MW0128, MW0129.
1600: Cleaned up equipment.
1630: Left Site.

12/01/2022 **CCB** **112G08952**

Personnel:	Aaron Kupper	(AK)	Engineer	Tt
	Robert Siegel	(RS)	EnvSci.	Tt

Weather: 0-5 MPH winds, High 72 degrees F
Health and Safety (HAS): Topics: PPE; Heat stress, Insects/wildlife
PPE: Level D
Objective: CCB Annual GW performance Monitoring Sampling.

0630: Arrive at CCF trailer. Calibrated equipment, prepped sampling supplies, met with RS for daily safety tailgate talk.
0855: Pulled off to address another site.
1130: Arrive back onsite.
1145: Arrive at MW0096R, 88, 50 cluster. Purged wells. Sample: CCB-MW0096R-065.0-20221201 collected at 1225. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container. Sample: CCB-MW0050-025.0-20221201 collected at 1255. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container. Sample: CCB-MW0088-045.0-20221201 collected at 1340. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1355: Arrive at MW0048. Purged well. Sample: CCB-MW0048-025.0-20221201 collected at 1430. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1445: Arrive at MW0142. Purged well. Sample: CCB-MW0142-025.0-20221201 collected at 1525. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1545: Arrive at MW0021. Purged well. Sample: CCB-MW0021-015.0-20221201 collected at 1630. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1645: Arrive at MW0016. Purged well. Sample: CCB-MW0016-015.0-20221201 collected at 1730. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1745: Placed all IDW in dedicated tote at CCF treatment area. Cleaned equipment.
1800: Left site.

12/05/2022 **CCB** **112G08952**

Personnel:	Aaron Kupper	(AK)	Engineer	Tt
	Robert Siegel	(RS)	EnvSci.	Tt

Weather: Sunny, 0-5mph winds, high 76 degrees F
Health and Safety (HAS): Topics: PPE; Heat stress, Insects/wildlife
PPE: Level D
Objective: CCB Annual GW performance Monitoring Sampling.

0915: Arrive at CCF trailer. Calibrated equipment, prepped sampling supplies, met with RS for daily safety tailgate talk.
1030: Arrive at MW0109. Purged well. Sample CCB-MW0109-045.0-20221205 collected at 1100. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1115: Arrive at MW0045,46 cluster. Purged wells. Sample: CCB-MW0045-025.0-20221205 collected at 1150. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container. Sample: CCB-MW0046-035.0-20221205 collected at 1220. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1300: Arrive at MW0086. Purged well. Sample: CCB-MW0086-035.0-20221205 collected at 1350. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1400: Arrive at MW0138. Purged well. Sample: CCB-MW0138-035.0-20221205 collected at 1420. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1430: Arrive at MW0137. Purged well. Sample CCB-MW0137 collected at 1535. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1545: Placed all IDW in dedicated tote at CCF treatment area. Cleaned equipment.
1630: Left site.

12/06/2022 **CCB** **112G08952**

Personnel:	Aaron Kupper	(AK)	Engineer	Tt
	Robert Siegel	(RS)	EnvSci.	Tt

Weather: Partly Cloudy, 5-10 mph winds, high 80 degrees F
Health and Safety (HAS): Topics: PPE; Heat stress, Insects/wildlife
PPE: Level D
Objective: Begin CCB Annual GW performance Monitoring Sampling.

0625: Arrive at CCF trailer. Calibrated equipment, prepped sampling supplies, met with RS for daily safety tailgate talk.
0750: Arrive at MW0133. Purged well. Sample: CCB-MW0133-030.0-20221206 collected at 0840. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
0850: Arrive at MW0135. Purged well. Sample: CCB-MW0134-025.0-20221206 collected at 0945. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1020: Arrive at MW0132. Purged well. Sample: CCB-MW0132-030.0-20221206 collected at 1110. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1125: Arrive at MW0136. Purged well. Sample: CCB-MW0136-030.0-20221206 collected at 1155. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1230: Placed IDW in dedicated tote at CCF treatment system.
1255: Arrive at MW0122. Purged well. Sample: CCB-MW0122-025.0-20221206 collected at 1350. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1400: Arrive at MW0034. Purged well. Sample: CCB-MW0034-025.0-20221206 collected at 1445. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1510: Arrive at MW0144. Purged well. Sample: CCB-MW0144-025.0-20221206 collected at 1545. Analysis: 8260D (MOD) LC34 Custom List. Deconned equipment. Placed IDW in labeled storage container.
1600: Transferred IDW to dedicated tote at CCF treatment system. While QC'ing, found microbubbles Had developed in vials. Will QC tomorrow to determine if any wells need to be resampled. Cleaned equipment.
1800: Left site.

12/07/2022 **CCB** **112G08952**

Personnel: Aaron Kupper (AK) Engineer Tt
Robert Siegel (RS) EnvSci. Tt
Weather: Partly Cloudy, high 75 degrees F
Health and Safety (HAS): Topics: PPE; Heat stress, Insects/wildlife
PPE: Level D
Objective: Begin CCB Annual GW performance Monitoring Sampling.

0615: Arrive at CCF trailer. Met with RS for daily safety tailgate talk. RS went off to finish remaining wells. During QC, determined MW0039, MW0122 and MW0013 needed to be resampled. Relayed this to RS to resample these wells. Cleaned up site, equipment an wrapped up CCB sampling.
1415: Left site.

Location KSC NASA Date 11-30-22

Project / Client CCB

2121y PL 01365 / 112 go8952

0 wnd 65° Some Clouds

Robert Siegel

0500 TT

0615 onsite gen setup cal check Tail gate safety review SOW with Aaron

0700 start well locates

1015 meet with Chuck S onsite To locate MW 26 and MW 13 review path to east most zone wells

1230 meet with Chris A. NASA Rep gen review

1245 End Locates setup start water Levels

1430 Break offsite TT deliver sample To Lab Rep

Location KSC NASA Date 11-30-22

Project / Client CCB

212ig 16 01365 / 112 go 8952

Robert Siegel Aaron K

~~Water~~ Data Page

MW			MW		
12	2.82		56	3.99	
13			61		
16			67		
21			68		
SD 24			73		
SD 25			86		
26	N		88		
SD 29	N		96R		
34			109		
36	1235 ①	20.30	113		
37	1125 ①	40.50	114		
39			120	1400 ①	10.20
40			122		
45			125		
46			127		
48			128		
50			129		
52	N		130		
134			131		
135			132		
136			133		

Location KSC NASA Date 11-30-22 7

Project / Client CCB

212 lg Pb 01365 / 112 908952

Cloudy 0 to 5 mph 75°

Robert Siegel Aaron H Chuck S

Data Page

on map 20, 22

MW

~~147~~

142

144

147

148 5.62

137

138

MW

81 0910 ② 60-65

81 1150 ② 60-65

1515 onsite store coolers meet Aaron complete water level

1600 offsite TT

1715 Break

Location KSC NASA Date 12·1·22

Project / Client CCB~~AS~~B 8952

212iq Pb 01363 112 go ~~9022~~

Clear 0 To 5 mph 65°

Robert Siegel Aaron K

Chuck S Ronnie L

0545 TT

0700 onsite gen setup
Cal Check Tailgate
Ice coolers

0845 meet Ronnie review
wells To be sampled That
are unaccessible at
This Time have him
do cut down setup start
MW37

0930 Review with Chuck what
Ronnies L Plan is have
parts ohed

1015 Ronnie Starts cut down
and sand paths

1140 Ice· sample store water decon
seTup start MW 36 ref log
End MW 37

Location KSC NASA Date 12·1·22

Project / Client CC~~B~~ RS B ~~0952~~ 0952 RS

262 1g Pb 0 1365 / 112 90 ~~9022~~ RS

Clear 0 to 15 mph 75°

Robert Siegel Ronnie L

1250 Ice Sample store water decon End MW 36 review with Ronnie L gen paths cot setup start mw 120 ref Logs

1420 Ice Sample store water decon End MW 120 Set up Start MW 67 and 68 Ref Logs

1515 Ice Sample Store Water decon End MW 67

1540 meet with Don F gen review

1610 Ice Sample store water decon End MW 68 start all water pick up Aaron and mine put his samples in Main Trail cooler

1800 off site TT

1915 Break

Location KSC NASA Date 12.05.22

Project / Client CCB

212 kg Pb 01353/112 go 8952

Some Clouds 0-5 mph 65°

Robert Siegel Checks Hank K

0530 TT

0645 onsite Tailgate safety review SOW gen setup Cal Check set up Certs Equip supplies Ice Coolers

1000 setup Start MW 147 ref log

1115 Ice sample store water decon End MW 147 Setup start MW 131 ref log

1215 Ice Sample Store water decon End MW 131 setup Start MW 130 ref log

1335 Ice Sample Store Water decon End MW 130 setup Start MW 39 Ref log

Location KSC NASA Date 12·05·22 13

Project / Client CCB

212ig 06 01353 / 112 go 8952

Clear 0 To 5 mph 80°

Robert Siegel Romdel Aaron K

1500 Ice Sample store water
decon End MW 39 setup
Start MW 40 Tablet overheated
WL 3.75 Ref log

1550 Ice Sample Store Water
decon End MW 40
store all equipment supplies
in Trailer with water

1645 offsite TT

18 00 Break

Rite in the Rain

Location KSC NASA Date 12-08-22

Project / Client CCB

212iq·06·01353 / 112 go 8952

Clear 0 to 5 mph 65°

Robert Siegel Aaron K

0530 TT

0645 onsite meet Aaron gen review Tailgate safety

0745 setup start at MW 148 ref Log

0850 Ice Sample store water decon setup start MW 56 ref log

1005 Ice Sample store water decon setup start MW 12 ref Log

1115 Ice Sample store water decon End MW 12 Get Ice put all waters in To Trailer Air Bad Tire on gator

1200 Break

Location KSC NASA Date 12-06-22

Project / Client CCB

212 lg PS 01353 / 112 go 8952

Some Clouds 5 To 10 mph 86°
Robert Siegel Aaron K
Ronnie L

1230 onsite setup start
aT MW13 ref Log

1400 Ice Sample store water
decon End MW 13 setup
START MW 125 ref log

1510 Ice Sample store water
decon End MW 125 setup
START MW 24 + 25 ref
logs

1610 Ice Sample store water decon
End MW 24 setup start MW 25
ref Log

1730 Ice Sample store water
decon End MW 24 gen review
end Day load with Aaron
1800 offsite TT

Location KSC NASA Date 12-6-22

Project / Client CCB

2121g Pb 01353 M12 go 0952

Some Clouds 0 to 5 mph 75°

Robert Enegel

1830 Home depot gen supplies

1900 TT offsite Home depot

2015 Break

Location KSC NASA Date 12-07-22

Project / Client CCB

212 ng Pb 0 1358 /112 go 8952

Cloudy Ovmd 70°

Robert Saegel Aaron K

0515 TT

0630 onsite gen set up Tailgate Safety review check Sample bubbles Cal Checks

0800 setup at MW 26 ret Sample Log

0915 Ice Sample decon store water End MW 26 review with Aaron Sample bubble check and storage removed fail samples from his Travel cooler bag and store in Today collection cooler covered with Ice

0940 setup start MW 29 ret log

1040 Ice sample store water decon End MW 29 review MW 13 + 39 samples Store collected Sample put Purge water in Tank check COCs

Location KSC NASA Date 12-07-22

Project / Client CCB

2/2 ig Pb 01365 / 112 90 8953

Cloudy 0 To 5mph 80°
Robert Sregel Aaron K

1130 Break 1215 onsite set up
Forms for resamples
review samples Bubbles and COCs

1340 setup Start MW ~~13~~ as 52
ref log

1435 Ice Sample Store water
decon End MW52 setup
Start MW 13 ref log

1550 Ice Sample store water
decon End MW 13
store all Equip supplies
in Trailer gen review with
Aaron K

1645 offsite TT gen supplies
1830 Break

Location KSC NASA Date 12·08·22 19

Project / Client CCB

212 ig Pb 01365 / 112 go 8952

Clear Owmd 70°

Robert Siegel Aaron K

0515TT

0630 onsite Aaron onsite in Truck

gen review Aaron need To go

off site for equipment Tailgate

safety review gator at

MW 39 he need To be onsite

Two man crew for That event

and he has a well To redo due

To bubbles in sample

645 Aron offsite supplies

I am on gen setup cal checks

0810 setup start MW 39 ref Log

Aaron K oversights sampling

0920 Ice Sample Store water decon

End MW 39 setup start MW 122

Aaron unable to setup equipment

or sample ref sample log

1000 meet Aaron at well have him Fill

sample Bottles

Rite in the Rain

Location KSC NASA Date 12·8·22

Project / Client CCB

212ig Pb 01365 / 112 908952

very Cloudy 0 to 5 mph
Robert Siegel Aaron K

10 30 Ice Sample store water decon End MW 122 store and decon all equipment Supplies for relocate

1115 updates with Chuck S

1145 TT 1200 Break

TETRA TECH

INSTRUMENT CALIBRATION LOGSHEET

PROJECT NAME : KSC-NASA

SITE NAME: CCB

PROJECT NO.: 112G08952

INSTRUMENT NAME/MODEL YSI ProQuatro / LaMotte 2020t

MANUFACTURER: YSI / LaMotte

SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)	pH (S.U.)				Cond. (µS/cm)	D.O. (mg/L)	Temp. ºC	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
12/1/2022	RSS ccv/cal/icv AM	*Pre*	*4.07*	*7.00*	10.11	1490	120%10.5	17.3	275	Na	0	9.98	*Lot # 210510d*	pH = 4
		Post	*X*	*X*	X	1413	9.6	17.3	240	Na	X	X	*Exp. Date: 12/22*	
12/1/2022	RSS ccv PM	*Pre*	*X*	*X*	X	X	X	X	X	Na	X	X	*Lot # ogl758*	pH = 7
		Post	*4.1*	*7*	10.1	1415	8.83	21.5	240	Na	0.05	10.11	*Exp. Date: 12/22*	
		Pre	*X*	*X*	X	X	X	X	X	Na	X	X	*Lot # G1122C*	pH = 10
		Post	*X*	*X*	X	X	X	X	X	Na	X	X	*Exp. Date: 1/11/24*	
12/5/2022	RSS ccv AM PM	*Pre*	*4*	*7*	10.15	1413	9.8	16.29	242	Na	0	10.1	*Lot # 6151*	Conductivity = 1413 µS/cm
		Post	*3.95*	*7.05*	10	1422	9.21	19.5	250	Na	0.07	10.14	*Exp. Date: 2/26*	
12/6/2022	RSS ccv AM PM	*Pre*	*3.95*	*7.05*	10	1422	9.21	19.5	250	Na	0.07	10.14	*Lot # 4801*	ORP = 238 mV
		Post	*4*	*7*	10	1432	9.56	17.8	253	Na	0	10	*Exp. Date: 11/24*	
12/7/2022	RSS ccv AM PM	*Pre*	*4*	*7*	10	1432	9.56	17.8	253	Na	0	10	*Lot # 21380129*	NTU=0
		Post	*3.92*	*7*	9.92	1440	9.75	16.5	258	Na	0	10.2	*Exp. Date: 4/23*	
12/8/2022	RSS ccv AM PM	*Pre*	*3.92*	*7*	9.92	1440	9.75	16.5	258	Na	0	10.2	*Lot # 21140199*	Ntu=10
		Post	*4*	*7*	10.05	1452	9.13	19.8	260	Na	0.1	10.22	*Exp. Date: 1/23*	
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

INSTRUMENT CALIBRATION LOGSHEET

TETRA TECH

PROJECT NAME : KSC-NASA

SITE NAME: CCB

PROJECT NO.: 112-G0-8952

INSTRUMENT NAME/MODEL YSI ProQuatro / LaMotte 2020t

MANUFACTURER: YSI / LaMotte

SERIAL NUMBER: **YSI s# 21d101766 / LaMotte s# 1914-4019**

Date of Calibration (mm/dd/yr)	Person Performing Calibration (Name)		pH (S.U.)			Cond. (µS/cm)	D.O. (mg/L)	Temp. °C	ORP (mV)	Salinity (%)	Turbidity (0) (NTUs)	Turbidity (10) (NTUs)	Calibration Standard Lot # / Expiration Date	Remarks
12/1/2022	Aaron Kupper (AM)	*Pre*	*4.10*	*7.19*	9.67	1476	9.42	17.6	226.7	Na	0.93	9.68	*Lot # 210510d*	
		Post	*x*	*x*	10.01	x	x	x	x	Na	0.05	x	*Exp. Date: 12/22*	pH = 4
12/1/2022	Aaron Kupper (PM)	*Pre*	*4.06*	*7.07*	10.09	1468	8.82	21.7	218	Na	0.96	10.71	*Lot # ogl758*	
		Post	*x*	*x*	x	x	x	x	x	Na	x	x	*Exp. Date: 12/22*	pH = 7
12/5/2022	Aaron Kupper (AM)	*Pre*	*4.07*	*6.96*	9.92	1461	8.7	22.4	224.6	Na	0.53	9.86	*Lot # 0gk984*	
		Post	*x*	*x*	x	x	x	x	x	Na	0.06	x	*Exp. Date: 11/22*	pH = 10
12/5/2022	Aaron Kupper (PM)	*Pre*	*4.09*	*7.05*	10.04	1484	9.17	19.7	231.1	Na	0.05	10.29	*Lot # 6151*	
		Post	*x*	*x*	x	1413	x	x	x	Na	x	x	*Exp. Date: 2/26*	Conductivity = 1413 µS/cm
12/6/2022	Aaron Kupper (AM)	*Pre*	*4.09*	*7.05*	10.04	1484	9.17	19.7	231.1	Na	0.05	10.29	*Lot # 4801*	
		Post	*x*	*x*	x	1413	x	x	x	Na	x	x	*Exp. Date: 11/24*	ORP = 238 mV
12/6/2022	Aaron Kupper (PM)	*Pre*	*4.11*	*7.03*	9.96	1409	8.74	21.8	240.6	Na	0.48	10.13	*Lot # 21380129*	
		Post	*x*	*x*	x	x	x	x	x	Na	x	x	*Exp. Date: 4/23*	NTU=0
		Pre								Na			*Lot # 21140199*	
		Post								Na			*Exp. Date: 1/23*	Ntu=10
		Pre												
		Post												
		Pre												
		Post												
		Pre												
		Post												

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name:	Converter Compressor Building (CCB)	**Project No.:**	112G08952
Location:	Kennedy Space Center (KSC), Florida	**Personnel:**	Aaron Kupper, Rob Seigel
Weather Conditions:	high 65˚F. Partly cloudy	**Measuring Device:**	Heron skinny dipper
Tidally Influenced:	Yes ____ No __x__	**Remarks:**	

Well or Piezometer Number (CCB)	Date	Time	Water Level Indicator Reading (feet)*	Screened Interval (feet)*	Elevation of Reference Point (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW0012	11/30/22		2.82	40-50				
MW0013	11/30/22		2.39	40-50				
MW0016	11/30/22		1.96	10-20				
MW0021	11/30/22		1.94	10-20				
MW0024	11/30/22		0.84	25-35				
MW0025	11/30/22		0.96	40-50				
MW0026	11/30/22		0.87	13-23				
MW0029	11/30/22		2.56	40-50				
MW0034	11/30/22		2.02	20-30				
MW0036	11/30/22		5.19	20-30				
MW0037	11/30/22		5.21	40-50				
MW0039	11/30/22		3.42	25-35				
MW0040	11/30/22		3.59	10-20				
MW0045	11/30/22		5.55	20-30				
MW0046	11/30/22		5.61	30-40				
MW0048	11/30/22		0.00	20-30				
MW0050	11/30/22		2.47	20-30				
MW0052	11/30/22		3.01	40-50				
MW0056	11/30/22		3.99	41-51				
MW0061			x	25-35				Could not access
MW0067	11/30/22		1.57	20-30				
MW0068	11/30/22		1.45	40-50				
MW0073			x	10-20				Could not access
MW0086	11/30/22		5.35	30-40				
MW0088	11/30/22		2.63	40-50				
MW0096R	11/30/22		2.51	60-70				
MW0109	11/30/22		4.12	40-50				
MW0113			x	25-35				Could not access
MW0114			x	10-20				Could not access
MW0120	11/30/22		3.19	10-20				
MW0122	11/30/22		4.13	20-30				
MW0125	11/30/22		1.63	10-20				
MW0127	11/30/22		1.92	20-30				
MW0128			x	10-20				Could not access
MW0129			x	30-40				Could not access
MW0130	11/30/22		2.72	25-35				
MW0131	11/30/22		2.96	25-35				
MW0132	11/30/22		3.83	25-35				

Tetra Tech, Inc.

GROUNDWATER LEVEL MEASUREMENT SHEET

Project Name: Converter Compressor Building (CCB)
Project No.: 112G08952
Location: Kennedy Space Center (KSC), Florida
Personnel: Aaron Kupper, Rob Seigel
Weather Conditions: high 65˚F. Partly cloudy
Measuring Device: Heron skinny dipper
Tidally Influenced: Yes ____ No ____
Remarks:

Well or Piezometer Number (CCB)	Date	Time	Water Level Indicator Reading (feet)*	Screened Interval (feet)*	Elevation of Reference Point (feet)*	Thickness of Free Product (feet)*	Groundwater Elevation (feet)*	Comments
MW0133	11/30/22		2.98	25-35				
MW0134	11/30/22		3.68	20-30				
MW0135	11/30/22		3.97	25-35				
MW0136	11/30/22		3.83	25-35				
MW0137	11/30/22		4.89	20-30				
MW0138	11/30/22		4.48	30-40				
MW0142	11/30/22		2.85	20-30				
MW0144	11/30/22		2.49	20-30				
MW0147	11/30/22		3.81	20-30				
MW0148	11/30/22		5.62	40-50				

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0012**	SAMPLE ID: **CCB-MW0012-045.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.26	CASING HEIGHT (feet als): flush	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
_____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Lts. = 0.005 + (0.005 X 60 Ft.)+ 0.45 Lts.
0.755 Liters.

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1059	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1045	3.0	3.0	300.0	3.70	6.73	26.1	1502.0	0.27	11.10	-77.0	Clear
1050	1.5	4.5	I	3.70	6.68	26.0	1500.0	0.17	7.10	-79.0	I
1055	1.5	6.0	I	3.70	6.67	26.0	1500.0	0.13	8.20	-79.5	I
1059	1.2	7.2	300.0	3.70	6.67	26.1	1497.0	0.11	7.30	79.2	Clear
1100	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1110
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________________________		DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 50.20 ft toc sump purge gray fg sand To fouled 0.10 Gal removed hose

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0013**	SAMPLE ID: **CCB-MW0013-045.0-20221207** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/07/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.01	CASING HEIGHT (feet als): flush	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Lts. = 0.005 + (0.005 X 60 Ft.)+ 0.45 Lts.
0.755 Liters.

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT:1500	PURGING ENDED AT: 1524	TOTAL VOLUME PURGED (Liters):7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1510	3.0	3.0	300.0	3.65	6.62	25.9	2605.0	0.09	9.70	-94.0	Clear
1515	1.5	4.5	I	3.65	6.62	25.8	2617.0	0.05	6.47	-91.5	I
1520	1.5	6.0	I	3.65	6.62	25.8	2623.0	0.05	5.96	-90.0	I.
1524	1.2	7.2	300.0	3.65	6.62	25.8	2623.0	0.04	4.42	-89.5	clear
1525	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ROBERT SIEGEL / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1545
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	4	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	4	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 1325 pump prime lost hose damage
After sample total depth check 50.30 Ft toc. Sump purge P Brown thick To clear 0.50 Gal. Pad sinking need to raise or repaid lid to well damage happening ref. photo
Micro bubbles

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0016**	SAMPLE ID: **CCB-MW0016-015.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.29	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 2.09	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.625 Liters (30x0.005) +0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1705	PURGING ENDED AT: 1729	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1705	-	-	200	4.15	3.62	26.1	449	3.42	12.41	245.1	clear
1720	3	3	200	8.14	4.50	26.1	209.5	1.47	14.7	177.6	-
1725	1	4	200	8.13	4.46	26.0	210.8	1.26	18.3	176.3	-
1729	0.8	4.8	200	8.13	4.41	26.0	211.7	1.07	17.1	172.8	-
1730	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1730	SAMPLING ENDED AT: 1735
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: DO took a while to stabilize.

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0021**	SAMPLE ID: **CCB-MW0021-015.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.12	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.625 Liters (30x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1620	PURGING ENDED AT: 1634	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1615	-	-	200	2.54	3.85	26.3	2520	0.80	3.84	244.0	clear
1620	1	1	200	2.53	4.15	26.5	158.4	0.22	3.37	230.4	clear
1625	1	2	200	2.53	4.12	26.5	160.0	0.18	2.59	218.3	-
1629	0.8	2.8	200	2.53	4.12	26.5	161.8	0.16	2.12	214.0	-
1630	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1635	SAMPLING ENDED AT: 1640
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D - (Mod) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump
RFPP = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0024**	SAMPLE ID: **CCB-MW0024-030.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.39	CASING HEIGHT (feet als): flush	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.68 Lts. = 0.005 + (0.005 X 45 Ft.)+ 0.45 Lts.
0.68 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT:1530	PURGING ENDED AT: 1559	TOTAL VOLUME PURGED (Liters): 3.48

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1540	1.20	1.20	120.0	3.45	3.69	24.6	1343.0	0.21	16.5	+24.6	clear
1545	0.60	1.80	l	3.45	3.61	24.5	1460.0	0.19	10.5	+264.0	l
1550	0.60	2.40	l	3.45	3.59	24.5	1531.0	0.17	12.0	+260.0	l
1555	0.60	3.00	l	3.45	3.59	24.3	1532.0	0.18	13.0	+257.0	l
1559	0.48	3.48	120.0	3.45	3.58	24.3	1608.0	0.20	13.0	+255.5	Clear
1600	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1600	SAMPLING ENDED AT: 1610
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 120.0	TUBING MATERIAL CODE: HDPE + S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________		DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 35.2 ft toc sump purge P Brown FG sand To clear 0.50 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0025**	SAMPLE ID: **CCB-MW0025-045.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.50	CASING HEIGHT (feet als): flush	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Lts. = 0.005 + (0.005 X 60 Ft.)+ 0.45 Lts.
0.755 Liters.

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1620	PURGING ENDED AT: 1709	TOTAL VOLUME PURGED (Liters):14.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1630	3.0	3.0	300.0	1.98	6.00	24.7	2245.0	0.04	23.00	-40.0	Clear
1635	1.5	4.5	I	1.98	6.19	24.8	2297.0	0.03	5.47	-43.2	I
1640	1.5	6.0	I	1.98	6.28	24.8	2344.0	0.02	1.44	-45.1	I
1645	1.5	7.5	I	1.98	6.34	24.8	2380.0	0.02	1.12	-47.0	I
1650	1.5	9.0	I	1.98	6.39	24.8	2455.0	0.02	0.71	-48.2	I
1655	1.5	10.5	I	1.98	6.43	24.7	2500.0	0.02	0.37	-49.0	I
1700	1.5	12.0	I	1.98	6.45	24.8	2670.0	0.02	0.20	-50.5	I
1705	1.5	13.5	I	1.98	6.47	24.8	3230.0	0.02	0.18	-51.2	I
1709	1.2	14.2	300.0	1.98	6.48	24.8	3400.0	0.02	0.19	-52.0	Clear
1710	sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1710	SAMPLING ENDED AT: 1720
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 50.0. Ft toc. Sump purge black To clear 0.30 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0026**	SAMPLE ID: **CCB-MW0026-018.0-20221207** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/07/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.45	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **13 to 23**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **13**	BOTTOM DEPTH (feet bls): **23**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.63 Lts. = 0.005 + (0.005 X 35 Ft.)+ 0.45 Lts.
0.63 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 18.0	PURGING INITIATED AT: 0825	PURGING ENDED AT: 0859	TOTAL VOLUME PURGED (Liters): 10.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0835	3.0	3.0	300.0	1.71	5.32	24.8	294.0	0.17	1.80	45.5	Clear
0840	1.5	4.5	I	1.71	5.26	24.7	301.0	0.12	1.29	43.5	I
0845	1.5	6.0	I	1.71	5.23	24.7	310.5	0.08	1.19	40.7	I
0850	1.5	7.5	I	1.71	5.21	24.8	318.5	0.07	1.03	38.7	I
0855	1.5	9.0	I	1.71	5.19	24.8	325.6	0.06	1.04	36.8	I
0859	1.2	10.2	300.0	1.71	5.17	24.7	330.0	0.05	1.01	34.0	Clear
0900	sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0900	SAMPLING ENDED AT: 0910
PUMP OR TUBING DEPTH IN WELL (feet): 18.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ μm Filtration Equipment Type: ________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 23.2 Ft toc sump purge clear To clear 0.20 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0029**	SAMPLE ID: **CCB-MW0029-045.0-20221207** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/07/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.16	CASING HEIGHT (feet als): flush	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Lts. = 0.005 + (0.005 X 60 Ft.)+ 0.45 Lts.
0.755 Liters.

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 0950	PURGING ENDED AT: 1039	TOTAL VOLUME PURGED (Liters): 14.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1000	3.0	3.0	300.0	3.80	6.18	26.4	3302.0	0.03	9.45	-83.0	Clear
1005	1.5	4.5	I	3.80	6.36	26.4	3290.0	0.03	6.31	-74.0	I
1010	1.5	6.0	I	3.80	6.43	26.4	3287.0	0.02	1.95	-66.1	I
1015	1.5	7.5	I	3.80	6.50	26.3	3283.0	0.01	1.59	-61.0	I
1020	1.5	9.0	I	3.80	6.52	26.4	3277.0	0.01	0.99	-58.5	I
1024	1.2	10.2	300.0	3.80	6.54	26.4	3275.0	0.01	0.85	-55.2	Clear
1025	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1025	SAMPLING ENDED AT: 1035
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 50.15 ft toc sump purge brown To clear 0.20 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0034**	SAMPLE ID: **CCB-MW0034-025.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.50	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.675 Liters. (40x0.005) +0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1410	PURGING ENDED AT: 1444	TOTAL VOLUME PURGED (Liters): 6.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1410	-	-	200	4.05	3.38	25.6	2077	0.41	3.39	242.4	clear
1420	2	2	200	5.04	3.69	25.5	2152	0.16	3.91	200.3	-
1430	2	4	200	5.29	3.51	25.6	2797	0.13	4.51	204.8	-
1435	1	5	200	5.29	3.39	25.5	3470	0.12	4.23	205.1	-
1440	1	6	200	5.29	3.39	25.5	3490	0.10	4.20	202.9	-
1444	0.8	6.8	200	5.29	3.42	25.5	3460	0.08	4.31	199.0	-
1445	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:1445	SAMPLING ENDED AT: 1450
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0036**	SAMPLE ID: **CCB-MW0036-025.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.34	CASING HEIGHT (feet als): 3.8	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 2.17	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.655 Lts. = 0.005 + (0.005 X 40 Ft.)+ 0.45 Lts.
0.655 Liters.

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1150	PURGING ENDED AT: 1234	TOTAL VOLUME PURGED (Liters): 6.75

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1200	1.50	1.50	150.0	11.55	5.50	24.78	1614.0	0.80	9.21	+1.5	Cleaar
1205	0.75	2.25	I	11.55	5.85	24.72	1732.0	0.67	7.01	-23.4	I
1210	0.75	3.00	I	11.55	5.92	24.71	1765.0	0.63	6.94	-30.5	I
1215	0.75	3.75	I	11.55	5.94	24.75	1766.0	0.60	6.97	-33.5	I
1220	0.75	4.50	I	11.55	5.97	24.78	1767.0	0.57	6.98	-33.4	i
1225	0.75	5.25	I	11.55	5.98	24.79	1768.0	0.55	7.17	-32.2	I
1230	0.75	6.00	I	11.55	5.98	24.80	1767.0	0.55	7.26	-31.7	I
1234	0.60	6.75	150.0	11.55	5.98	24.82	1765.0	0.52	7.23	-30.7	Clear
1235	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75”** = 0.076; **1”** = 0.15; **1.25”** = 0.23; **2”** = 0.61; **3”** = 1.40; **4”** = 2.46; **5”** = 3.86; **6”** = 5.57; **12”** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1235	SAMPLING ENDED AT: 1245
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 150.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 34.5 Ft. toc Sump purge clear To clear 0.40 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0037**	SAMPLE ID: **CCB-MW0037-045.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.38	CASING HEIGHT (feet als): 3.70	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Lts. = 0.005 + (0.005 X 60 Ft.)+ 0.45 Lts.
0.755 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1100	PURGING ENDED AT: 1124	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1110	2.0	2.0	200.0	5.95	6.93	24.43	3401.0	0.65	2.83	42.0	clear
1115	1.0	3.0	I	5.95	6.95	24.45	3416.0	0.53	0.98	29.3	I
1120	1.0	4.0	I	5.95	6.94	24.47	3418.0	0.54	0.71	22.8	I
1124	0.8	4.8	200.0	5.95	6.94	24.49	3422.0	0.61	0.65	15.0	Clear
1125	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:1125	SAMPLING ENDED AT: 1135
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: AFTER SAMPLE TOTAL DEPTH CHECK. 54.6 FT TOC SUMP PURGE clear TO clear 0.30 GAL

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0039**	SAMPLE ID: **CCB-MW0039-030.0-20221208** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/08/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.73	CASING HEIGHT (feet als): 3.70	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
_____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.68 Lts. = 0.005 + (0.005 X 45 Ft.)+ 0.45 Lts.
0.68 Liters

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 0830	PURGING ENDED AT: 0854	TOTAL VOLUME PURGED (Liters):7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0840	3.0	3.0	300.0	3.85	6.46	24.6	2724.0	0.14	8.61	-57.0	Clear
0845	1.5	4.5	l	3.85	6.47	24.7	2702.0	0.14	4.75	-57.0	l
0850	1.5	6.0	l	3.85	6.47	24.6	2696.0	0.15	3.54	-57.0	l
0854	1.2	7.2	300.0	3.85	6.47	24.7	2679.0	0.12	1.56	-56.4	clear
0855	sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0855	SAMPLING ENDED AT: 0915
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	4	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 39.60 Ft toc. Sump purge gray To clear 0.50 Gal
MICRO BUBBLES

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0040**	SAMPLE ID: **CCB-MW0040-015.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.75	CASING HEIGHT (feet als): 3.65	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.40	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

________0.605_____Liters = 0.005 (0.005 X 30)+0.45.0)=0..45= 0.605

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1515	PURGING ENDED AT: 1539	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1525	3.0	3.0	300.0	3.95	6.54	24.9	2414.0	0.16	13.30	-53.0	Clear
1530	1.5	4.5	I	3.95	6.54	24.9	2413.0	0.10	3.48	-57.5	I
1535	1.5	6.0	I	3.95	6.54	24.8	2414.0	0.09	1.58	-59.5	I
1539	1.2	7.2	300.0	3.95	6.54	24.9	2415.0	0.08	0.94	-60.1	Clear
1540	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ROBERT SIEGEL /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1540	SAMPLING ENDED AT: 1550
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________		DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: After sample total depth check 22.4 Ft toc sump purge BROWN FG SAND To FOULED 0.30 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0045**	SAMPLE ID: **CCB-MW0045-025.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.9	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT:1130	PURGING ENDED AT: 1149	TOTAL VOLUME PURGED (Liters) 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1130	-	-	200	6.59	3.87	25.2	1988	0.80	11.1	285.8	Clear
1135	1	1	200	6.60	3.98	25.1	1369	0.56	8.31	226.1	-
1140	1	2	200	6.60	3.95	25.0	1239	0.46	9.11	204.7	-
1143	0.6	2.6	200	6.60	3.93	25.0	1243	0.40	6.51	199.2	-
1146	0.6	3.2	200	6.60	3.93	25.1	1235	0.36	7.13	194.5	-
1150	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1150	SAMPLING ENDED AT: 1155
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0046**	SAMPLE ID: **CCB-MW0046-035.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.84	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 40**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **40**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
__________0.725___Liters. (50x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	PURGING INITIATED AT: 1205	PURGING ENDED AT: 1219	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1205	-	-	200	6.09	5.97	25.1	2590	0.59	5.95	-9.7	Clear
1210	1	1	200	6.10	6.22	25.2	2724	0.27	12.8	-15.7	-
1215	1	2	200	6.10	6.36	25.3	2732	0.23	11.0	-32.1	-
1219	0.8	2.8	200	6.10	6.39	25.3	2728	0.14	10.7	-34.5	-
1220	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1220	SAMPLING ENDED AT: 1225
PUMP OR TUBING DEPTH IN WELL (feet): 35.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE 10CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0048**	SAMPLE ID: **CCB-MW0048-025.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 0.55	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1405	PURGING ENDED AT: 1434	TOTAL VOLUME PURGED (Liters): 4.6

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1405	-	-	200	2.31	5.39	25.4	1929	0.86	17.8	77.3	Clear
1410	1	1	200	3.88	4.50	25.6	1672	0.32	29.1	99.9	-
1420	1.5	2.5	150	3.65	4.46	25.8	1795	0.16	17.7	81.7	-
1425	0.75	3.25	150	3.65	4.44	26.0	1792	0.12	13.8	71.0	-
1429	0.75	4.00	150	3.65	4.44	26.0	1784	0.11	18.0	69.1	-
1430	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1430	SAMPLING ENDED AT: 1435
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D (MOD) LC34 Custom List	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D (MOD) LC34 Custom List	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0050**	SAMPLE ID: **CCB-MW0050-025.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.59	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.675 Liters. 40+0.005)_+ 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1240	PURGING ENDED AT: 1254	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1240	-	-	200	2.95	3.86	28.3	1335	1.82	20.5	360.0	Visible sediment
1245	1	1	200	2.96	3.89	28.4	1097	0.24	5.01	272.5	Clear
1250	1	2	200	2.96	3.87	28.4	1137	0.20	4.89	246.8	-
1254	0.8	2.8	200	2.95	3.87	28.4	1141	0.17	4.17	236.0	-
1255	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1255	SAMPLING ENDED AT: 1255
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ______	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0052**	SAMPLE ID: **CCB-MW0052-045.0-20221207** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/07/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.49	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.755 Liters =0.005+(0.005 X 60.0)+0.045

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1405	PURGING ENDED AT: 1429	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1415	3.0	3.0	300.0	4.70	6.53	28.7	2478.0	0.05	7.78	-60.9	Clear
1420	1.5	4.5	I	4.70	6.54	28.5	2875.0	0.04	1.33	-60.5	I
1425	1.5	6.0	I	4.70	6.54	28.5	3181.0	0.05	1.25	-60.4	I
1429	1.2	7.2	300.0	4.70	6.54	28.6	3166.0	0.05	1.22	-60.5	Clear
1430	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1430	SAMPLING ENDED AT: 1440
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 50.10 Ft toc. Sump purge clear To clear 0.20 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0056**	SAMPLE ID: **CCB-MW0056-046.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: 12/**06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.36	CASING HEIGHT (feet als): 1.00	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **41 to 51**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **41**	BOTTOM DEPTH (feet bls): **51**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Liters=0.005+(0.005 X 60) +0.45 = 0.755

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 46.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 46.0	PURGING INITIATED AT: 0910	PURGING ENDED AT: 0949	TOTAL VOLUME PURGED (Liters): 11.7

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0920	3.0	3.0	300.0	5.25	6.68	24.4	1069.0	0.14	77.1	-83.7	Cloudy
0925	1.5	4.5	I	5.25	6.67	24.5	1065.0	0.12	70.3	-85.0	Cloudy
0930	1.5	6.0	I	5.25	6.67	24.5	1060.0	0.11	32.0	-85.6	Clear
0935	1.5	7.5	I	5.25	6.67	24.5	1056.0	0.09	27.5	-85.5	I
0940	1.5	9.0	I	5.25	6.65	24.5	1054.0	0.09	19.1	-85.2	I
0945	1.5	10.5	I	5.24	6.65	24.5	1054	0.09	17.0	-85.1	I
0949	1.2	11.7	300.0	5.25	6.65	24.6	1054	0.09	9.8	-85.0	Clear
0950	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75”** = 0.076; **1”** = 0.15; **1.25”** = 0.23; **2”** = 0.61; **3”** = 1.40; **4”** = 2.46; **5”** = 3.86; **6”** = 5.57; **12”** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0950	SAMPLING ENDED AT: 1000
PUMP OR TUBING DEPTH IN WELL (feet): 46.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: sand/shell-hash at start of sample purge.
after sample total depth check 47.50 Ft toc sump purge P Brown shell-hash/sand To clear 0.50 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0061**	SAMPLE ID: **CCB-MW0061-030.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.34	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters.= 0.005 + (0.005 X 45) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 0855	PURGING ENDED AT: 0924	TOTAL VOLUME PURGED (Liters): 3.625

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0905	1.250	1.250	125.0	12.40	3.48	23.7	2727.0	0.26	32.40	266.0	cloudy
0910	0.625	1.875	|	12.40	3.55	24.1	2745.0	0.32	12.63	267.0	clear
0915	0.625	2.500	|	12.40	3.62	24.6	2801.0	0.28	11.30	259.0	|
0920	0.625	3.125	|	12.40	3.66	24.8	2887.0	0.24	6.75	253.0	|
0924	0.500	3.625	125.0	12.40	3.70	25.0	3020.0	0.24	5.55	251.0	Clear
0925	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0925	SAMPLING ENDED AT: 0935
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 125.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

Notes: 12/2022 THRU 02/2023 Could not access due to high water levels in retention pond.
02/2023Notes: Micro bubbles
After sample total depth check. 38.10 ft floc 1.40 Above Pond WL Sump purge pale brown to clear 0.5.0 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**
LOCATION ID: **MW0067**	SAMPLE ID: **CCB-MW0067-025.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)
DATE: **12/01/2023**	

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.64	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.655 Liters.=0.005+(0.005 X 40)+0.45=0.655

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1430	PURGING ENDED AT: 1504	TOTAL VOLUME PURGED (Liters): 9.52

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1440	2.80	2.80	280.0	1.76	6.52	24.45	2730.0	0.36	9.70	-50.0	Clear
1445	1.40	4.20	l	1.76	6.51	24.40	2736.0	0.35	3.37	-52.0	l
1450	1.40	5.60	l	1.76	6.52	24.26	2741.0	0.34	3.21	-56.0	l
1455	1.40	7.00	l	1.76	6.53	24.20	2744.0	0.33	3.18	-58.0	l
1500	1.40	8.40	l	1.76	6.52	24.19	2742.0	0.30	1.25	-57.5	l
1504	1.12	9.52	280.0	1.76	6.53	24.21	2745.0	0.36	0.70	-60.5	l
1505	Sample	collected									Clear

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: ROBERT SIEGEL / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1505	SAMPLING ENDED AT: 1515
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 250.0	TUBING MATERIAL CODE: HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP
REMARKS: 12/2022 thru								

REMARKS: 12/2022 thru 02/2023 Not safe to sample due to high water levels and environmental conditions.
02/2023 Notes: Micro bubbles
After sample total depth check 33.1 Ft. Toc. Sump purge. D Brown To fouled removed hose 0.150 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0068**	SAMPLE ID: **CCB-MW0068-045.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.60	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.755 Liters.=0.005+(0.005 X 60)+0.45=0.755

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1530	PURGING ENDED AT: 1559	TOTAL VOLUME PURGED (Liters): 3.60

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1545	1.50	1.50	150.0	3.95	6.89	23.68	2875.0	0.52	1.57	-63.0	clear
1550	0.75	2.25	l	3.95	6.90	23.78	3866.0	0.50	0.28	-64.5	l
1555	0.75	3.00	l	3.95	6.91	23.77	3849.0	0.45	0.15	-65.0	l
1559	0.60	3.60	150.0	3.95	6.90	23.78	3850.0	0.46	0.30	-64.2	Clear
1600	SAMPLE	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1600	SAMPLING ENDED AT: 1610
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 150.0	TUBING MATERIAL CODE: T+hdpe+s	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check. 53.5 Ft. toc sump purge clear To clear 0.30 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0073**	SAMPLE ID: **CCB-MW0073-015.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.08	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.40	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.605 Liters= 0.005 + (0.005 X 30.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1445	PURGING ENDED AT: 1519	TOTAL VOLUME PURGED (Liters): 10.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1455	3.0	3.0	300.0	3.18	6.27	23.3	2988.0	0.13	41.00	-64.0	Cloudy
1500	1.5	4.5	||	3.13	6.28	23.4	3007.0	0.10	29.00	-66.5	CLEAR
1505	1.5	6.0	|	3.13	6.29	23.7	3024.0	0.09	21.17	-68.2	|
1510	1.5	7.5	|	3.13	6.29	23.7	3030.0	0.19	17.90	-60.5	|
1515	1.5	9.0	|	3.13	6.30	23.8	3047	0.08	12.48	-67.3	|
1519	1.2	10.2	300.0	3.13	6.30	23.8	3056.0	0.08	10.25	-69.5	CLEAR
1520	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1520	SAMPLING ENDED AT: 1530
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 12/23 Not safe to sample due to high water levels and environment conditions.
02/2023 Notes: Micro bubbles
After sample total depth check 22.9 ft toc sump purge black To fouled 0.10 Gal removed hose

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0086**	SAMPLE ID: **CCB-MW0086-035.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.65	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 40**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **40**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
_____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.725 Liters. (50x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	PURGING INITIATED AT: 1310	PURGING ENDED AT: 1349	TOTAL VOLUME PURGED (Liters): 7.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1310	-	-	200	5.70	6.43	25.6	3160	1.08	64.9	-28.9	cloudy
1320	2	2	200	5.71	6.28	25.3	3164	0.24	41.0	-46.4	-
1330	2	4	200	5.71	6.29	25.3	3157	0.21	30.0	-52.3	-
1340	2	6	200	7.71	6.30	25.4	3150	0.14	19.3	-56.5	Clear
1345	1	7	200	7.71	6.30	25.3	3153	0.13	18.0	-56.6	-
1349	0.8	7.8	200	7.71	6.30	25.3	3150	0.13	17.2	-56.7	-
1350	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1350	SAMPLING ENDED AT: 1355
PUMP OR TUBING DEPTH IN WELL (feet): 35.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0088**	SAMPLE ID: **CCB-MW0088-045.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.70	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.775 Liters. (60+0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1320	PURGING ENDED AT: 1339	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1320	-	-	200	3.72	5.95	28.3	2977	0.30	7.54	84.8	Clear
1325	1	1	200	3.79	6.18	28.2	3036	0.19	11.67	75.0	-
1330	1	2	200	3.89	6.30	28.2	3079	0.14	11.98	57.8	-
1335	1	3	200	3.88	6.35	28.2	3091	0.13	8.81	51.1	-
1339	0.8	3.8	200	3.88	6.39	28.1	3109	0.12	5.00	48.7`	-
1340	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1340	SAMPLING ENDED AT: 1345
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D - (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0096R**	SAMPLE ID: **CCB-MW0096R-065.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.62	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **60 to 70**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **60**	BOTTOM DEPTH (feet bls): **70**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.875 Liters. (80x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 65.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 65.0	PURGING INITIATED AT: 1200	PURGING ENDED AT: 1224	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1200	-	-	200	3.30	6.98	27.7	1941	0.20	25.2	-100.1	Clear
1205	1	1	200	4.13	7.08	27.5	1941	0.14	26.4	-113.7	-
1215	2	3	200	4.22	7.15	27.4	1940	0.12	18.7	-120.1	-
1220	1	4	200	4.22	7.16	27.6	1939	0.11	15.6	-119.6	-
1224	0.8	4.8	200	4.22	7.16	27.6	1937	0.12	11.4	-119.0	-
1225	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1225	SAMPLING ENDED AT: 1230
PUMP OR TUBING DEPTH IN WELL (feet): 65.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0109**	SAMPLE ID: **CCB-MW0109-045.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.43	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.775 Liters. (60x0.005) +0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 1045	PURGING ENDED AT: 1059	TOTAL VOLUME PURGED (Liters):2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1045	-	-	200	4.76	6.37	25.2	2914	0.68	14.9	-16.6	Clear
1050	1	1	200	4.73	6.43	25.3	2899	0.34	11.20	-16.5	-
1055	1	2	200	4.73	6.46	25.3	2898	0.24	12.58	-16.7	-
1059	0.8	2.8	200	4.73	6.49	25.3	2898	0.19	7.76	-17.0	-
1100	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1105
PUMP OR TUBING DEPTH IN WELL (feet): 45.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ______	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0113**	SAMPLE ID: **CCB-MW0113-030.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.00	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters = 0.005 + (0.005 x 45.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1355	PURGING ENDED AT: 1419	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1405	3.0	3.0	300.0	3.03	6.50	24.1	2703.0	0.14	10.1	-84.0	Clear
1410	1.5	4.5	|	3.03	6.50	24.1	2706.0	0.12	8.41	-85.2	|
1415	1.5	6.0	|	3.03	6.50	24.1	2706.0	0.12	6.24	-85.5	|
1419	1.2	7.2	300.0	3.03	6.50	24.0	2711.0	0.11	4.44	-88.0	clear
1420	SAMPLE	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1420	SAMPLING ENDED AT: 1430
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:12/2022 thru 02/2023 Not safe to sample due to high water levels and environment conditions.
02/2012 Notes: Micro bubbles
After sample total depth check 38.40 ft toc sump purge gray to clear 0.10 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0114**	SAMPLE ID: **CCB-MW0114-015.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc):3.83	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.605 Liters = 0.005 + (0.005 X 30.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1605	PURGING ENDED AT: 1629	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1615	3.0	3.0	300.0	3.92	6.49	23.5	3035.0	0.19	11.25	-79.0	Clear
1620	1.5	4.5	|	3.92	6.48	23.5	3023.0	0.15	0.99	-83.0	|
1625	1.5	6.0	|	3.92	6.48	23.4	3022.0	0.13	0.33	-86.0	|
1629	1.2	7.2	300.0	3.92	6.48	23.3	3011.0	0.17	0.21	-88.0	Clear
1630	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1630	SAMPLING ENDED AT: 1640
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: ________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 12/23 thru 02/2023 Not safe to sample due to high water levels.
02/2023 Notes; Micro bubbles
After sample total depth check 23.30 ft toc sump purge black fouled to clear 0.40 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0120**	SAMPLE ID: **CCB-MW0120-015.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.35	CASING HEIGHT (feet als): 2.50	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.605 Liters=0.005(0.005 X 30)+0.45+0.605

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1320	PURGING ENDED AT: 1359	TOTAL VOLUME PURGED (Liters): 7.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1330	2.0	2.0	200.0	4.20	6.02	24.82	250.0	0.53	19.5	-3.0	Clear
1335	1.0	3.0	I	4.20	5.80	25.04	327.0	0.45	14.6	11.0	I
1340	1.0	4.0	I	4.20	5.70	25.04	362.0	0.43	16.8	18.5	I
1345	1.0	5.0	I	4.20	5.63	25.04	387.0	0.39	17.2	26.6	I
1350	1.0	6.0	I	4.20	5.62	25.02	390.0	0.37	17.1	29.0	I
1355	1.0	7.0	I	4.20	5.63	25.00	385.0	0.37	16.9	30.0	I
1359	0.8	7.8	200.0	4.20	5.62	24.95	388.0	0.35	16.7	32.0	Clear
1400	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1400	SAMPLING ENDED AT: 1410
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 175.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: After sample total depth check 23.1 Ft toc Sump purge Black To clear 0.40 GAL

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0122**	SAMPLE ID: **CCB-MW0122-025.0-20221208** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/08/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.56	CASING HEIGHT (feet als): 2.9	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.675 Liters.(0.005x40) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 0930	PURGING ENDED AT: 1014	TOTAL VOLUME PURGED (Liters): 13.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (fee)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0940	3.0	3.0	300.0	6.25	4.36	25.0	1999.0	0.12	4.48	145.0	Clear
0945	1.5	4.5	I	6.25	4.42	24.8	2020.0	0.09	1.51	131.0	I
0950	1.5	6.0	I	6.25	4.48	24.8	2052.0	0.07	1.60	123.4	I
0955	1.5	7.5	I	6.25	4.52	24.9	2061.0	0.06	1.15	120.0	i
1000	1.5	9.0	I	6.25	4.57	24.8	2071.0	0.05	3.33	117.0	i
1005	1.5	10.5	I	6.25	4.63	24.9	2161.0	0.05	1.29	116.5	i
1010	1.5	12.0	I	6.25	4.63	24.9	2132.0	0.05	1.08	106.6	I
1015	1.2	13.2	300.0	6.25	4.67	24.9	2108.0	0.05	0.95	106.6	clear
											clear

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel & Aaron Kupper/ Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1015	SAMPLING ENDED AT: 1025

PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE,+HDPE+S

FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________________	DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	4	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 1002 PUMP FAIL/RESTART
after sample total well depth check 33.2 Ft toc. Sump purge brown To fouled 0.10 Gal removed hose

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0125**	SAMPLE ID: **CCB-MW0125-015.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 1.86	CASING HEIGHT (feet als): 2.4	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.40	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.605 Liters=0.005+(0.005 X 30.0) + 0.45

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1430	PURGING ENDED AT: 1454	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1440	3.0	3.0	300.0	2.10	6.42	24.4	2999.0	0.07	4.25	-33.5	Clear
1445	1.5	4.5	I	2.10	6.42	24.4	2996.0	0.05	1.44	-34.1	I
1450	1.5	6.0	I	2.10	6.42	24.4	2990.0	0.05	1.31	-36.2	I
1454	1.2	7.2	300.0	2.10	6.42	24.4	2988.0	0.05	1.19	-36.7	Clear
1455	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75”** = 0.076; **1”** = 0.15; **1.25”** = 0.23; **2”** = 0.61; **3”** = 1.40; **4”** = 2.46; **5”** = 3.86; **6”** = 5.57; **12”** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1455	SAMPLING ENDED AT: 1505
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type:	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 22.80 Ft toc. Sump purge brown & black thick mud to fouled 0.10 Gal removed hose

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0127**	SAMPLE ID: **CCB-MW0127-025.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.55	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.655 Liters.= 0.005 + (0.005 x 40.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1030	PURGING ENDED AT: 1054	TOTAL VOLUME PURGED (Liters): 6.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1040	2.50	2.50	250.0	2.60	6.43	24.0	2150.0	0.24	12.7	+18.0	clear
1045	1.25	3.75	|	2.60	6.45	24.0	2157.0	0.22	1.15	+4.0	|
1050	1.25	5.00	|	2.60	6.45	24.0	2161.0	0.20	0	-6.5	|
1054	1.00	6.00	250.0	2.60	6.45	24.0	2165.0	0.18	0	-16.0	clear
1055											

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1055	SAMPLING ENDED AT: 1105
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 225,0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 12/2022 thru 02/2023 Not safe to sample due to high water levels and environmental conditions.
02/2023 Notes:Micro bubbles
After sample total depth check 33.0 ft toc sump purge black fouled to clear 0.50 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0128**	SAMPLE ID: **CCB-MW0128-015.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.41	CASING HEIGHT (feet als): -0.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): 3.40	WELL SCREEN INTERVAL DEPTH (feet bls): **10 to 20**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **10**	BOTTOM DEPTH (feet bls): **20**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.605 Liters = 0.005 +(0.005 X 30.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 15.0	PURGING INITIATED AT: 1140	PURGING ENDED AT: 1204	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1150	3.0	3.0	300.0	2.60	6.46	24.9	2272.0	0.11	11.5	-60.0	Clear
1155	1.5	4.5	|	2.60	6.44	25.0	2275.0	0.08	1.82	-65.5	|
1200	1.5	6.0	|	2.60	6.46	25.0	2273.0	0.08	1.39	-69.0	|
1204	1.2	7.2	300.0	2.60	6.46	25.2	2273.0	0.08	1.22	-71.5	Clear
1205	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel /Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1205	SAMPLING ENDED AT: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 15.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 12/2022 thru 02/2023 Not Safe to sample due to high water levels and environmental conditions.
02/2023 Notes; Micro bubbles
After sample total depth check 23.10 ft toc sump purge black to fouled 0.30 gal removed hose

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0129**	SAMPLE ID: **CCB-MW0129-035.0-20230201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **02/01/2023**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.06	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 40**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **40**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.705 Liters. = 0.005 + (0.005 X 50.0) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	PURGING INITIATED AT: 1240	PURGING ENDED AT: 1304	TOTAL VOLUME PURGED (Liters): 6.0

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1250	2.50	2.50	250.00	2.42	6.60	24.9	3195.0	0.09	1.25	-111.5	Clear/bmsf
1255	1.25	3.75	|	2.42	6.56	25.2	3190.0	0.06	0	-98.5	|
1300	1.25	5.00	|	2.42	6.56	25.0	3194.0	0.08	0	-98.0	|
1304	1.00	6.00	250.0	2.42	6.54	25.2	3198.0	0.08	0	-93.0	Clear/bmsf
1305	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1305	SAMPLING ENDED AT: 1315
PUMP OR TUBING DEPTH IN WELL (feet): 35.0	SAMPLE PUMP FLOW RATE (mL per minute): 225.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	3	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	3	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: 12/2022 thru 02/2023 Not safe to sample due to high water levels and environmental conditions.
02/2023 notes Bmsf = Black Micro Spots Floaters / Ref. photos taken
After sample total depth check 43.0 ft toc sump purge black to clear 0.30 gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0130**	SAMPLE ID: **CCB-MW0130-030.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.84	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

_____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters =0.005+(0.005 X 45)+0.45=0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1245	PURGING ENDED AT:1319	TOTAL VOLUME PURGED (Liters): 10.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1255	3.0	3.0	300.0	2.88	6.45	24.7	2855.0	0.03	43.5	-47.5	Clear
1300	1.5	4.5	I	2.88	6.45	24.6	2858.0	0.02	28.3	-43.5	I
1305	1.5	6.0	I	2.88	6.46	24.6	2853.0	0.02	11.8	-39.0	I
1310	1.5	7.5	I	2.88	6.46	24.5	2840.0	0.01	7.09	-36.5	I
1315	1.5	9.0	I	2.88	6.46	24.4	2841.0	0.02	3.40	-35.0	I
1319	1.2	10.2	300.0	2.88	6.46	24.4	2842.0	0.02	2.02	-36.5	clear
1320	sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1320	SAMPLING ENDED AT: 1330
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type: __________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check. 38.1 Ft toc. Sump purge. Gray To clear 0.50 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0131**	SAMPLE ID: **CCB-MW0131-030.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.12	CASING HEIGHT (feet als): 2.50	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.68 Liters =0.005+(0.005 X 45.0)+0.45=0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1135	PURGING ENDED AT: 1159	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1145	3.0	3.0	300.0	3.17	6.00	24.3	3312.0	0.15	0.35	-111.0	Clear
1150	1.5	4.5	I	3.17	6.01	24.2	3336.0	0.10	0.18	-112.0	I
1155	1.5	6.0	I	3.17	6.02	24.3	3334.0	0.09	0.12	-112.0	I
1159	1.2	7.2	300.0	3.17	6.03	24.3	3329.0	0.08	0.18	-112.0	clear
1200	sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1200	SAMPLING ENDED AT: 1210
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute):275.0	TUBING MATERIAL CODE: T+HDPE+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: after sample total depth check 38.4. Ft toc. Sump purge clear To clear 0.20 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0132**	SAMPLE ID: **CCB-MW0132-030.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.07	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (45x0.005) +0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1055	PURGING ENDED AT: 1109	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1055	-	-	200	4.1	6.23	24.7	3106	0.25	16.4	-26.5	Clear
1100	1	1	200	4.10	6.22	24.7	3092	0.,14	5.16	-62.3	-
1105	1	2	200	4.10	6.23	24.7	3099	0.12	4.08	-75.0	-
1109	0.8	2.8	200	4.10	6.23	24.7	3104	0.12	1.88	-77.3	-
1110	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1110	SAMPLING ENDED AT: 1115
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0133**	SAMPLE ID: **CCB-MW0133-030.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.25	CASING HEIGHT (feet als): 2.60	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.70 Liters. (45x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT:0815	PURGING ENDED AT: 0839	TOTAL VOLUME PURGED (Liters): 4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0815	-	-	200	3.3	5.82	23.1	2740	0.89	50.6	-44.9	clear
0820	1	1	200	3.3	6.00	23.5	2808	0.23	70.3	-63.0	Clear -Sediment present
0830	2	3	200	3.3	6.15	23.5	2886	0.23	19.6	-64.5	Clear
0835	1	4	200	3.3	6.17	23.5	2926	0.20	16.1	-53.9	-
0839	0.8	4.8	200	3.3	6.19	23.5	2926	0.17	14.4	-64.0	-
0840	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0840	SAMPLING ENDED AT: 0845
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**

LOCATION ID: **MW0134**	SAMPLE ID: **CCB-MW0134-025.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.94	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 0900	PURGING ENDED AT: 0944	TOTAL VOLUME PURGED (Liters): 8.35

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0900	-	-	200	4.26	4.04	23.3	3735	0.31	28.3	216.0	Clear
0905	1	1	200	4.30	3.90	23.6	3980	0.14	38.8	202.2	Clear – Sediment
0915	2	3	200	4.30	3.84	23.8	4108	0.10	35.8	190.5	-
0925	2.5	5.5	250	4.34	3.83	24.0	4141	0.08	94.1	175.5	-
0935	1.5	7.0	150	4.25	3.84	23.9	4129	0.09	Over Range	167.0	Cloudy
0940	.75	7.75	150	4.25	3.84	23.9	4116	0.09	Over Range	163.0	-
0944	0.6	8.35	150	4.25	3.85	23.9	4109	0.09	Over Range	159.8	-
0945	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 0945	SAMPLING ENDED AT: 0950
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:
Could not get Turbidity less than 20NTU, Sampled per FDEP FS2200

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0135**	SAMPLE ID: **CCB-MW0135-030.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.26	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (45x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1005	PURGING ENDED AT: 1034	TOTAL VOLUME PURGED (Liters): 5.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1005	-	-	200	4.34	5.78	24.2	3461	0.52	87.6	-48.7	Cloudy
1015	2	2	200	4.35	6.05	24.3	3518	0.22	41.2	-85.2	Clear
1025	2	4	200	4.35	6.11	24.4	3509	0.17	16.3	-91.2	-
1030	1	5	200	4.35	6.12	24.3	3508	0.16	12.13	-91.8	-
1034	0.8	5.8	200	4.35	6.12	24.4	3505	0.15	9.35	-92.2	-
1035	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75”** = 0.076; **1”** = 0.15; **1.25”** = 0.23; **2”** = 0.61; **3”** = 1.40; **4”** = 2.46; **5”** = 3.86; **6”** = 5.57; **12”** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1035	SAMPLING ENDED AT: 1040
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0136**	SAMPLE ID: **CCB-MW0136-030.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.26	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.70 Liters (0.005x45) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 30.0	PURGING INITIATED AT: 1135	PURGING ENDED AT: 1154	TOTAL VOLUME PURGED (Liters): 3.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1135	-	-	200	4.32	5.00	25.3	1181	0.58	36.5	120.2	Clear
1145	2	2	200	4,31	5.07	25.3	464	0.18	19.6	88.9	-
1150	1	3	200	4.31	5.05	25.1	455.9	0.14	19.3	82.3	-
1154	0.8	3.8	200	4.31	5.05	25.2	461.6	0.13	16.1	79.0	-
1155	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1155	SAMPLING ENDED AT: 1200
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0137**	SAMPLE ID: **CCB-MW0137-025.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.15	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1440	PURGING ENDED AT: 1534	TOTAL VOLUME PURGED (Liters): 10.35

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1440	-	-	200	6.01	3.44	25.3	1853	0.71	12.80	225.8	Clear
1445	1	1	200	6.10	4.63	25.1	1265	0.51	11.21	137.0	-
1450	1	2	200	6.10	4.83	25.0	1260	0.24	21.5	114.1	-
1455	1	3	200	6.10	4.81	25.0	1287	0.15	24.2	114.4	-
1505	2	5	200	6.10	4.83	25.0	1282	0.13	27.0	100.5	Slight yellow
1515	2.5	7.5	250	6.14	4.81	25.0	1268	0.10	31.7	97.7	-
1525	1.5	9	150	6.09	4.82	24.9	1417	0.15	43.9	96.0	-
1530	0.75	9.75	150	6.09	4.79	25.0	1378	0.14	44.7	95.4	-
1534	0.6	10.35	150	6.09	4.79	25.0	1372	0.14	43.2	93.9	-
1535	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1535	SAMPLING ENDED AT: 1540
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 150	TUBING MATERIAL CODE: HDPE, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: Could not get turbidity less then 20 NTU's. Sampled per FDEP FS2200

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0138**	SAMPLE ID: **CCB-MW0138-035.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.74	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **30 to 40**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **30**	BOTTOM DEPTH (feet bls): **40**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

____0.725________Liters. (50x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 35.0	PURGING INITIATED AT: 1405	PURGING ENDED AT: 1419	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1405	-	-	200	4.75	6.2	25.2	3464	0.80	19.8	-74.2	Clear
1410	1	1	200	4.75	6.17	25.1	3514	0.62	7.13	-89.7	-
1415	1	2	200	4.75	6.17	25.0	3516	0.16	7.43	-93.0	-
1419	0.8	2.8	200	4.75	6.17	25.0	3516	0.18	3.73	-94.0	-
1420	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75”** = 0.076; **1”** = 0.15; **1.25”** = 0.23; **2”** = 0.61; **3”** = 1.40; **4”** = 2.46; **5”** = 3.86; **6”** = 5.57; **12”** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1420	SAMPLING ENDED AT: 1425
PUMP OR TUBING DEPTH IN WELL (feet): 35.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: ____ µm Filtration Equipment Type:____________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0142**	SAMPLE ID: **CCB-MW0142-025.0-20221201** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/01/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 3.14	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1500	PURGING ENDED AT: 1524	TOTAL VOLUME PURGED (Liters):4.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1500	-	-	200	5.56	3.49	27.4	2672	0.21	8.44	278.3	Clear
1505	1	1	200	6.79	3.74	27.7	2678	0.13	49.0	210.9	Slight green
1515	2	3	200	7.23	3.96	27.8	2966	0.09	12.3	189.4	clear
1520	1	4	200	7.23	3.97	27.8	2984	0.09	6.12	186.6	-
1524	0.8	4.8	200	7.23	4.00	27.8	3048	0.08	3.04	178.3	-
1525	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1525	SAMPLING ENDED AT: 1530
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0144**	SAMPLE ID: **CCB-MW0144-025.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 2.88	CASING HEIGHT (feet als): NA	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **20 to 30**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **20**	BOTTOM DEPTH (feet bls): **30**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.675 Liters. (40x0.005) + 0.475

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1530	PURGING ENDED AT: 1544	TOTAL VOLUME PURGED (Liters): 2.8

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1530	-	-	200	3.19	3.50	26.6	3471	0.30	14.1	221.9	Clear
1535	1	1	200	3.17	3.60	26.6	3396	0.26	8.51	209.0	-
1540	1	2	200	3.17	3.65	26.6	3399	0.20	7.31	196.0	-
1544	0.8	2.8	200	3.17	3.65	26.7	3402	0.20	7.10	199.1	-
1545	Sample	Collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Aaron Kupper / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1545	SAMPLING ENDED AT: 1550
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 200	TUBING MATERIAL CODE: Teflon, S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0147**	SAMPLE ID: **CCB-MW0147-025.0-20221205** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/05/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 4.08	CASING HEIGHT (feet als): 3.2	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **25 to 35**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **25**	BOTTOM DEPTH (feet bls): **35**

WELL VOLUME PURGE: **1 WELL VOLUME** = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters

EQUIPMENT VOLUME PURGE: **1 EQUIPMENT VOL.** = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.7 Liters=0.005+(0.005 X 45.0)+0.45=0.68

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 25.0	PURGING INITIATED AT: 1035	PURGING ENDED AT: 1059	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (μS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
1045	3.00	3.0	300.0	4.15	6.13	23.4	690.0	0.31	0.02	-72.6	clear
1050	1.50	4.5	I	4.15	6.15	23.5	697.0	0.32	0.15	-83.9	I
1055	1.50	6.0	I	4.15	6.17	23.5	705.0	0.25	0.04	-91.0	I
1059	1.20	7.2	300.0	4.15	6.18	23.5	706.0	0.22	0.17	-95.0	Clear
1100	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT: 1100	SAMPLING ENDED AT: 1110
PUMP OR TUBING DEPTH IN WELL (feet): 25.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+s	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ μm Filtration Equipment Type: ________________	DUPLICATE: Y **(N)**	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D – (MOD) NASA LC34 Custom	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D – (MOD) NASA LC34 Custom	APP

REMARKS: down well hole in hose removed damaged end 5 ft
After sample total depth check 33.6 ft toc sump purge clear To clear 0.20 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

Tetra Tech, Inc. / FDEP Groundwater Sampling Sheet

SITE NAME: **Converter Compressor Building (CCB)**	SITE LOCATION: **Kennedy Space Center (KSC), FL**	
LOCATION ID: **MW0148**	SAMPLE ID: **CCB-MW0148-045.0-20221206** Sample depth (ddd.d)=[bottom of screen (feet bls)-Top depth] x 0.5-bottom of screen (feet bls)	DATE: **12/06/2022**

PURGING DATA

STATIC DEPTH TO WATER (feet btoc): 5.97	CASING HEIGHT (feet als): 3.0	STATIC DEPTH TO WATER (feet bls) = DTW (btoc) - Casing Height (feet als): NA	WELL SCREEN INTERVAL DEPTH (feet bls): **40 to 50**

WELL DIAMETER (inches): 1	TUBING DIAMETER (inches): **3/16**	PURGE PUMP TYPE OR BAILER: **Peristaltic Pump**	TOP DEPTH = top of screen or depth to water which ever is greatest (feet bls): **40**	BOTTOM DEPTH (feet bls): **50**

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)

____________Liters.

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)

0.755 Liters.=0.005+(0.005 X 60)=0.45=0.755

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 45.0	PURGING INITIATED AT: 0810	PURGING ENDED AT: 0834	TOTAL VOLUME PURGED (Liters): 7.2

TIME	VOLUME PURGED (Liters)	CUMUL. VOLUME PURGED (Liters)	PURGE RATE (mlpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (^{O}C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	ORP (mV)	COLOR (describe)
0820	3.0	3.0	300.0	6.16	6.80	22.9	840.0	0.24	3.70	-97.0	CLEAR
0825	1.5	4.5	I	6.16	6.73	22.9	828.0	0.21	1.51	-96.0	I
0830	1.5	6.0	I	6.16	6.71	22.9	821.0	0.20	0.75	-95.5	I
0834	1.2	7.2	300.0	6.16	6.70	22.9	819.0	0.16	0.52	-95.2	Clear
0835	Sample	collected									

WELL CAPACITY (Liters Per Foot): **0.75"** = 0.076; **1"** = 0.15; **1.25"** = 0.23; **2"** = 0.61; **3"** = 1.40; **4"** = 2.46; **5"** = 3.86; **6"** = 5.57; **12"** = 22.26
TUBING INSIDE DIA. CAPACITY (Liters/Ft.): **1/8"** = 0.002; **3/16"** = 0.005; **1/4"** = 0.0098; **5/16"** = 0.015; **3/8"** = 0.023; **1/2"** = 0.038; **5/8"** = 0.09

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Robert Siegel / Tetra Tech	SAMPLER(S) SIGNATURES:	SAMPLING INITIATED AT:0835	SAMPLING ENDED AT: 0845
PUMP OR TUBING DEPTH IN WELL (feet): 30.0	SAMPLE PUMP FLOW RATE (mL per minute): 275.0	TUBING MATERIAL CODE: T+S	
FIELD DECONTAMINATION: **(Y)** N	FIELD-FILTERED: Y **(N)** FILTER SIZE: _____ µm Filtration Equipment Type: ______________		DUPLICATE: Y **(N)**

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH		
1	2	CG	40 mL	NONE/4°C	N/A	See above	8260D TCL SOM01.2 CLP-LIKE (ENCO)	APP
2	2	CG	40 mL	HCl/4°C	N/A	<2	8260D TCL SOM01.2 CLP-LIKE (ENCO)	APP

REMARKS: after sample total depth check 53.65 Ft toc sump purge pale brown To clear 0.30 Gal

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **PE** = Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING/PURGING EQUIPMENT CODES: **APP** = After Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP =** Peristaltic Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **VT** = Vacuum Trap; **O** = Other (Specify)

APPENDIX C

LABORATORY ANALYTICAL REPORTS

(PROVIDED IN ELECTRONIC VERSION ONLY)

National Aeronautics and
Space Administration

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Matt Foti

Signature ________________________ Date 2/21/2023

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eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC CCB

JOB NUMBER

670-10668-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Eurofins Orlando

Job Notes

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization

Authorized for release by
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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Job ID: 670-10668-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-10668-1

Comments
No additional comments.

Receipt
The samples were received on 12/3/2022 11:24 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 5.6º C.

GC/MS VOA
Methods 8260C, 8260D: The continuing calibration verification (CCV) associated with batch 860-80648 recovered above the upper control limit for Trichlorofluoromethane. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated sample is impacted: (CCVIS 860-80648/2).

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0016-015.0-20221201 (670-10668-7), CCB-MW0037-045.0-20221201 (670-10668-8), CCB-MW0036-025.0-20221201 (670-10668-9) and CCB-MW0120-015.0-20221201 (670-10668-10) .

Method 8260D: The following sample was diluted to bring the concentration of target analytes within the calibration range: CCB-MW0021-015.0-20221201 (670-10668-6). Elevated reporting limits (RLs) are provided.

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0096R-065.0-20221201 (670-10668-1), CCB-MW0050-025.0-202221201 (670-10668-2), CCB-MW0088-045.0-20221201 (670-10668-3), CCB-MW0048-025.0-20221201 (670-10668-4), CCB-MW0142-025.0-20221201 (670-10668-5), CCB-MW0021-015.0-20221201 (670-10668-6), CCB-MW0016-015.0-20221201 (670-10668-7), CCB-MW0037-045.0-20221201 (670-10668-8), CCB-MW0036-025.0-20221201 (670-10668-9), CCB-MW0120-015.0-20221201 (670-10668-10), CCB-MW0067-025.0-20221201 (670-10668-11) and CCB-MW0068-045.0-20221201 (670-10668-12) .

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0021-015.0-20221201 (670-10668-6), CCB-MW0067-025.0-20221201 (670-10668-11) and CCB-MW0068-045.0-20221201 (670-10668-12) .

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Client Sample ID: CCB-MW0096R-065.0-20221201 — Lab Sample ID: 670-10668-1

No Detections.

Client Sample ID: CCB-MW0050-025.0-202221201 — Lab Sample ID: 670-10668-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	6.0		5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.2		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0088-045.0-20221201 — Lab Sample ID: 670-10668-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	35		5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	18		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	9.7		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0048-025.0-20221201 — Lab Sample ID: 670-10668-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.5	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.6		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0142-025.0-20221201 — Lab Sample ID: 670-10668-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	7.0		5.0	0.79	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0021-015.0-20221201 — Lab Sample ID: 670-10668-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethene	3.0		1.0	0.74	ug/L	1		8260D	Total/NA
Vinyl chloride	2.8		2.0	0.64	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	4.8		1.0	0.95	ug/L	1		8260D	Total/NA
Trichloroethene - DL	2300		200	32	ug/L	40		8260D	Total/NA
cis-1,2-Dichloroethene - DL	570		40	29	ug/L	40		8260D	Total/NA

Client Sample ID: CCB-MW0016-015.0-20221201 — Lab Sample ID: 670-10668-7

No Detections.

Client Sample ID: CCB-MW0037-045.0-20221201 — Lab Sample ID: 670-10668-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	6.7		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - RA	4.0		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0036-025.0-20221201 — Lab Sample ID: 670-10668-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene - RA	6.9		5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - RA	5.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0120-015.0-20221201 — Lab Sample ID: 670-10668-10

No Detections.

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Client Sample ID: CCB-MW0067-025.0-20221201 — Lab Sample ID: 670-10668-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.0	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	43		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	110		1.0	0.71	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	8.9		1.0	0.95	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0068-045.0-20221201 — Lab Sample ID: 670-10668-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	21		2.0	0.64	ug/L	1		8260D	Total/NA
Trichloroethene - RA	2.4	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene - RA	4.4		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CCB-MW0096R-065.0-20221201
Lab Sample ID: 670-10668-1
Date Collected: 12/01/22 12:25
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:07	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 10:07	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 10:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 10:07	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 10:07	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:07	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 10:07	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 10:07	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 10:07	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 10:07	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 10:07	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:07	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 10:07	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 10:07	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:07	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:07	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 10:07	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 10:07	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 10:07	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 10:07	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:07	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 10:07	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 10:07	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 10:07	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 10:07	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 10:07	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 10:07	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:07	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 10:07	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 10:07	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 10:07	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 10:07	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 10:07	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 10:07	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 10:07	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 10:07	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 10:07	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 10:07	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 10:07	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 10:07	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 10:07	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 10:07	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:07	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 10:07	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 10:07	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 10:07	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 10:07	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 10:07	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 10:07	1

Client Sample ID: CCB-MW0096R-065.0-20221201 Lab Sample ID: 670-10668-1

Date Collected: 12/01/22 12:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 10:07	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 10:07	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 10:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 10:07*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*12/07/22 10:07*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 10:07*	*1*
Toluene-d8 (Surr)	*98*		*80 - 117*		*12/07/22 10:07*	*1*

Client Sample ID: CCB-MW0050-025.0-202221201 Lab Sample ID: 670-10668-2

Date Collected: 12/01/22 12:55 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:26	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 10:26	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 10:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 10:26	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 10:26	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:26	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 10:26	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 10:26	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 10:26	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 10:26	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 10:26	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:26	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 10:26	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 10:26	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:26	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:26	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 10:26	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 10:26	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 10:26	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 10:26	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:26	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 10:26	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 10:26	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 10:26	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 10:26	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 10:26	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 10:26	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:26	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 10:26	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 10:26	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 10:26	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 10:26	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 10:26	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 10:26	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Client Sample ID: CCB-MW0050-025.0-202221201

Lab Sample ID: 670-10668-2

Date Collected: 12/01/22 12:55
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 10:26	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 10:26	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 10:26	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 10:26	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 10:26	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 10:26	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 10:26	1
Trichloroethene	**6.0**		5.0	0.79	ug/L			12/07/22 10:26	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:26	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 10:26	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 10:26	1
cis-1,2-Dichloroethene	**1.2**		1.0	0.71	ug/L			12/07/22 10:26	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 10:26	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 10:26	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 10:26	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 10:26	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 10:26	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 10:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 10:26*	*1*
4-Bromofluorobenzene (Surr)	*109*		*74 - 124*		*12/07/22 10:26*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 10:26*	*1*
Toluene-d8 (Surr)	*102*		*80 - 117*		*12/07/22 10:26*	*1*

Client Sample ID: CCB-MW0088-045.0-20221201

Lab Sample ID: 670-10668-3

Date Collected: 12/01/22 13:40
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:45	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 10:45	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 10:45	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 10:45	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 10:45	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:45	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 10:45	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 10:45	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 10:45	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 10:45	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 10:45	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:45	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 10:45	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 10:45	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:45	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 10:45	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 10:45	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 10:45	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 10:45	1

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0088-045.0-20221201 Lab Sample ID: 670-10668-3

Date Collected: 12/01/22 13:40 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/07/22 10:45	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:45	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 10:45	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 10:45	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 10:45	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 10:45	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 10:45	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 10:45	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 10:45	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 10:45	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 10:45	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 10:45	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 10:45	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 10:45	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 10:45	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 10:45	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 10:45	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 10:45	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 10:45	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 10:45	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 10:45	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 10:45	1
Trichloroethene	**35**		5.0	0.79	ug/L			12/07/22 10:45	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 10:45	1
Vinyl chloride	**18**		2.0	0.64	ug/L			12/07/22 10:45	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 10:45	1
cis-1,2-Dichloroethene	**9.7**		1.0	0.71	ug/L			12/07/22 10:45	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 10:45	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 10:45	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 10:45	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 10:45	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 10:45	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 10:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 10:45*	*1*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*		*12/07/22 10:45*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 10:45*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/07/22 10:45*	*1*

Client Sample ID: CCB-MW0048-025.0-20221201 Lab Sample ID: 670-10668-4

Date Collected: 12/01/22 14:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:04	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 11:04	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 11:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 11:04	1

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0048-025.0-20221201 Lab Sample ID: 670-10668-4

Date Collected: 12/01/22 14:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 11:04	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:04	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 11:04	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 11:04	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 11:04	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 11:04	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 11:04	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:04	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 11:04	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 11:04	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:04	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:04	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 11:04	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 11:04	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 11:04	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 11:04	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:04	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 11:04	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 11:04	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 11:04	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 11:04	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 11:04	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 11:04	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:04	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 11:04	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 11:04	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 11:04	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 11:04	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 11:04	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 11:04	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 11:04	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 11:04	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 11:04	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 11:04	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 11:04	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 11:04	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 11:04	1
Trichloroethene	**4.5**	**I**	5.0	0.79	ug/L			12/07/22 11:04	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:04	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 11:04	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 11:04	1
cis-1,2-Dichloroethene	**1.6**		1.0	0.71	ug/L			12/07/22 11:04	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 11:04	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 11:04	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 11:04	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 11:04	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 11:04	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 11:04	1

Client Sample ID: CCB-MW0048-025.0-20221201 **Lab Sample ID: 670-10668-4**
Date Collected: 12/01/22 14:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*		*12/07/22 11:04*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*12/07/22 11:04*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/07/22 11:04*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/07/22 11:04*	*1*

Client Sample ID: CCB-MW0142-025.0-20221201 **Lab Sample ID: 670-10668-5**
Date Collected: 12/01/22 15:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:23	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 11:23	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 11:23	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 11:23	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 11:23	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:23	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 11:23	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 11:23	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 11:23	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 11:23	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 11:23	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:23	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 11:23	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 11:23	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:23	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:23	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 11:23	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 11:23	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 11:23	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 11:23	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:23	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 11:23	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 11:23	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 11:23	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 11:23	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 11:23	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 11:23	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:23	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 11:23	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 11:23	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 11:23	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 11:23	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 11:23	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 11:23	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 11:23	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 11:23	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 11:23	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 11:23	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 11:23	1

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Client Sample ID: CCB-MW0142-025.0-20221201 Lab Sample ID: 670-10668-5

Date Collected: 12/01/22 15:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 11:23	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 11:23	1
Trichloroethene	**7.0**		5.0	0.79	ug/L			12/07/22 11:23	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:23	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 11:23	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 11:23	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 11:23	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 11:23	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 11:23	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 11:23	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 11:23	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 11:23	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 11:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*12/07/22 11:23*	*1*
4-Bromofluorobenzene (Surr)	*116*		*74 - 124*		*12/07/22 11:23*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*12/07/22 11:23*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*12/07/22 11:23*	*1*

Client Sample ID: CCB-MW0021-015.0-20221201 Lab Sample ID: 670-10668-6

Date Collected: 12/01/22 16:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:42	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 11:42	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 11:42	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 11:42	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 11:42	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:42	1
1,1-Dichloroethene	**3.0**		1.0	0.74	ug/L			12/07/22 11:42	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 11:42	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 11:42	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 11:42	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 11:42	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:42	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 11:42	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 11:42	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:42	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 11:42	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 11:42	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 11:42	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 11:42	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 11:42	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:42	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 11:42	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 11:42	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 11:42	1

Client Sample ID: CCB-MW0021-015.0-20221201 Lab Sample ID: 670-10668-6

Date Collected: 12/01/22 16:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 11:42	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 11:42	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 11:42	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 11:42	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 11:42	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 11:42	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 11:42	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 11:42	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 11:42	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 11:42	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 11:42	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 11:42	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 11:42	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 11:42	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 11:42	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 11:42	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 11:42	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 11:42	1
Vinyl chloride	**2.8**		2.0	0.64	ug/L			12/07/22 11:42	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 11:42	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 11:42	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 11:42	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 11:42	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 11:42	1
trans-1,2-Dichloroethene	**4.8**		1.0	0.95	ug/L			12/07/22 11:42	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 11:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*12/07/22 11:42*	*1*
4-Bromofluorobenzene (Surr)	*111*		*74 - 124*		*12/07/22 11:42*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*12/07/22 11:42*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/07/22 11:42*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - DL

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**2300**		200	32	ug/L			12/07/22 18:00	40
cis-1,2-Dichloroethene	**570**		40	29	ug/L			12/07/22 18:00	40

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*		*12/07/22 18:00*	*40*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/07/22 18:00*	*40*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 18:00*	*40*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/07/22 18:00*	*40*

Client Sample ID: CCB-MW0016-015.0-20221201 Lab Sample ID: 670-10668-7

Date Collected: 12/01/22 17:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:01	1

Client Sample ID: CCB-MW0016-015.0-20221201 **Lab Sample ID: 670-10668-7**
Date Collected: 12/01/22 17:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 12:01	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 12:01	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 12:01	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 12:01	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:01	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 12:01	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 12:01	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 12:01	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 12:01	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 12:01	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:01	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 12:01	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 12:01	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:01	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:01	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 12:01	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 12:01	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 12:01	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 12:01	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:01	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 12:01	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 12:01	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 12:01	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 12:01	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 12:01	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 12:01	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:01	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 12:01	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 12:01	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 12:01	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 12:01	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 12:01	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 12:01	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 12:01	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 12:01	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 12:01	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 12:01	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 12:01	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 12:01	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 12:01	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:01	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 12:01	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 12:01	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 12:01	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 12:01	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 12:01	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 12:01	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 12:01	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 12:01	1

Client: Tetra Tech, Inc. Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0016-015.0-20221201 Lab Sample ID: 670-10668-7

Date Collected: 12/01/22 17:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*97*		*63 - 144*		*12/07/22 12:01*	*1*
4-Bromofluorobenzene (Surr)	*111*		*74 - 124*		*12/07/22 12:01*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*12/07/22 12:01*	*1*
Toluene-d8 (Surr)	*98*		*80 - 117*		*12/07/22 12:01*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 15:19	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 15:19	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/07/22 15:19*	*1*
4-Bromofluorobenzene (Surr)	*106*		*74 - 124*		*12/07/22 15:19*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*12/07/22 15:19*	*1*
Toluene-d8 (Surr)	*111*		*80 - 117*		*12/07/22 15:19*	*1*

Client Sample ID: CCB-MW0037-045.0-20221201 Lab Sample ID: 670-10668-8

Date Collected: 12/01/22 11:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:20	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 12:20	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 12:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 12:20	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 12:20	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:20	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 12:20	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 12:20	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 12:20	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 12:20	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 12:20	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:20	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 12:20	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 12:20	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:20	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:20	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 12:20	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 12:20	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 12:20	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 12:20	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:20	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 12:20	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 12:20	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 12:20	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 12:20	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 12:20	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 12:20	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:20	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 12:20	1

Client Sample ID: CCB-MW0037-045.0-20221201
Lab Sample ID: 670-10668-8
Date Collected: 12/01/22 11:25
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 12:20	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 12:20	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 12:20	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 12:20	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 12:20	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 12:20	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 12:20	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 12:20	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 12:20	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 12:20	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 12:20	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 12:20	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:20	1
Vinyl chloride	**6.7**		2.0	0.64	ug/L			12/07/22 12:20	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 12:20	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 12:20	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 12:20	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 12:20	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 12:20	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 12:20	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 12:20	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*12/07/22 12:20*	*1*
4-Bromofluorobenzene (Surr)	*111*		*74 - 124*		*12/07/22 12:20*	*1*
Dibromofluoromethane (Surr)	*105*		*75 - 131*		*12/07/22 12:20*	*1*
Toluene-d8 (Surr)	*107*		*80 - 117*		*12/07/22 12:20*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 15:38	1
cis-1,2-Dichloroethene	**4.0**		1.0	0.71	ug/L			12/07/22 15:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/07/22 15:38*	*1*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*		*12/07/22 15:38*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*12/07/22 15:38*	*1*
Toluene-d8 (Surr)	*107*		*80 - 117*		*12/07/22 15:38*	*1*

Client Sample ID: CCB-MW0036-025.0-20221201
Lab Sample ID: 670-10668-9
Date Collected: 12/01/22 12:35
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:39	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 12:39	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 12:39	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 12:39	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 12:39	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:39	1

Client Sample ID: CCB-MW0036-025.0-20221201
Date Collected: 12/01/22 12:35
Date Received: 12/03/22 11:24

Lab Sample ID: 670-10668-9
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 12:39	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 12:39	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 12:39	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 12:39	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 12:39	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:39	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 12:39	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 12:39	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:39	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:39	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 12:39	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 12:39	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 12:39	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 12:39	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:39	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 12:39	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 12:39	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 12:39	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 12:39	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 12:39	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 12:39	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:39	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 12:39	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 12:39	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 12:39	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 12:39	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 12:39	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 12:39	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 12:39	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 12:39	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 12:39	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 12:39	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 12:39	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 12:39	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 12:39	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:39	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 12:39	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 12:39	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 12:39	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 12:39	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 12:39	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 12:39	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 12:39	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 12:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 12:39*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*12/07/22 12:39*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*12/07/22 12:39*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/07/22 12:39*	*1*

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: CCB-MW0036-025.0-20221201 Lab Sample ID: 670-10668-9

Date Collected: 12/01/22 12:35 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	6.9		5.0	0.79	ug/L			12/07/22 15:57	1
cis-1,2-Dichloroethene	5.4		1.0	0.71	ug/L			12/07/22 15:57	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/07/22 15:57*	*1*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*12/07/22 15:57*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*12/07/22 15:57*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/07/22 15:57*	*1*

Client Sample ID: CCB-MW0120-015.0-20221201 Lab Sample ID: 670-10668-10

Date Collected: 12/01/22 14:00 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:58	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 12:58	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 12:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 12:58	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 12:58	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:58	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 12:58	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 12:58	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 12:58	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 12:58	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 12:58	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:58	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 12:58	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 12:58	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:58	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:58	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 12:58	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 12:58	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 12:58	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 12:58	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:58	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 12:58	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 12:58	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 12:58	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 12:58	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 12:58	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 12:58	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:58	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 12:58	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 12:58	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 12:58	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 12:58	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 12:58	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 12:58	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 12:58	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: CCB-MW0120-015.0-20221201

Lab Sample ID: 670-10668-10

Date Collected: 12/01/22 14:00
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 12:58	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 12:58	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 12:58	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 12:58	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 12:58	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 12:58	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:58	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 12:58	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 12:58	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 12:58	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 12:58	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 12:58	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 12:58	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 12:58	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 12:58	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 12:58	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 12:58*	*1*
4-Bromofluorobenzene (Surr)	*115*		*74 - 124*		*12/07/22 12:58*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*12/07/22 12:58*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*12/07/22 12:58*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 16:16	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*		*12/07/22 16:16*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*12/07/22 16:16*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*12/07/22 16:16*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/07/22 16:16*	*1*

Client Sample ID: CCB-MW0067-025.0-20221201

Lab Sample ID: 670-10668-11

Date Collected: 12/01/22 15:05
Matrix: Ground Water
Date Received: 12/03/22 11:24

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:17	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 13:17	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 13:17	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 13:17	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 13:17	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:17	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 13:17	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 13:17	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 13:17	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 13:17	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 13:17	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:17	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Client Sample ID: CCB-MW0067-025.0-20221201

Lab Sample ID: 670-10668-11

Date Collected: 12/01/22 15:05
Date Received: 12/03/22 11:24

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 13:17	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 13:17	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:17	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:17	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 13:17	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 13:17	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 13:17	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 13:17	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 13:17	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 13:17	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 13:17	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 13:17	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 13:17	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 13:17	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 13:17	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 13:17	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 13:17	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 13:17	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 13:17	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 13:17	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 13:17	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 13:17	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 13:17	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 13:17	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 13:17	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 13:17	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 13:17	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 13:17	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 13:17	1
Trichloroethene	**1.0**	**I**	5.0	0.79	ug/L			12/07/22 17:19	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:17	1
Vinyl chloride	**43**		2.0	0.64	ug/L			12/07/22 13:17	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 13:17	1
cis-1,2-Dichloroethene	**110**		1.0	0.71	ug/L			12/07/22 17:19	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 13:17	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 13:17	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 13:17	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 13:17	1
trans-1,2-Dichloroethene	**8.9**		1.0	0.95	ug/L			12/07/22 13:17	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 13:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*		*12/07/22 13:17*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*		*12/07/22 17:19*	*1*
4-Bromofluorobenzene (Surr)	*108*		*74 - 124*		*12/07/22 13:17*	*1*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*		*12/07/22 17:19*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 13:17*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*12/07/22 17:19*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/07/22 13:17*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/07/22 17:19*	*1*

Client Sample ID: CCB-MW0068-045.0-20221201
Date Collected: 12/01/22 16:00
Date Received: 12/03/22 11:24

Lab Sample ID: 670-10668-12
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:36	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 13:36	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 13:36	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 13:36	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 13:36	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:36	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 13:36	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 13:36	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 13:36	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 13:36	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 13:36	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:36	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 13:36	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 13:36	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:36	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 13:36	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 13:36	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 13:36	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 13:36	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 13:36	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 13:36	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 13:36	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 13:36	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 13:36	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 13:36	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 13:36	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 13:36	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 13:36	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 13:36	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 13:36	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 13:36	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 13:36	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 13:36	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 13:36	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 13:36	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 13:36	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 13:36	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 13:36	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 13:36	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 13:36	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 13:36	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 13:36	1
Vinyl chloride	**21**		2.0	0.64	ug/L			12/07/22 13:36	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 13:36	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 13:36	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 13:36	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 13:36	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 13:36	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 13:36	1

Client Sample ID: CCB-MW0068-045.0-20221201
Date Collected: 12/01/22 16:00
Date Received: 12/03/22 11:24

Lab Sample ID: 670-10668-12
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 13:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*		*12/07/22 13:36*	*1*
4-Bromofluorobenzene (Surr)	*110*		*74 - 124*		*12/07/22 13:36*	*1*
Dibromofluoromethane (Surr)	*108*		*75 - 131*		*12/07/22 13:36*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*12/07/22 13:36*	*1*

Method: SW846 8260D - Volatile Organic Compounds by GC/MS - RA

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	**2.4**	**I**	5.0	0.79	ug/L			12/07/22 16:59	1
cis-1,2-Dichloroethene	**4.4**		1.0	0.71	ug/L			12/07/22 16:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*		*12/07/22 16:59*	*1*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*12/07/22 16:59*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 16:59*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/07/22 16:59*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Ground Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	DCA (63-144)	DCA (63-144)	BFB (74-124)	BFB (74-124)	DBFM (75-131)	DBFM (75-131)	TOL (80-117)	TOL (80-117)
670-10668-1	CCB-MW0096R-065.0-2022120	102	102	107	107	101	101	98	98
670-10668-1 MS	CCB-MW0096R-065.0-2022120 1	94	94	102	102	96	96	98	98
670-10668-2	CCB-MW0050-025.0-20222120 1	102	102	109	109	101	101	102	102
670-10668-3	CCB-MW0088-045.0-20221201	102	102	108	108	101	101	101	101
670-10668-4	CCB-MW0048-025.0-20221201	101	101	107	107	100	100	99	99
670-10668-5	CCB-MW0142-025.0-20221201	110	110	116	116	104	104	106	106
670-10668-6	CCB-MW0021-015.0-20221201	105	105	111	111	104	104	101	101
670-10668-6 - DL	CCB-MW0021-015.0-20221201	101	101	99	99	101	101	99	99
670-10668-7 - RA	CCB-MW0016-015.0-20221201	108	108	106	106	97	97	111	111
670-10668-7	CCB-MW0016-015.0-20221201	97	97	111	111	102	102	98	98
670-10668-8 - RA	CCB-MW0037-045.0-20221201	111	111	104	104	97	97	107	107
670-10668-8	CCB-MW0037-045.0-20221201	105	105	111	111	105	105	107	107
670-10668-9 - RA	CCB-MW0036-025.0-20221201	107	107	102	102	98	98	101	101
670-10668-9	CCB-MW0036-025.0-20221201	102	102	107	107	102	102	99	99
670-10668-10 - RA	CCB-MW0120-015.0-20221201	104	104	107	107	97	97	99	99
670-10668-10	CCB-MW0120-015.0-20221201	102	102	115	115	103	103	103	103
670-10668-11	CCB-MW0067-025.0-20221201	100	100	108	108	101	101	101	101
670-10668-11	CCB-MW0067-025.0-20221201	99	99	104	104	102	102	101	101
670-10668-12	CCB-MW0068-045.0-20221201	104	104	110	110	108	108	104	104
670-10668-12 - RA	CCB-MW0068-045.0-20221201	100	100	101	101	101	101	99	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
Lab Sample ID	Client Sample ID	DCA (63-144)	BFB (74-124)	DBFM (75-131)	TOL (80-117)
860-38443-D-2 MS	Matrix Spike	89	102	99	99
860-38443-D-2 MSD	Matrix Spike Duplicate	90	102	101	100
860-38535-F-5 MS	Matrix Spike	100	100	103	100
LCS 860-80648/3	Lab Control Sample	88	103	97	102
LCS 860-80676/3	Lab Control Sample	101	101	98	99
LCS 860-80678/3	Lab Control Sample	102	96	104	98
LCSD 860-80648/4	Lab Control Sample Dup	90	103	100	99
LCSD 860-80676/4	Lab Control Sample Dup	95	104	96	96
LCSD 860-80678/4	Lab Control Sample Dup	100	98	104	100
MB 860-80648/10	Method Blank	104	109	96	108
MB 860-80676/9	Method Blank	102	110	101	104
MB 860-80678/10	Method Blank	99	100	101	99

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-80648/10
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:48	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 12:48	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 12:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 12:48	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 12:48	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:48	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 12:48	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 12:48	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 12:48	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 12:48	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 12:48	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:48	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 12:48	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 12:48	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:48	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 12:48	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 12:48	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 12:48	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 12:48	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 12:48	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:48	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 12:48	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 12:48	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 12:48	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 12:48	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 12:48	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 12:48	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 12:48	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 12:48	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 12:48	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 12:48	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 12:48	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 12:48	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 12:48	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 12:48	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 12:48	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 12:48	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 12:48	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 12:48	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 12:48	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 12:48	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 12:48	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 12:48	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 12:48	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 12:48	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 12:48	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 12:48	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 12:48	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-80648/10
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 12:48	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 12:48	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 12:48	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 12:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*		*12/07/22 12:48*	*1*
4-Bromofluorobenzene (Surr)	*109*		*74 - 124*		*12/07/22 12:48*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 131*		*12/07/22 12:48*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*12/07/22 12:48*	*1*

Lab Sample ID: LCS 860-80648/3
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	48.5		ug/L		97	72 - 125
1,1,1-Trichloroethane	50.0	52.5		ug/L		105	70 - 130
1,1,2,2-Tetrachloroethane	50.0	54.1		ug/L		108	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	56.2		ug/L		112	60 - 140
1,1,2-Trichloroethane	50.0	50.6		ug/L		101	70 - 130
1,1-Dichloroethane	50.0	48.8		ug/L		98	70 - 130
1,1-Dichloroethene	50.0	50.2		ug/L		100	50 - 150
1,2,3-Trichlorobenzene	50.0	53.4		ug/L		107	75 - 137
1,2,4-Trichlorobenzene	50.0	48.9		ug/L		98	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	47.4		ug/L		95	59 - 125
1,2-Dibromoethane (EDB)	50.0	52.1		ug/L		104	73 - 125
o-Dichlorobenzene	50.0	54.9		ug/L		110	75 - 125
1,2-Dichloroethane	50.0	50.5		ug/L		101	72 - 130
1,2-Dichloropropane	50.0	53.8		ug/L		108	74 - 125
m-Dichlorobenzene	50.0	55.4		ug/L		111	75 - 125
para-Dichlorobenzene	50.0	52.0		ug/L		104	75 - 125
2-Butanone (MEK)	250	244		ug/L		98	60 - 140
2-Hexanone	250	259		ug/L		104	60 - 140
4-Methyl-2-pentanone	250	259		ug/L		104	60 - 140
Acetone	250	252		ug/L		101	60 - 140
Benzene	50.0	51.5		ug/L		103	75 - 125
Bromochloromethane	50.0	46.1		ug/L		92	60 - 140
Bromodichloromethane	50.0	46.6		ug/L		93	75 - 125
Bromoform	50.0	44.7		ug/L		89	70 - 130
Bromomethane	50.0	38.1		ug/L		76	60 - 140
Carbon disulfide	50.0	48.5		ug/L		97	60 - 140
Carbon tetrachloride	50.0	50.8		ug/L		102	70 - 130
Chlorobenzene	50.0	51.3		ug/L		103	65 - 135
Chloroethane	50.0	50.8		ug/L		102	60 - 140
Chloroform	50.0	52.7		ug/L		105	70 - 121
Chloromethane	50.0	56.8		ug/L		114	60 - 140
Cyclohexane	50.0	52.3		ug/L		105	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-80648/3
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromochloromethane	50.0	46.8		ug/L		94	73 - 125
Dichlorodifluoromethane	50.0	58.1		ug/L		116	70 - 130
Ethylbenzene	50.0	53.7		ug/L		107	75 - 125
Methyl tert-butyl ether	50.0	50.8		ug/L		102	65 - 135
Methyl acetate	100	102		ug/L		102	60 - 140
Methylene Chloride	50.0	50.1		ug/L		100	75 - 125
Styrene	50.0	47.3		ug/L		95	75 - 125
Tetrachloroethene	50.0	56.4		ug/L		113	71 - 125
Toluene	50.0	53.6		ug/L		107	70 - 130
Trichloroethene	50.0	48.7		ug/L		97	75 - 135
Trichlorofluoromethane	50.0	58.9		ug/L		118	60 - 140
Vinyl chloride	50.0	54.6		ug/L		109	60 - 140
Xylenes, Total	100	107		ug/L		107	75 - 125
cis-1,2-Dichloroethene	50.0	49.5		ug/L		99	75 - 125
cis-1,3-Dichloropropene	50.0	47.8		ug/L		96	74 - 125
Isopropylbenzene	50.0	54.6		ug/L		109	75 - 125
m,p-Xylenes	50.0	53.4		ug/L		107	75 - 125
o-Xylene	50.0	53.6		ug/L		107	75 - 125
trans-1,2-Dichloroethene	50.0	47.2		ug/L		94	75 - 125
trans-1,3-Dichloropropene	50.0	48.7		ug/L		97	66 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 144*
4-Bromofluorobenzene (Surr)	*103*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*
Toluene-d8 (Surr)	*102*		*80 - 117*

Lab Sample ID: LCSD 860-80648/4
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	47.2		ug/L		94	72 - 125	3	25
1,1,1-Trichloroethane	50.0	50.5		ug/L		101	70 - 130	4	25
1,1,2,2-Tetrachloroethane	50.0	53.6		ug/L		107	74 - 125	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.9		ug/L		116	60 - 140	3	25
1,1,2-Trichloroethane	50.0	48.9		ug/L		98	70 - 130	3	25
1,1-Dichloroethane	50.0	49.1		ug/L		98	70 - 130	1	25
1,1-Dichloroethene	50.0	48.5		ug/L		97	50 - 150	4	25
1,2,3-Trichlorobenzene	50.0	54.2		ug/L		108	75 - 137	1	25
1,2,4-Trichlorobenzene	50.0	49.4		ug/L		99	75 - 135	1	25
1,2-Dibromo-3-Chloropropane	50.0	47.8		ug/L		96	59 - 125	1	25
1,2-Dibromoethane (EDB)	50.0	51.1		ug/L		102	73 - 125	2	25
o-Dichlorobenzene	50.0	53.6		ug/L		107	75 - 125	2	25
1,2-Dichloroethane	50.0	48.2		ug/L		96	72 - 130	5	25
1,2-Dichloropropane	50.0	52.6		ug/L		105	74 - 125	2	25
m-Dichlorobenzene	50.0	54.0		ug/L		108	75 - 125	3	25
para-Dichlorobenzene	50.0	51.2		ug/L		102	75 - 125	2	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-80648/4
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Butanone (MEK)	250	248		ug/L		99	60 - 140	1	25
2-Hexanone	250	258		ug/L		103	60 - 140	0	25
4-Methyl-2-pentanone	250	262		ug/L		105	60 - 140	1	25
Acetone	250	257		ug/L		103	60 - 140	2	25
Benzene	50.0	50.3		ug/L		101	75 - 125	2	25
Bromochloromethane	50.0	46.9		ug/L		94	60 - 140	2	25
Bromodichloromethane	50.0	45.3		ug/L		91	75 - 125	3	25
Bromoform	50.0	45.9		ug/L		92	70 - 130	3	25
Bromomethane	50.0	35.8		ug/L		72	60 - 140	6	25
Carbon disulfide	50.0	47.6		ug/L		95	60 - 140	2	25
Carbon tetrachloride	50.0	48.9		ug/L		98	70 - 130	4	25
Chlorobenzene	50.0	49.7		ug/L		99	65 - 135	3	25
Chloroethane	50.0	50.0		ug/L		100	60 - 140	2	25
Chloroform	50.0	50.0		ug/L		100	70 - 121	5	25
Chloromethane	50.0	53.6		ug/L		107	60 - 140	6	25
Cyclohexane	50.0	51.9		ug/L		104	70 - 130	1	25
Dibromochloromethane	50.0	45.4		ug/L		91	73 - 125	3	25
Dichlorodifluoromethane	50.0	56.8		ug/L		114	70 - 130	2	25
Ethylbenzene	50.0	50.9		ug/L		102	75 - 125	5	25
Methyl tert-butyl ether	50.0	51.6		ug/L		103	65 - 135	2	25
Methyl acetate	100	102		ug/L		102	60 - 140	0	25
Methylene Chloride	50.0	50.0		ug/L		100	75 - 125	0	25
Styrene	50.0	46.5		ug/L		93	75 - 125	2	25
Tetrachloroethene	50.0	53.1		ug/L		106	71 - 125	6	25
Toluene	50.0	50.5		ug/L		101	70 - 130	6	25
Trichloroethene	50.0	47.1		ug/L		94	75 - 135	3	25
Trichlorofluoromethane	50.0	61.5		ug/L		123	60 - 140	4	25
Vinyl chloride	50.0	52.5		ug/L		105	60 - 140	4	25
Xylenes, Total	100	103		ug/L		103	75 - 125	4	25
cis-1,2-Dichloroethene	50.0	49.6		ug/L		99	75 - 125	0	25
cis-1,3-Dichloropropene	50.0	47.3		ug/L		95	74 - 125	1	25
Isopropylbenzene	50.0	52.6		ug/L		105	75 - 125	4	25
m,p-Xylenes	50.0	51.2		ug/L		102	75 - 125	4	25
o-Xylene	50.0	51.7		ug/L		103	75 - 125	3	25
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	75 - 125	1	25
trans-1,3-Dichloropropene	50.0	47.3		ug/L		95	66 - 125	3	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*63 - 144*
4-Bromofluorobenzene (Surr)	*103*		*74 - 124*
Dibromofluoromethane (Surr)	*100*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38443-D-2 MS
Matrix: Water
Analysis Batch: 80648

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.64	U	50.0	50.0		ug/L		100	72 - 125
1,1,1-Trichloroethane	1.7	U	50.0	54.7		ug/L		109	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	56.7		ug/L		113	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	58.4		ug/L		117	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	51.3		ug/L		103	75 - 127
1,1-Dichloroethane	0.64	U	50.0	53.0		ug/L		106	72 - 125
1,1-Dichloroethene	0.74	U	50.0	50.8		ug/L		102	59 - 172
1,2,3-Trichlorobenzene	2.2	U	50.0	55.1		ug/L		110	75 - 137
1,2,4-Trichlorobenzene	1.8	U	50.0	51.0		ug/L		102	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	49.8		ug/L		100	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	53.9		ug/L		108	73 - 125
o-Dichlorobenzene	0.51	U	50.0	56.6		ug/L		113	75 - 125
1,2-Dichloroethane	0.59	U	50.0	50.3		ug/L		101	68 - 127
1,2-Dichloropropane	0.67	U	50.0	54.3		ug/L		109	74 - 125
m-Dichlorobenzene	0.51	U	50.0	56.7		ug/L		113	75 - 125
para-Dichlorobenzene	0.51	U	50.0	53.7		ug/L		107	75 - 125
2-Butanone (MEK)	8.3	U	250	252		ug/L		101	60 - 140
2-Hexanone	7.4	U	250	266		ug/L		107	60 - 140
4-Methyl-2-pentanone	7.5	U	250	271		ug/L		108	60 - 140
Acetone	1.2	U	250	255		ug/L		102	60 - 140
Benzene	0.53	U	50.0	52.0		ug/L		104	66 - 142
Bromochloromethane	0.66	U	50.0	49.1		ug/L		98	60 - 140
Bromodichloromethane	0.55	U	50.0	48.2		ug/L		96	75 - 125
Bromoform	0.63	U	50.0	48.6		ug/L		97	75 - 125
Bromomethane	1.4	U	50.0	38.0		ug/L		76	60 - 140
Carbon disulfide	1.9	U	50.0	49.1		ug/L		98	60 - 140
Carbon tetrachloride	0.90	U	50.0	52.6		ug/L		105	62 - 125
Chlorobenzene	0.53	U	50.0	52.8		ug/L		106	60 - 133
Chloroethane	2.0	U	50.0	48.8		ug/L		98	60 - 140
Chloroform	0.64	U	50.0	53.2		ug/L		106	70 - 130
Chloromethane	2.0	U	50.0	54.3		ug/L		109	60 - 140
Cyclohexane	1.5	U	50.0	54.8		ug/L		110	70 - 130
Dibromochloromethane	0.55	U	50.0	48.0		ug/L		96	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	58.7		ug/L		117	70 - 130
Ethylbenzene	0.41	U	50.0	54.3		ug/L		109	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	54.8		ug/L		110	65 - 135
Methyl acetate	4.0	U	100	105		ug/L		105	60 - 140
Methylene Chloride	1.7	U	50.0	52.5		ug/L		105	75 - 125
Styrene	0.66	U	50.0	48.1		ug/L		96	75 - 125
Tetrachloroethene	0.80	U	50.0	56.7		ug/L		113	71 - 125
Toluene	0.48	U	50.0	53.3		ug/L		107	59 - 139
Trichloroethene	0.79	U	50.0	49.7		ug/L		99	62 - 137
Trichlorofluoromethane	0.64	U	50.0	64.7		ug/L		129	60 - 140
Vinyl chloride	0.64	U	50.0	53.6		ug/L		107	60 - 140
Xylenes, Total	1.2	U	100	109		ug/L		109	75 - 125
cis-1,2-Dichloroethene	0.71	U	50.0	52.3		ug/L		105	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	48.8		ug/L		98	74 - 125
Isopropylbenzene	0.61	U	50.0	55.5		ug/L		111	75 - 125

QC Sample Results

Client: Tetra Tech, Inc. Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38443-D-2 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 80648

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	1.2	U	50.0	54.3		ug/L		109	75 - 125
o-Xylene	0.55	U	50.0	54.8		ug/L		110	75 - 125
trans-1,2-Dichloroethene	0.95	U	50.0	51.3		ug/L		103	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	50.1		ug/L		100	66 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*63 - 144*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: 860-38443-D-2 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 80648

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	0.64	U	50.0	50.0		ug/L		100	72 - 125	0	25
1,1,1-Trichloroethane	1.7	U	50.0	53.2		ug/L		106	75 - 125	3	25
1,1,2,2-Tetrachloroethane	0.47	U	50.0	56.6		ug/L		113	74 - 125	0	25
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	58.8		ug/L		118	60 - 140	1	25
1,1,2-Trichloroethane	0.51	U	50.0	51.2		ug/L		102	75 - 127	0	25
1,1-Dichloroethane	0.64	U	50.0	50.9		ug/L		102	72 - 125	4	25
1,1-Dichloroethene	0.74	U	50.0	48.0		ug/L		96	59 - 172	6	25
1,2,3-Trichlorobenzene	2.2	U	50.0	57.0		ug/L		114	75 - 137	3	25
1,2,4-Trichlorobenzene	1.8	U	50.0	51.7		ug/L		103	75 - 135	1	25
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	51.1		ug/L		102	59 - 125	3	25
1,2-Dibromoethane (EDB)	1.0	U	50.0	53.3		ug/L		107	73 - 125	1	25
o-Dichlorobenzene	0.51	U	50.0	56.2		ug/L		112	75 - 125	1	25
1,2-Dichloroethane	0.59	U	50.0	50.6		ug/L		101	68 - 127	1	25
1,2-Dichloropropane	0.67	U	50.0	54.2		ug/L		108	74 - 125	0	25
m-Dichlorobenzene	0.51	U	50.0	56.8		ug/L		114	75 - 125	0	25
para-Dichlorobenzene	0.51	U	50.0	53.8		ug/L		108	75 - 125	0	25
2-Butanone (MEK)	8.3	U	250	248		ug/L		99	60 - 140	2	25
2-Hexanone	7.4	U	250	269		ug/L		107	60 - 140	1	25
4-Methyl-2-pentanone	7.5	U	250	271		ug/L		109	60 - 140	0	25
Acetone	1.2	U	250	264		ug/L		106	60 - 140	4	25
Benzene	0.53	U	50.0	52.1		ug/L		104	66 - 142	0	25
Bromochloromethane	0.66	U	50.0	47.5		ug/L		95	60 - 140	3	25
Bromodichloromethane	0.55	U	50.0	47.9		ug/L		96	75 - 125	1	25
Bromoform	0.63	U	50.0	48.7		ug/L		97	75 - 125	0	25
Bromomethane	1.4	U	50.0	35.5		ug/L		71	60 - 140	7	25
Carbon disulfide	1.9	U	50.0	48.5		ug/L		97	60 - 140	1	25
Carbon tetrachloride	0.90	U	50.0	51.8		ug/L		104	62 - 125	2	25
Chlorobenzene	0.53	U	50.0	52.3		ug/L		105	60 - 133	1	25
Chloroethane	2.0	U	50.0	49.1		ug/L		98	60 - 140	1	25
Chloroform	0.64	U	50.0	52.2		ug/L		104	70 - 130	2	25
Chloromethane	2.0	U	50.0	54.8		ug/L		110	60 - 140	1	25
Cyclohexane	1.5	U	50.0	52.8		ug/L		106	70 - 130	4	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38443-D-2 MSD **Client Sample ID: Matrix Spike Duplicate**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 80648

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibromochloromethane	0.55	U	50.0	48.2		ug/L		96	73 - 125	0	25
Dichlorodifluoromethane	0.92	U	50.0	59.1		ug/L		118	70 - 130	1	25
Ethylbenzene	0.41	U	50.0	54.0		ug/L		108	75 - 125	0	25
Methyl tert-butyl ether	1.4	U	50.0	54.7		ug/L		109	65 - 135	0	25
Methyl acetate	4.0	U	100	100		ug/L		100	60 - 140	4	25
Methylene Chloride	1.7	U	50.0	51.1		ug/L		102	75 - 125	3	25
Styrene	0.66	U	50.0	47.2		ug/L		94	75 - 125	2	25
Tetrachloroethene	0.80	U	50.0	55.7		ug/L		111	71 - 125	2	25
Toluene	0.48	U	50.0	53.2		ug/L		106	59 - 139	0	25
Trichloroethene	0.79	U	50.0	49.5		ug/L		99	62 - 137	0	25
Trichlorofluoromethane	0.64	U	50.0	66.2		ug/L		132	60 - 140	2	25
Vinyl chloride	0.64	U	50.0	54.6		ug/L		109	60 - 140	2	25
Xylenes, Total	1.2	U	100	109		ug/L		109	75 - 125	0	25
cis-1,2-Dichloroethene	0.71	U	50.0	51.0		ug/L		102	75 - 125	2	25
cis-1,3-Dichloropropene	1.1	U	50.0	48.9		ug/L		98	74 - 125	0	25
Isopropylbenzene	0.61	U	50.0	55.4		ug/L		111	75 - 125	0	25
m,p-Xylenes	1.2	U	50.0	54.4		ug/L		109	75 - 125	0	25
o-Xylene	0.55	U	50.0	54.7		ug/L		109	75 - 125	0	25
trans-1,2-Dichloroethene	0.95	U	50.0	51.3		ug/L		103	75 - 125	0	25
trans-1,3-Dichloropropene	1.3	U	50.0	49.5		ug/L		99	66 - 125	1	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*63 - 144*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
Dibromofluoromethane (Surr)	*101*		*75 - 131*
Toluene-d8 (Surr)	*100*		*80 - 117*

Lab Sample ID: MB 860-80676/9 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 80676

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 09:48	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/07/22 09:48	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/07/22 09:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/07/22 09:48	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/07/22 09:48	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/07/22 09:48	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/07/22 09:48	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/07/22 09:48	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/07/22 09:48	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/07/22 09:48	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/07/22 09:48	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 09:48	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/07/22 09:48	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/07/22 09:48	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 09:48	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/07/22 09:48	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-80676/9
Matrix: Water
Analysis Batch: 80676

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/07/22 09:48	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/07/22 09:48	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/07/22 09:48	1
Acetone	1.2	U	100	1.2	ug/L			12/07/22 09:48	1
Benzene	0.53	U	1.0	0.53	ug/L			12/07/22 09:48	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/07/22 09:48	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/07/22 09:48	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/07/22 09:48	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/07/22 09:48	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/07/22 09:48	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/07/22 09:48	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/07/22 09:48	1
Chloroethane	2.0	U	10	2.0	ug/L			12/07/22 09:48	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/07/22 09:48	1
Chloromethane	2.0	U	10	2.0	ug/L			12/07/22 09:48	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/07/22 09:48	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/07/22 09:48	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/07/22 09:48	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/07/22 09:48	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/07/22 09:48	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/07/22 09:48	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/07/22 09:48	1
Styrene	0.66	U	1.0	0.66	ug/L			12/07/22 09:48	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/07/22 09:48	1
Toluene	0.48	U	1.0	0.48	ug/L			12/07/22 09:48	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 09:48	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/07/22 09:48	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/07/22 09:48	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/07/22 09:48	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 09:48	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/07/22 09:48	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/07/22 09:48	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/07/22 09:48	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/07/22 09:48	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/07/22 09:48	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/07/22 09:48	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*102*		*63 - 144*		*12/07/22 09:48*	*1*
4-Bromofluorobenzene (Surr)	*110*		*74 - 124*		*12/07/22 09:48*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/07/22 09:48*	*1*
Toluene-d8 (Surr)	*104*		*80 - 117*		*12/07/22 09:48*	*1*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-80676/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 80676

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	48.2		ug/L		96	72 - 125
1,1,1-Trichloroethane	50.0	45.7		ug/L		91	70 - 130
1,1,2,2-Tetrachloroethane	50.0	49.9		ug/L		100	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.5		ug/L		91	60 - 140
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130
1,1-Dichloroethane	50.0	45.6		ug/L		91	70 - 130
1,1-Dichloroethene	50.0	45.5		ug/L		91	50 - 150
1,2,3-Trichlorobenzene	50.0	55.1		ug/L		110	75 - 137
1,2,4-Trichlorobenzene	50.0	51.9		ug/L		104	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	52.8		ug/L		106	59 - 125
1,2-Dibromoethane (EDB)	50.0	49.8		ug/L		100	73 - 125
o-Dichlorobenzene	50.0	47.8		ug/L		96	75 - 125
1,2-Dichloroethane	50.0	48.0		ug/L		96	72 - 130
1,2-Dichloropropane	50.0	46.8		ug/L		94	74 - 125
m-Dichlorobenzene	50.0	46.0		ug/L		92	75 - 125
para-Dichlorobenzene	50.0	47.5		ug/L		95	75 - 125
2-Butanone (MEK)	250	242		ug/L		97	60 - 140
2-Hexanone	250	239		ug/L		96	60 - 140
4-Methyl-2-pentanone	250	246		ug/L		98	60 - 140
Acetone	250	224		ug/L		89	60 - 140
Benzene	50.0	45.9		ug/L		92	75 - 125
Bromochloromethane	50.0	48.5		ug/L		97	60 - 140
Bromodichloromethane	50.0	51.4		ug/L		103	75 - 125
Bromoform	50.0	49.5		ug/L		99	70 - 130
Bromomethane	50.0	53.4		ug/L		107	60 - 140
Carbon disulfide	50.0	42.5		ug/L		85	60 - 140
Carbon tetrachloride	50.0	47.3		ug/L		95	70 - 130
Chlorobenzene	50.0	45.4		ug/L		91	65 - 135
Chloroethane	50.0	46.3		ug/L		93	60 - 140
Chloroform	50.0	46.2		ug/L		92	70 - 121
Chloromethane	50.0	44.0		ug/L		88	60 - 140
Cyclohexane	50.0	45.7		ug/L		91	70 - 130
Dibromochloromethane	50.0	49.1		ug/L		98	73 - 125
Dichlorodifluoromethane	50.0	44.3		ug/L		89	70 - 130
Ethylbenzene	50.0	47.4		ug/L		95	75 - 125
Methyl tert-butyl ether	50.0	48.3		ug/L		97	65 - 135
Methyl acetate	100	94.6		ug/L		95	60 - 140
Methylene Chloride	50.0	44.6		ug/L		89	75 - 125
Styrene	50.0	48.2		ug/L		96	75 - 125
Tetrachloroethene	50.0	48.5		ug/L		97	71 - 125
Toluene	50.0	45.9		ug/L		92	70 - 130
Trichloroethene	50.0	47.9		ug/L		96	75 - 135
Trichlorofluoromethane	50.0	44.1		ug/L		88	60 - 140
Vinyl chloride	50.0	48.5		ug/L		97	60 - 140
Xylenes, Total	100	93.4		ug/L		93	75 - 125
cis-1,2-Dichloroethene	50.0	46.1		ug/L		92	75 - 125
cis-1,3-Dichloropropene	50.0	50.9		ug/L		102	74 - 125
Isopropylbenzene	50.0	47.0		ug/L		94	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-80676/3
Matrix: Water
Analysis Batch: 80676

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	50.0	46.2		ug/L		92	75 - 125
o-Xylene	50.0	47.2		ug/L		94	75 - 125
trans-1,2-Dichloroethene	50.0	46.7		ug/L		93	75 - 125
trans-1,3-Dichloropropene	50.0	47.9		ug/L		96	66 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: LCSD 860-80676/4
Matrix: Water
Analysis Batch: 80676

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	46.3		ug/L		93	72 - 125	4	25
1,1,1-Trichloroethane	50.0	49.5		ug/L		99	70 - 130	8	25
1,1,2,2-Tetrachloroethane	50.0	47.5		ug/L		95	74 - 125	5	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	56.0		ug/L		112	60 - 140	21	25
1,1,2-Trichloroethane	50.0	45.7		ug/L		91	70 - 130	4	25
1,1-Dichloroethane	50.0	46.2		ug/L		92	70 - 130	1	25
1,1-Dichloroethene	50.0	52.1		ug/L		104	50 - 150	14	25
1,2,3-Trichlorobenzene	50.0	58.1		ug/L		116	75 - 137	5	25
1,2,4-Trichlorobenzene	50.0	55.1		ug/L		110	75 - 135	6	25
1,2-Dibromo-3-Chloropropane	50.0	55.3		ug/L		111	59 - 125	5	25
1,2-Dibromoethane (EDB)	50.0	49.4		ug/L		99	73 - 125	1	25
o-Dichlorobenzene	50.0	49.5		ug/L		99	75 - 125	4	25
1,2-Dichloroethane	50.0	48.2		ug/L		96	72 - 130	0	25
1,2-Dichloropropane	50.0	45.9		ug/L		92	74 - 125	2	25
m-Dichlorobenzene	50.0	48.1		ug/L		96	75 - 125	4	25
para-Dichlorobenzene	50.0	47.6		ug/L		95	75 - 125	0	25
2-Butanone (MEK)	250	251		ug/L		100	60 - 140	4	25
2-Hexanone	250	231		ug/L		92	60 - 140	3	25
4-Methyl-2-pentanone	250	239		ug/L		96	60 - 140	3	25
Acetone	250	227		ug/L		91	60 - 140	1	25
Benzene	50.0	46.8		ug/L		94	75 - 125	2	25
Bromochloromethane	50.0	49.1		ug/L		98	60 - 140	1	25
Bromodichloromethane	50.0	50.3		ug/L		101	75 - 125	2	25
Bromoform	50.0	48.7		ug/L		97	70 - 130	2	25
Bromomethane	50.0	55.3		ug/L		111	60 - 140	4	25
Carbon disulfide	50.0	47.0		ug/L		94	60 - 140	10	25
Carbon tetrachloride	50.0	51.9		ug/L		104	70 - 130	9	25
Chlorobenzene	50.0	44.9		ug/L		90	65 - 135	1	25
Chloroethane	50.0	50.5		ug/L		101	60 - 140	9	25
Chloroform	50.0	47.0		ug/L		94	70 - 121	2	25
Chloromethane	50.0	43.6		ug/L		87	60 - 140	1	25
Cyclohexane	50.0	54.7		ug/L		109	70 - 130	18	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-80676/4
Matrix: Water
Analysis Batch: 80676

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Dibromochloromethane			50.0	47.5		ug/L		95	73 - 125	3	25
Dichlorodifluoromethane			50.0	50.6		ug/L		101	70 - 130	13	25
Ethylbenzene			50.0	47.4		ug/L		95	75 - 125	0	25
Methyl tert-butyl ether			50.0	48.8		ug/L		98	65 - 135	1	25
Methyl acetate			100	97.3		ug/L		97	60 - 140	3	25
Methylene Chloride			50.0	45.9		ug/L		92	75 - 125	3	25
Styrene			50.0	48.3		ug/L		97	75 - 125	0	25
Tetrachloroethene			50.0	52.3		ug/L		105	71 - 125	8	25
Toluene			50.0	46.2		ug/L		92	70 - 130	1	25
Trichloroethene			50.0	52.2		ug/L		104	75 - 135	9	25
Trichlorofluoromethane			50.0	54.5		ug/L		109	60 - 140	21	25
Vinyl chloride			50.0	52.5		ug/L		105	60 - 140	8	25
Xylenes, Total			100	94.2		ug/L		94	75 - 125	1	25
cis-1,2-Dichloroethene			50.0	46.9		ug/L		94	75 - 125	2	25
cis-1,3-Dichloropropene			50.0	48.8		ug/L		98	74 - 125	4	25
Isopropylbenzene			50.0	51.0		ug/L		102	75 - 125	8	25
m,p-Xylenes			50.0	46.9		ug/L		94	75 - 125	1	25
o-Xylene			50.0	47.3		ug/L		95	75 - 125	0	25
trans-1,2-Dichloroethene			50.0	49.6		ug/L		99	75 - 125	6	25
trans-1,3-Dichloropropene			50.0	47.3		ug/L		95	66 - 125	1	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*
4-Bromofluorobenzene (Surr)	*104*		*74 - 124*
Dibromofluoromethane (Surr)	*96*		*75 - 131*
Toluene-d8 (Surr)	*96*		*80 - 117*

Lab Sample ID: 670-10668-1 MS
Matrix: Ground Water
Analysis Batch: 80676

Client Sample ID: CCB-MW0096R-065.0-20221201
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.64	U	50.0	50.5		ug/L		101	72 - 125
1,1,1,2-Tetrachloroethane	0.64	U	50.0	50.5		ug/L		101	72 - 125
1,1,1-Trichloroethane	1.7	U	50.0	48.2		ug/L		96	75 - 125
1,1,1-Trichloroethane	1.7	U	50.0	48.2		ug/L		96	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	53.3		ug/L		107	74 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	53.3		ug/L		107	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	48.1		ug/L		96	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	48.1		ug/L		96	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	48.4		ug/L		97	75 - 127
1,1,2-Trichloroethane	0.51	U	50.0	48.4		ug/L		97	75 - 127
1,1-Dichloroethane	0.64	U	50.0	46.9		ug/L		94	72 - 125
1,1-Dichloroethane	0.64	U	50.0	46.9		ug/L		94	72 - 125
1,1-Dichloroethene	0.74	U	50.0	47.9		ug/L		96	59 - 172
1,1-Dichloroethene	0.74	U	50.0	47.9		ug/L		96	59 - 172
1,2,3-Trichlorobenzene	2.2	U	50.0	59.1		ug/L		118	75 - 137

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-10668-1 MS
Client Sample ID: CCB-MW0096R-065.0-20221201
Matrix: Ground Water
Prep Type: Total/NA
Analysis Batch: 80676

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,2,3-Trichlorobenzene	2.2	U	50.0	59.1		ug/L		118	75 - 137
1,2,4-Trichlorobenzene	1.8	U	50.0	58.3		ug/L		117	75 - 135
1,2,4-Trichlorobenzene	1.8	U	50.0	58.3		ug/L		117	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	53.3		ug/L		107	59 - 125
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	53.3		ug/L		107	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	51.9		ug/L		104	73 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	51.9		ug/L		104	73 - 125
o-Dichlorobenzene	0.51	U	50.0	52.3		ug/L		105	75 - 125
o-Dichlorobenzene	0.51	U	50.0	52.3		ug/L		105	75 - 125
1,2-Dichloroethane	0.59	U	50.0	47.6		ug/L		95	68 - 127
1,2-Dichloroethane	0.59	U	50.0	47.6		ug/L		95	68 - 127
1,2-Dichloropropane	0.67	U	50.0	46.1		ug/L		92	74 - 125
1,2-Dichloropropane	0.67	U	50.0	46.1		ug/L		92	74 - 125
m-Dichlorobenzene	0.51	U	50.0	50.4		ug/L		101	75 - 125
m-Dichlorobenzene	0.51	U	50.0	50.4		ug/L		101	75 - 125
para-Dichlorobenzene	0.51	U	50.0	51.6		ug/L		103	75 - 125
para-Dichlorobenzene	0.51	U	50.0	51.6		ug/L		103	75 - 125
2-Butanone (MEK)	8.3	U	250	249		ug/L		100	60 - 140
2-Butanone (MEK)	8.3	U	250	249		ug/L		100	60 - 140
2-Hexanone	7.4	U	250	241		ug/L		96	60 - 140
2-Hexanone	7.4	U	250	241		ug/L		96	60 - 140
4-Methyl-2-pentanone	7.5	U	250	236		ug/L		94	60 - 140
4-Methyl-2-pentanone	7.5	U	250	236		ug/L		94	60 - 140
Acetone	1.2	U	250	226		ug/L		91	60 - 140
Acetone	1.2	U	250	226		ug/L		91	60 - 140
Benzene	0.53	U	50.0	45.1		ug/L		90	66 - 142
Benzene	0.53	U	50.0	45.1		ug/L		90	66 - 142
Bromochloromethane	0.66	U	50.0	50.2		ug/L		100	60 - 140
Bromochloromethane	0.66	U	50.0	50.2		ug/L		100	60 - 140
Bromodichloromethane	0.55	U	50.0	49.6		ug/L		99	75 - 125
Bromodichloromethane	0.55	U	50.0	49.6		ug/L		99	75 - 125
Bromoform	0.63	U	50.0	52.0		ug/L		104	75 - 125
Bromoform	0.63	U	50.0	52.0		ug/L		104	75 - 125
Bromomethane	1.4	U	50.0	54.2		ug/L		108	60 - 140
Bromomethane	1.4	U	50.0	54.2		ug/L		108	60 - 140
Carbon disulfide	1.9	U	50.0	43.7		ug/L		87	60 - 140
Carbon disulfide	1.9	U	50.0	43.7		ug/L		87	60 - 140
Carbon tetrachloride	0.90	U	50.0	49.2		ug/L		98	62 - 125
Carbon tetrachloride	0.90	U	50.0	49.2		ug/L		98	62 - 125
Chlorobenzene	0.53	U	50.0	48.7		ug/L		97	60 - 133
Chlorobenzene	0.53	U	50.0	48.7		ug/L		97	60 - 133
Chloroethane	2.0	U	50.0	47.7		ug/L		95	60 - 140
Chloroethane	2.0	U	50.0	47.7		ug/L		95	60 - 140
Chloroform	0.64	U	50.0	47.4		ug/L		95	70 - 130
Chloroform	0.64	U	50.0	47.4		ug/L		95	70 - 130
Chloromethane	2.0	U	50.0	43.3		ug/L		87	60 - 140
Chloromethane	2.0	U	50.0	43.3		ug/L		87	60 - 140
Cyclohexane	1.5	U	50.0	48.3		ug/L		97	70 - 130
Cyclohexane	1.5	U	50.0	48.3		ug/L		97	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-10668-1 MS
Client Sample ID: CCB-MW0096R-065.0-20221201
Matrix: Ground Water
Prep Type: Total/NA
Analysis Batch: 80676

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromochloromethane	0.55	U	50.0	51.6		ug/L		103	73 - 125
Dibromochloromethane	0.55	U	50.0	51.6		ug/L		103	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	43.2		ug/L		86	70 - 130
Dichlorodifluoromethane	0.92	U	50.0	43.2		ug/L		86	70 - 130
Ethylbenzene	0.41	U	50.0	49.3		ug/L		99	75 - 125
Ethylbenzene	0.41	U	50.0	49.3		ug/L		99	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	49.5		ug/L		99	65 - 135
Methyl tert-butyl ether	1.4	U	50.0	49.5		ug/L		99	65 - 135
Methyl acetate	4.0	U	100	94.3		ug/L		94	60 - 140
Methyl acetate	4.0	U	100	94.3		ug/L		94	60 - 140
Methylene Chloride	1.7	U	50.0	46.2		ug/L		92	75 - 125
Methylene Chloride	1.7	U	50.0	46.2		ug/L		92	75 - 125
Styrene	0.66	U	50.0	51.0		ug/L		102	75 - 125
Styrene	0.66	U	50.0	51.0		ug/L		102	75 - 125
Tetrachloroethene	0.80	U	50.0	52.4		ug/L		105	71 - 125
Tetrachloroethene	0.80	U	50.0	52.4		ug/L		105	71 - 125
Toluene	0.48	U	50.0	47.3		ug/L		95	59 - 139
Toluene	0.48	U	50.0	47.3		ug/L		95	59 - 139
Trichloroethene	0.79	U	50.0	49.5		ug/L		99	62 - 137
Trichloroethene	0.79	U	50.0	49.5		ug/L		99	62 - 137
Trichlorofluoromethane	0.64	U	50.0	50.0		ug/L		100	60 - 140
Trichlorofluoromethane	0.64	U	50.0	50.0		ug/L		100	60 - 140
Vinyl chloride	0.64	U	50.0	47.2		ug/L		94	60 - 140
Vinyl chloride	0.64	U	50.0	47.2		ug/L		94	60 - 140
Xylenes, Total	1.2	U	100	98.1		ug/L		98	75 - 125
Xylenes, Total	1.2	U	100	98.1		ug/L		98	75 - 125
cis-1,2-Dichloroethene	0.71	U	50.0	47.2		ug/L		94	75 - 125
cis-1,2-Dichloroethene	0.71	U	50.0	47.2		ug/L		94	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	50.5		ug/L		101	74 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	50.5		ug/L		101	74 - 125
Isopropylbenzene	0.61	U	50.0	50.5		ug/L		101	75 - 125
Isopropylbenzene	0.61	U	50.0	50.5		ug/L		101	75 - 125
m,p-Xylenes	1.2	U	50.0	49.5		ug/L		99	75 - 125
m,p-Xylenes	1.2	U	50.0	49.5		ug/L		99	75 - 125
o-Xylene	0.55	U	50.0	48.6		ug/L		97	75 - 125
o-Xylene	0.55	U	50.0	48.6		ug/L		97	75 - 125
trans-1,2-Dichloroethene	0.95	U	50.0	48.0		ug/L		96	75 - 125
trans-1,2-Dichloroethene	0.95	U	50.0	48.0		ug/L		96	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	49.6		ug/L		99	66 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	49.6		ug/L		99	66 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*
1,2-Dichloroethane-d4 (Surr)	*94*		*63 - 144*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*
Dibromofluoromethane (Surr)	*96*		*75 - 131*
Dibromofluoromethane (Surr)	*96*		*75 - 131*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-10668-1 MS
Matrix: Ground Water
Analysis Batch: 80676

Client Sample ID: CCB-MW0096R-065.0-20221201
Prep Type: Total/NA

Surrogate	MS %Recovery	MS Qualifier	Limits
Toluene-d8 (Surr)	98		80 - 117
Toluene-d8 (Surr)	98		80 - 117

Lab Sample ID: MB 860-80678/10
Matrix: Water
Analysis Batch: 80678

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/07/22 11:10	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/07/22 11:10	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	99		63 - 144		12/07/22 11:10	1
4-Bromofluorobenzene (Surr)	100		74 - 124		12/07/22 11:10	1
Dibromofluoromethane (Surr)	101		75 - 131		12/07/22 11:10	1
Toluene-d8 (Surr)	99		80 - 117		12/07/22 11:10	1

Lab Sample ID: LCS 860-80678/3
Matrix: Water
Analysis Batch: 80678

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	50.0	51.2		ug/L		102	75 - 135
cis-1,2-Dichloroethene	50.0	50.6		ug/L		101	75 - 125

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	102		63 - 144
4-Bromofluorobenzene (Surr)	96		74 - 124
Dibromofluoromethane (Surr)	104		75 - 131
Toluene-d8 (Surr)	98		80 - 117

Lab Sample ID: LCSD 860-80678/4
Matrix: Water
Analysis Batch: 80678

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Trichloroethene	50.0	54.7		ug/L		109	75 - 135	7	25
cis-1,2-Dichloroethene	50.0	53.5		ug/L		107	75 - 125	6	25

Surrogate	LCSD %Recovery	LCSD Qualifier	Limits
1,2-Dichloroethane-d4 (Surr)	100		63 - 144
4-Bromofluorobenzene (Surr)	98		74 - 124
Dibromofluoromethane (Surr)	104		75 - 131
Toluene-d8 (Surr)	100		80 - 117

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38535-F-5 MS
Matrix: Water
Analysis Batch: 80678

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	0.79	U	50.0	53.4		ug/L		107	62 - 137
cis-1,2-Dichloroethene	0.71	U	50.0	53.5		ug/L		107	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*100*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*103*		*75 - 131*
Toluene-d8 (Surr)	*100*		*80 - 117*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-10668-1

GC/MS VOA

Analysis Batch: 80648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-10668-7 - RA	CCB-MW0016-015.0-20221201	Total/NA	Ground Water	8260D	
670-10668-8 - RA	CCB-MW0037-045.0-20221201	Total/NA	Ground Water	8260D	
670-10668-9 - RA	CCB-MW0036-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-10 - RA	CCB-MW0120-015.0-20221201	Total/NA	Ground Water	8260D	
MB 860-80648/10	Method Blank	Total/NA	Water	8260D	
LCS 860-80648/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-80648/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-38443-D-2 MS	Matrix Spike	Total/NA	Water	8260D	
860-38443-D-2 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Analysis Batch: 80676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-10668-1	CCB-MW0096R-065.0-20221201	Total/NA	Ground Water	8260D	
670-10668-2	CCB-MW0050-025.0-202221201	Total/NA	Ground Water	8260D	
670-10668-3	CCB-MW0088-045.0-20221201	Total/NA	Ground Water	8260D	
670-10668-4	CCB-MW0048-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-5	CCB-MW0142-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-6	CCB-MW0021-015.0-20221201	Total/NA	Ground Water	8260D	
670-10668-7	CCB-MW0016-015.0-20221201	Total/NA	Ground Water	8260D	
670-10668-8	CCB-MW0037-045.0-20221201	Total/NA	Ground Water	8260D	
670-10668-9	CCB-MW0036-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-10	CCB-MW0120-015.0-20221201	Total/NA	Ground Water	8260D	
670-10668-11	CCB-MW0067-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-12	CCB-MW0068-045.0-20221201	Total/NA	Ground Water	8260D	
MB 860-80676/9	Method Blank	Total/NA	Water	8260D	
LCS 860-80676/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-80676/4	Lab Control Sample Dup	Total/NA	Water	8260D	
670-10668-1 MS	CCB-MW0096R-065.0-20221201	Total/NA	Ground Water	8260D	

Analysis Batch: 80678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-10668-6 - DL	CCB-MW0021-015.0-20221201	Total/NA	Ground Water	8260D	
670-10668-11	CCB-MW0067-025.0-20221201	Total/NA	Ground Water	8260D	
670-10668-12 - RA	CCB-MW0068-045.0-20221201	Total/NA	Ground Water	8260D	
MB 860-80678/10	Method Blank	Total/NA	Water	8260D	
LCS 860-80678/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-80678/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-38535-F-5 MS	Matrix Spike	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc. Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0096R-065.0-20221201 Lab Sample ID: 670-10668-1
Date Collected: 12/01/22 12:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 10:07

Client Sample ID: CCB-MW0050-025.0-202221201 Lab Sample ID: 670-10668-2
Date Collected: 12/01/22 12:55 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 10:26

Client Sample ID: CCB-MW0088-045.0-20221201 Lab Sample ID: 670-10668-3
Date Collected: 12/01/22 13:40 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 10:45

Client Sample ID: CCB-MW0048-025.0-20221201 Lab Sample ID: 670-10668-4
Date Collected: 12/01/22 14:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 11:04

Client Sample ID: CCB-MW0142-025.0-20221201 Lab Sample ID: 670-10668-5
Date Collected: 12/01/22 15:25 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 11:23

Client Sample ID: CCB-MW0021-015.0-20221201 Lab Sample ID: 670-10668-6
Date Collected: 12/01/22 16:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 11:42
Total/NA	Analysis	8260D	DL	40	80678	TTD	EET HOU	12/07/22 18:00

Client Sample ID: CCB-MW0016-015.0-20221201 Lab Sample ID: 670-10668-7
Date Collected: 12/01/22 17:30 **Matrix: Ground Water**
Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	80648	AN	EET HOU	12/07/22 15:19
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 12:01

Client Sample ID: CCB-MW0037-045.0-20221201 Lab Sample ID: 670-10668-8

Date Collected: 12/01/22 11:25 **Matrix: Ground Water**

Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	80648	AN	EET HOU	12/07/22 15:38
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 12:20

Client Sample ID: CCB-MW0036-025.0-20221201 Lab Sample ID: 670-10668-9

Date Collected: 12/01/22 12:35 **Matrix: Ground Water**

Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	80648	AN	EET HOU	12/07/22 15:57
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 12:39

Client Sample ID: CCB-MW0120-015.0-20221201 Lab Sample ID: 670-10668-10

Date Collected: 12/01/22 14:00 **Matrix: Ground Water**

Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D	RA	1	80648	AN	EET HOU	12/07/22 16:16
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 12:58

Client Sample ID: CCB-MW0067-025.0-20221201 Lab Sample ID: 670-10668-11

Date Collected: 12/01/22 15:05 **Matrix: Ground Water**

Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 13:17
Total/NA	Analysis	8260D		1	80678	TTD	EET HOU	12/07/22 17:19

Client Sample ID: CCB-MW0068-045.0-20221201 Lab Sample ID: 670-10668-12

Date Collected: 12/01/22 16:00 **Matrix: Ground Water**

Date Received: 12/03/22 11:24

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	80676	NA	EET HOU	12/07/22 13:36
Total/NA	Analysis	8260D	RA	1	80678	TTD	EET HOU	12/07/22 16:59

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E871002	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Ground Water	Cyclohexane

Method Summary

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Tetra Tech, Inc. | Job ID: 670-10668-1
Project/Site: NASA KSC CCB

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-10668-1	CCB-MW0096R-065.0-20221201	Ground Water	12/01/22 12:25	12/03/22 11:24
670-10668-2	CCB-MW0050-025.0-202221201	Ground Water	12/01/22 12:55	12/03/22 11:24
670-10668-3	CCB-MW0088-045.0-20221201	Ground Water	12/01/22 13:40	12/03/22 11:24
670-10668-4	CCB-MW0048-025.0-20221201	Ground Water	12/01/22 14:30	12/03/22 11:24
670-10668-5	CCB-MW0142-025.0-20221201	Ground Water	12/01/22 15:25	12/03/22 11:24
670-10668-6	CCB-MW0021-015.0-20221201	Ground Water	12/01/22 16:30	12/03/22 11:24
670-10668-7	CCB-MW0016-015.0-20221201	Ground Water	12/01/22 17:30	12/03/22 11:24
670-10668-8	CCB-MW0037-045.0-20221201	Ground Water	12/01/22 11:25	12/03/22 11:24
670-10668-9	CCB-MW0036-025.0-20221201	Ground Water	12/01/22 12:35	12/03/22 11:24
670-10668-10	CCB-MW0120-015.0-20221201	Ground Water	12/01/22 14:00	12/03/22 11:24
670-10668-11	CCB-MW0067-025.0-20221201	Ground Water	12/01/22 15:05	12/03/22 11:24
670-10668-12	CCB-MW0068-045.0-20221201	Ground Water	12/01/22 16:00	12/03/22 11:24

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1654 | PAGE 1 OF 2

PROJECT NO: 112G08452	FACILITY: KSC NASA CCB
PROJECT MANAGER	Mark Jonnet
PHONE NUMBER	(412) 921-8622
LABORATORY NAME AND CONTACT:	Eurofins / Kaitlin Dxlnick
SAMPLERS (SIGNATURE)	A. Siegel
FIELD OPERATIONS LEADER	Chuck Sordon
PHONE NUMBER	(321) 591-7550
ADDRESS	481 Newburg Port Ave
CARRIER/WAYBILL NUMBER	67001359
CITY, STATE	Altamonte Springs, Fl 32701

STANDARD TAT ☑
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G
PRESERVATIVE USED: HCl 4°C, 4°C

TYPE OF ANALYSIS: 8260D (MOD) NASA LC34 Custom; 8260D (MOD) NASA LC34 Custom

DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D (MOD) NASA LC34 Custom	8260D (MOD) NASA LC34 Custom	COMMENTS
12/01	1225	CCB-MW0046R-065.0-20221201	46R	60	70	GW	G	4	✓	✓	
12/01	1255	CCB-MW0050-025.0-20221201	50	20	30	GW	G	4	✓	✓	
12/01	1340	CCB-MW0088-045.0-20221201	MW88	40	50	GW	G	4	✓	✓	
12/01	1430	CCB-MW0048-025.0-20221201	48	20	30	GW	G	4	✓	✓	
12/01	1525	CCB-MW0142-025.0-20221201	142	20	30	GW	G	4	✓	✓	
12/01	1630	CCB-MW0021-015.0-20221201	21	10	20	GW	G	4	✓	✓	
12/01	1730	CCB-MW0016-015.0-20221201	16	10	20	GW	G	4	✓	✓	

670-10668 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY	12-02-22	1500	1. RECEIVED BY A. Siegel TT	12 2 22	1500
2. RELINQUISHED BY A. Siegel TT	12 2 22	1530	2. RECEIVED BY James W Gregory	12/2/22	1530
3. RELINQUISHED BY			3. RECEIVED BY MC	12/2/22	1550

COMMENTS

5.6

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1655 | PAGE 2 OF 2

PROJECT NO: 112G08952	FACILITY: KSC NASA CCB
PROJECT MANAGER: Mark Jonnet	PHONE NUMBER: 412 921-8622
LABORATORY NAME AND CONTACT: Eurofins Kaitlin Dylnicki	
SAMPLERS (SIGNATURE): R Siegel	
FIELD OPERATIONS LEADER: Chuck Sorden	PHONE NUMBER: 321 591 7580
ADDRESS: 481 Newburyport Ave	
CARRIER/WAYBILL NUMBER: 67601359	
CITY, STATE: Altamonte Springs FL 32707	

STANDARD TAT ☑ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G | G

PRESERVATIVE USED: HCL Ice | Ice

TYPE OF ANALYSIS: VOCs 8260 (mod) LC 34 Custom list | VOC 8260 (mod) LC 34 Custom list

DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	VOCs 8260 (mod) LC 34 Custom list	VOC 8260 (mod) LC 34 Custom list						COMMENTS
12/01	1125	CCB-MW0037-045.0 20221201	37	40	50	GW	G	4	X	X						
12/01	1235	CCB-MW0036-025.0 20221201	36	20	30	GW	G	4	X	X						
12/01	1400	CCB-MW0120-015.0 20221201	120	10	15	GW	G	4	X	X						
12/01	1505	CCB-MW0067-025.0 20221201	67	20	30	GW	G	4	X	X						
12/01	1600	CCB-MW0068-045.0 20221201	68	40	50	GW	G	4	X	X						

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: R Siegel TT	12-2-22	1530	1. RECEIVED BY: Jameah W Gregory	12/2/22	1530
2. RELINQUISHED BY			2. RECEIVED BY		
3. RELINQUISHED BY			3. RECEIVED BY: MC	12/2/22	1550

COMMENTS

5.6

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-2280.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP - Florida		Job #: 670-10668-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/4/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 516/CCF Custom	8260D/5030C_UP (MOD) NASA 516/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0096R-065.0-20221201 (670-10668-1)	12/1/22	12:25 Eastern		Water			X	X	4	
CCB-MW0050-025.0-202221201 (670-10668-2)	12/1/22	12:55 Eastern		Water			X	X	4	
CCB-MW0088-045.0-20221201 (670-10668-3)	12/1/22	13:40 Eastern		Water			X	X	4	
CCB-MW0048-025.0-20221201 (670-10668-4)	12/1/22	14:30 Eastern		Water			X	X	4	
CCB-MW0142-025.0-20221201 (670-10668-5)	12/1/22	15:25 Eastern		Water			X	X	4	
CCB-MW0021-015.0-20221201 (670-10668-6)	12/1/22	16:30 Eastern		Water			X	X	4	
CCB-MW0016-015.0-20221201 (670-10668-7)	12/1/22	17:30 Eastern		Water			X	X	4	
CCB-MW0037-045.0-20221201 (670-10668-8)	12/1/22	11:25 Eastern		Water			X	X	4	
CCB-MW0036-025.0-20221201 (670-10668-9)	12/1/22	12:35 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I II III, IV Other (specify) — Primary Deliverable Rank: 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: BB	Date/Time: 12/5 1457	Company	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: Pedro Palmer	Date/Time: 12/6/2022 10 01	Company EX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	Temp. 1.8 IR ID HOU-344 C/F +1.2 Corrected Temp: 3.0	

06/08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-2280.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 2
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Florida		Job #: 670-10668-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/4/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 516/CCF Custom	8260D/5030C_UP (MOD) NASA 516/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0120-015.0-20221201 (670-10668-10)	12/1/22	14:00 Eastern		Water			X	X	4	
CCB-MW0067-025.0-20221201 (670-10668-11)	12/1/22	15:05 Eastern		Water			X	X	4	
CCB-MW0068-045.0-20221201 (670-10668-12)	12/1/22	16:00 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification Unconfirmed		*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)* ☐ Return To Client ☐ Disposal By Lab ☐ Archive For ____ Months	
Deliverable Requested I, II, III IV Other (specify)	Primary Deliverable Rank: 2	Special Instructions/QC Requirements:	
Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: BB	Date/Time: 12/5 1457	Company	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: Pedro Palmer	Date/Time: 12/6/2022 10:01	Company EX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:	

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc. Job Number: 670-10668-1

Login Number: 10668 **List Source: Eurofins Orlando**
List Number: 1
Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-10668-1

Login Number: 10668
List Number: 2
Creator: Palmar, Pedro

List Source: Eurofins Houston
List Creation: 12/06/22 01:04 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 2/8/2023 2:06:13 PM

JOB DESCRIPTION

NASA KSC CCB

JOB NUMBER

670-14029-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

my EOL

Eurofins Orlando

Job Notes

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization

Kaitlin Dylnicki

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Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 670-14029-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-14029-1

Receipt
The samples were received on 2/2/2023 3:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 2.5°C

GC/MS VOA
Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0114-015.0-20230201 (670-14029-7) .

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0061-030.0-20230201 (670-14029-1), CCB-MW0127-025.0-20230201 (670-14029-2), CCB-MW0128-015.0-20230201 (670-14029-3), CCB-MW0129-035.0-20230201 (670-14029-4), CCB-MW0113-030.0-20230201 (670-14029-5) and CCB-MW0073-015.0-20230201 (670-14029-6) .

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Client Sample ID: CCB-MW0061-030.0-20230201 — Lab Sample ID: 670-14029-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	93		1.0	0.71	ug/L	1		8260D	Total/NA
Toluene	0.72	I	1.0	0.48	ug/L	1		8260D	Total/NA
Trichloroethene	56		5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	7.3		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0127-025.0-20230201 — Lab Sample ID: 670-14029-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0	0.71	ug/L	1		8260D	Total/NA
Vinyl chloride	1.7	I	2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0128-015.0-20230201 — Lab Sample ID: 670-14029-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.1		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene	3.4	I	5.0	0.79	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0129-035.0-20230201 — Lab Sample ID: 670-14029-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.0		1.0	0.71	ug/L	1		8260D	Total/NA
Vinyl chloride	2.4		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0113-030.0-20230201 — Lab Sample ID: 670-14029-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.3		1.0	0.71	ug/L	1		8260D	Total/NA
Vinyl chloride	2.7		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0073-015.0-20230201 — Lab Sample ID: 670-14029-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	8.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0114-015.0-20230201 — Lab Sample ID: 670-14029-7

No Detections.

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc. Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0061-030.0-20230201 **Lab Sample ID: 670-14029-1**
Date Collected: 02/01/23 09:25 **Matrix: Water**
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:30	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 13:30	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 13:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 13:30	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 13:30	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:30	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 13:30	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 13:30	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 13:30	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 13:30	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 13:30	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:30	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 13:30	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 13:30	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:30	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:30	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 13:30	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 13:30	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 13:30	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 13:30	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 13:30	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 13:30	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 13:30	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 13:30	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 13:30	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 13:30	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 13:30	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 13:30	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 13:30	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 13:30	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 13:30	1
cis-1,2-Dichloroethene	**93**		1.0	0.71	ug/L			02/07/23 13:30	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 13:30	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 13:30	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 13:30	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 13:30	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 13:30	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 13:30	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 13:30	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 13:30	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 13:30	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 13:30	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 13:30	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 13:30	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 13:30	1
Toluene	**0.72**	**I**	1.0	0.48	ug/L			02/07/23 13:30	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 13:30	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 13:30	1
Trichloroethene	**56**		5.0	0.79	ug/L			02/07/23 13:30	1

Client Sample ID: CCB-MW0061-030.0-20230201

Lab Sample ID: 670-14029-1

Date Collected: 02/01/23 09:25
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:30	1
Vinyl chloride	**7.3**		2.0	0.64	ug/L			02/07/23 13:30	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 13:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*02/07/23 13:30*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*02/07/23 13:30*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*02/07/23 13:30*	*1*
Toluene-d8 (Surr)	*107*		*80 - 117*		*02/07/23 13:30*	*1*

Client Sample ID: CCB-MW0127-025.0-20230201

Lab Sample ID: 670-14029-2

Date Collected: 02/01/23 10:55
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:49	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 12:49	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 12:49	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 12:49	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 12:49	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:49	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 12:49	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 12:49	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 12:49	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 12:49	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 12:49	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:49	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 12:49	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 12:49	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:49	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:49	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 12:49	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 12:49	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 12:49	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 12:49	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:49	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 12:49	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 12:49	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 12:49	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 12:49	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 12:49	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 12:49	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:49	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 12:49	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 12:49	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 12:49	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.71	ug/L			02/07/23 12:49	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 12:49	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 12:49	1

Client Sample ID: CCB-MW0127-025.0-20230201

Lab Sample ID: 670-14029-2

Date Collected: 02/01/23 10:55

Matrix: Water

Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 12:49	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 12:49	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 12:49	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 12:49	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 12:49	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 12:49	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 12:49	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 12:49	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 12:49	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 12:49	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 12:49	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 12:49	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 12:49	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 12:49	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 12:49	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:49	1
Vinyl chloride	**1.7**	**I**	2.0	0.64	ug/L			02/07/23 12:49	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 12:49	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*02/07/23 12:49*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*02/07/23 12:49*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*02/07/23 12:49*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*02/07/23 12:49*	*1*

Client Sample ID: CCB-MW0128-015.0-20230201

Lab Sample ID: 670-14029-3

Date Collected: 02/01/23 12:05

Matrix: Water

Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:09	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 13:09	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 13:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 13:09	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 13:09	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:09	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 13:09	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 13:09	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 13:09	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 13:09	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 13:09	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:09	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 13:09	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 13:09	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:09	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 13:09	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 13:09	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 13:09	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 13:09	1

Client Sample ID: CCB-MW0128-015.0-20230201 Lab Sample ID: 670-14029-3

Date Collected: 02/01/23 12:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			02/07/23 13:09	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 13:09	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 13:09	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 13:09	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 13:09	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 13:09	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 13:09	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 13:09	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 13:09	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 13:09	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 13:09	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 13:09	1
cis-1,2-Dichloroethene	**6.1**		1.0	0.71	ug/L			02/07/23 13:09	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 13:09	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 13:09	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 13:09	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 13:09	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 13:09	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 13:09	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 13:09	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 13:09	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 13:09	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 13:09	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 13:09	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 13:09	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 13:09	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 13:09	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 13:09	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 13:09	1
Trichloroethene	**3.4**	**I**	5.0	0.79	ug/L			02/07/23 13:09	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 13:09	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			02/07/23 13:09	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 13:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*95*		*63 - 144*		*02/07/23 13:09*	*1*
4-Bromofluorobenzene (Surr)	*102*		*74 - 124*		*02/07/23 13:09*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*02/07/23 13:09*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*02/07/23 13:09*	*1*

Client Sample ID: CCB-MW0129-035.0-20230201 Lab Sample ID: 670-14029-4

Date Collected: 02/01/23 13:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:28	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 12:28	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 12:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 12:28	1

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0129-035.0-20230201 Lab Sample ID: 670-14029-4
Date Collected: 02/01/23 13:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 12:28	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:28	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 12:28	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 12:28	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 12:28	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 12:28	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 12:28	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:28	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 12:28	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 12:28	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:28	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:28	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 12:28	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 12:28	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 12:28	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 12:28	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:28	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 12:28	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 12:28	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 12:28	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 12:28	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 12:28	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 12:28	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:28	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 12:28	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 12:28	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 12:28	1
cis-1,2-Dichloroethene	**2.0**		1.0	0.71	ug/L			02/07/23 12:28	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 12:28	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 12:28	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 12:28	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 12:28	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 12:28	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 12:28	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 12:28	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 12:28	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 12:28	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 12:28	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 12:28	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 12:28	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 12:28	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 12:28	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 12:28	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 12:28	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 12:28	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:28	1
Vinyl chloride	**2.4**		2.0	0.64	ug/L			02/07/23 12:28	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 12:28	1

Client Sample ID: CCB-MW0129-035.0-20230201 Lab Sample ID: 670-14029-4

Date Collected: 02/01/23 13:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*02/07/23 12:28*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*02/07/23 12:28*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*02/07/23 12:28*	*1*
Toluene-d8 (Surr)	*106*		*80 - 117*		*02/07/23 12:28*	*1*

Client Sample ID: CCB-MW0113-030.0-20230201 Lab Sample ID: 670-14029-5

Date Collected: 02/01/23 14:20 **Matrix: Water**
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 11:47	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 11:47	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 11:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 11:47	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 11:47	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 11:47	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 11:47	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 11:47	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 11:47	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 11:47	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 11:47	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 11:47	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 11:47	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 11:47	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 11:47	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 11:47	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 11:47	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 11:47	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 11:47	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 11:47	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 11:47	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 11:47	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 11:47	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 11:47	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 11:47	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 11:47	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 11:47	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 11:47	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 11:47	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 11:47	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 11:47	1
cis-1,2-Dichloroethene	**2.3**		1.0	0.71	ug/L			02/07/23 11:47	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 11:47	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 11:47	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 11:47	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 11:47	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 11:47	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 11:47	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 11:47	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Client Sample ID: CCB-MW0113-030.0-20230201

Lab Sample ID: 670-14029-5

Date Collected: 02/01/23 14:20
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 11:47	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 11:47	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 11:47	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 11:47	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 11:47	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 11:47	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 11:47	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 11:47	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 11:47	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 11:47	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 11:47	1
Vinyl chloride	**2.7**		2.0	0.64	ug/L			02/07/23 11:47	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 11:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*		*02/07/23 11:47*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*02/07/23 11:47*	*1*
Dibromofluoromethane (Surr)	*103*		*75 - 131*		*02/07/23 11:47*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*02/07/23 11:47*	*1*

Client Sample ID: CCB-MW0073-015.0-20230201

Lab Sample ID: 670-14029-6

Date Collected: 02/01/23 15:20
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:08	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 12:08	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 12:08	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 12:08	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 12:08	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:08	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 12:08	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 12:08	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 12:08	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 12:08	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 12:08	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:08	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 12:08	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 12:08	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:08	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 12:08	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 12:08	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 12:08	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 12:08	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 12:08	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:08	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 12:08	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 12:08	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 12:08	1

Client Sample ID: CCB-MW0073-015.0-20230201

Lab Sample ID: 670-14029-6

Date Collected: 02/01/23 15:20
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 12:08	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 12:08	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 12:08	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 12:08	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 12:08	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 12:08	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 12:08	1
cis-1,2-Dichloroethene	**8.4**		1.0	0.71	ug/L			02/07/23 12:08	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 12:08	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 12:08	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 12:08	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 12:08	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 12:08	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 12:08	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 12:08	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 12:08	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 12:08	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 12:08	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 12:08	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 12:08	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 12:08	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 12:08	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 12:08	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 12:08	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 12:08	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 12:08	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			02/07/23 12:08	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 12:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*		*02/07/23 12:08*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*02/07/23 12:08*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*02/07/23 12:08*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*02/07/23 12:08*	*1*

Client Sample ID: CCB-MW0114-015.0-20230201

Lab Sample ID: 670-14029-7

Date Collected: 02/01/23 16:30
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 10:25	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 10:25	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 10:25	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 10:25	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 10:25	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 10:25	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 10:25	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 10:25	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 10:25	1

Client Sample Results

Client: Tetra Tech, Inc.
Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0114-015.0-20230201
Lab Sample ID: 670-14029-7
Date Collected: 02/01/23 16:30
Matrix: Water
Date Received: 02/02/23 15:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 10:25	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 10:25	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 10:25	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 10:25	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 10:25	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 10:25	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 10:25	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 10:25	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 10:25	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 10:25	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 10:25	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 10:25	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 10:25	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 10:25	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 10:25	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 10:25	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 10:25	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 10:25	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 10:25	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 10:25	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 10:25	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 10:25	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			02/07/23 10:25	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 10:25	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 10:25	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 10:25	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 10:25	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 10:25	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 10:25	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 10:25	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 10:25	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 10:25	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 10:25	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 10:25	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 10:25	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 10:25	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 10:25	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 10:25	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 10:25	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 10:25	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 10:25	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			02/07/23 10:25	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 10:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*96*		*63 - 144*		*02/07/23 10:25*	*1*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*		*02/07/23 10:25*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*02/07/23 10:25*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*02/07/23 10:25*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
670-14029-1	CCB-MW0061-030.0-20230201	95	98	102	107
670-14029-2	CCB-MW0127-025.0-20230201	96	100	103	106
670-14029-3	CCB-MW0128-015.0-20230201	95	102	103	106
670-14029-4	CCB-MW0129-035.0-20230201	96	100	103	106
670-14029-5	CCB-MW0113-030.0-20230201	99	98	103	103
670-14029-6	CCB-MW0073-015.0-20230201	99	99	104	103
670-14029-7	CCB-MW0114-015.0-20230201	96	101	102	103
670-14029-7 MS	CCB-MW0114-015.0-20230201	89	100	100	101
LCS 860-88994/3	Lab Control Sample	88	98	97	104
LCSD 860-88994/4	Lab Control Sample Dup	90	99	97	102
MB 860-88994/9	Method Blank	92	100	98	105

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-88994/9
Matrix: Water
Analysis Batch: 88994

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 09:44	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			02/07/23 09:44	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			02/07/23 09:44	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			02/07/23 09:44	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			02/07/23 09:44	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			02/07/23 09:44	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			02/07/23 09:44	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			02/07/23 09:44	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			02/07/23 09:44	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			02/07/23 09:44	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			02/07/23 09:44	1
1,2-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 09:44	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			02/07/23 09:44	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			02/07/23 09:44	1
1,3-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 09:44	1
1,4-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			02/07/23 09:44	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			02/07/23 09:44	1
2-Hexanone	7.4	U	50	7.4	ug/L			02/07/23 09:44	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			02/07/23 09:44	1
Acetone	1.2	U	100	1.2	ug/L			02/07/23 09:44	1
Benzene	0.53	U	1.0	0.53	ug/L			02/07/23 09:44	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			02/07/23 09:44	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			02/07/23 09:44	1
Bromoform	0.63	U	5.0	0.63	ug/L			02/07/23 09:44	1
Bromomethane	1.4	U	5.0	1.4	ug/L			02/07/23 09:44	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			02/07/23 09:44	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			02/07/23 09:44	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			02/07/23 09:44	1
Chloroethane	2.0	U	10	2.0	ug/L			02/07/23 09:44	1
Chloroform	0.64	U	1.0	0.64	ug/L			02/07/23 09:44	1
Chloromethane	2.0	U	10	2.0	ug/L			02/07/23 09:44	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			02/07/23 09:44	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			02/07/23 09:44	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			02/07/23 09:44	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			02/07/23 09:44	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			02/07/23 09:44	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			02/07/23 09:44	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			02/07/23 09:44	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			02/07/23 09:44	1
Methyl acetate	4.0	U	20	4.0	ug/L			02/07/23 09:44	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			02/07/23 09:44	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			02/07/23 09:44	1
o-Xylene	0.55	U	1.0	0.55	ug/L			02/07/23 09:44	1
Styrene	0.66	U	1.0	0.66	ug/L			02/07/23 09:44	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			02/07/23 09:44	1
Toluene	0.48	U	1.0	0.48	ug/L			02/07/23 09:44	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			02/07/23 09:44	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			02/07/23 09:44	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-88994/9
Matrix: Water
Analysis Batch: 88994

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichloroethene	0.79	U	5.0	0.79	ug/L			02/07/23 09:44	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			02/07/23 09:44	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			02/07/23 09:44	1
Xylenes, Total	1.2	U	10	1.2	ug/L			02/07/23 09:44	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*92*		*63 - 144*		*02/07/23 09:44*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*02/07/23 09:44*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*02/07/23 09:44*	*1*
Toluene-d8 (Surr)	*105*		*80 - 117*		*02/07/23 09:44*	*1*

Lab Sample ID: LCS 860-88994/3
Matrix: Water
Analysis Batch: 88994

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	46.2		ug/L		92	72 - 125
1,1,1-Trichloroethane	50.0	46.3		ug/L		93	70 - 130
1,1,2,2-Tetrachloroethane	50.0	51.0		ug/L		102	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	49.9		ug/L		100	60 - 140
1,1,2-Trichloroethane	50.0	49.3		ug/L		99	70 - 130
1,1-Dichloroethane	50.0	50.8		ug/L		102	70 - 130
1,1-Dichloroethene	50.0	53.4		ug/L		107	50 - 150
1,2,3-Trichlorobenzene	50.0	59.6		ug/L		119	75 - 137
1,2,4-Trichlorobenzene	50.0	53.8		ug/L		108	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	50.2		ug/L		100	59 - 125
1,2-Dibromoethane (EDB)	50.0	50.1		ug/L		100	73 - 125
1,2-Dichlorobenzene	50.0	50.7		ug/L		101	75 - 125
1,2-Dichloroethane	50.0	43.4		ug/L		87	72 - 130
1,2-Dichloropropane	50.0	49.4		ug/L		99	74 - 125
1,3-Dichlorobenzene	50.0	50.1		ug/L		100	75 - 125
1,4-Dichlorobenzene	50.0	49.9		ug/L		100	75 - 125
2-Butanone (MEK)	250	265		ug/L		106	60 - 140
2-Hexanone	250	265		ug/L		106	60 - 140
4-Methyl-2-pentanone	250	253		ug/L		101	60 - 140
Acetone	250	249		ug/L		100	60 - 140
Benzene	50.0	50.0		ug/L		100	75 - 125
Bromochloromethane	50.0	48.1		ug/L		96	60 - 140
Bromodichloromethane	50.0	44.5		ug/L		89	75 - 125
Bromoform	50.0	44.4		ug/L		89	70 - 130
Bromomethane	50.0	49.9		ug/L		100	60 - 140
Carbon disulfide	50.0	49.7		ug/L		99	60 - 140
Carbon tetrachloride	50.0	46.1		ug/L		92	70 - 130
Chlorobenzene	50.0	51.4		ug/L		103	65 - 135
Chloroethane	50.0	57.2		ug/L		114	60 - 140
Chloroform	50.0	47.2		ug/L		94	70 - 121
Chloromethane	50.0	48.8		ug/L		98	60 - 140
cis-1,2-Dichloroethene	50.0	49.5		ug/L		99	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-88994/3
Client Sample ID: Lab Control Sample
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 88994

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
cis-1,3-Dichloropropene	50.0	49.2		ug/L		98	74 - 125
Cyclohexane	50.0	47.7		ug/L		95	70 - 130
Dibromochloromethane	50.0	46.0		ug/L		92	73 - 125
Dichlorodifluoromethane	50.0	45.9		ug/L		92	70 - 130
Ethylbenzene	50.0	52.7		ug/L		105	75 - 125
Isopropylbenzene	50.0	53.4		ug/L		107	75 - 125
m,p-Xylenes	50.0	51.8		ug/L		104	75 - 125
Methyl acetate	100	103		ug/L		103	60 - 140
Methyl tert-butyl ether	50.0	46.7		ug/L		93	65 - 135
Methylene Chloride	50.0	45.8		ug/L		92	75 - 125
o-Xylene	50.0	51.7		ug/L		103	75 - 125
Styrene	50.0	53.9		ug/L		108	75 - 125
Tetrachloroethene	50.0	50.4		ug/L		101	71 - 125
Toluene	50.0	51.5		ug/L		103	70 - 130
trans-1,2-Dichloroethene	50.0	50.6		ug/L		101	75 - 125
trans-1,3-Dichloropropene	50.0	48.5		ug/L		97	66 - 125
Trichloroethene	50.0	49.6		ug/L		99	75 - 135
Trichlorofluoromethane	50.0	48.8		ug/L		98	60 - 140
Vinyl chloride	50.0	54.4		ug/L		109	60 - 140
Xylenes, Total	100	104		ug/L		104	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*88*		*63 - 144*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*
Toluene-d8 (Surr)	*104*		*80 - 117*

Lab Sample ID: LCSD 860-88994/4
Client Sample ID: Lab Control Sample Dup
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 88994

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	44.2		ug/L		88	72 - 125	4	25
1,1,1-Trichloroethane	50.0	44.9		ug/L		90	70 - 130	3	25
1,1,2,2-Tetrachloroethane	50.0	49.8		ug/L		100	74 - 125	2	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	50.6		ug/L		101	60 - 140	1	25
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130	3	25
1,1-Dichloroethane	50.0	50.4		ug/L		101	70 - 130	1	25
1,1-Dichloroethene	50.0	50.9		ug/L		102	50 - 150	5	25
1,2,3-Trichlorobenzene	50.0	53.9		ug/L		108	75 - 137	10	25
1,2,4-Trichlorobenzene	50.0	52.6		ug/L		105	75 - 135	2	25
1,2-Dibromo-3-Chloropropane	50.0	49.6		ug/L		99	59 - 125	1	25
1,2-Dibromoethane (EDB)	50.0	47.3		ug/L		95	73 - 125	6	25
1,2-Dichlorobenzene	50.0	49.9		ug/L		100	75 - 125	2	25
1,2-Dichloroethane	50.0	42.2		ug/L		84	72 - 130	3	25
1,2-Dichloropropane	50.0	49.2		ug/L		98	74 - 125	0	25
1,3-Dichlorobenzene	50.0	50.9		ug/L		102	75 - 125	1	25
1,4-Dichlorobenzene	50.0	49.8		ug/L		100	75 - 125	0	25

Client: Tetra Tech, Inc. Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-88994/4
Matrix: Water
Analysis Batch: 88994

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Butanone (MEK)	250	259		ug/L		104	60 - 140	2	25
2-Hexanone	250	250		ug/L		100	60 - 140	6	25
4-Methyl-2-pentanone	250	246		ug/L		99	60 - 140	3	25
Acetone	250	249		ug/L		100	60 - 140	0	25
Benzene	50.0	48.0		ug/L		96	75 - 125	4	25
Bromochloromethane	50.0	48.2		ug/L		96	60 - 140	0	25
Bromodichloromethane	50.0	43.6		ug/L		87	75 - 125	2	25
Bromoform	50.0	42.7		ug/L		85	70 - 130	4	25
Bromomethane	50.0	49.0		ug/L		98	60 - 140	2	25
Carbon disulfide	50.0	49.6		ug/L		99	60 - 140	0	25
Carbon tetrachloride	50.0	44.9		ug/L		90	70 - 130	3	25
Chlorobenzene	50.0	49.0		ug/L		98	65 - 135	5	25
Chloroethane	50.0	54.5		ug/L		109	60 - 140	5	25
Chloroform	50.0	47.0		ug/L		94	70 - 121	0	25
Chloromethane	50.0	47.4		ug/L		95	60 - 140	3	25
cis-1,2-Dichloroethene	50.0	48.8		ug/L		98	75 - 125	1	25
cis-1,3-Dichloropropene	50.0	47.5		ug/L		95	74 - 125	4	25
Cyclohexane	50.0	48.3		ug/L		97	70 - 130	1	25
Dibromochloromethane	50.0	44.1		ug/L		88	73 - 125	4	25
Dichlorodifluoromethane	50.0	44.4		ug/L		89	70 - 130	3	25
Ethylbenzene	50.0	50.3		ug/L		101	75 - 125	5	25
Isopropylbenzene	50.0	51.0		ug/L		102	75 - 125	5	25
m,p-Xylenes	50.0	50.1		ug/L		100	75 - 125	3	25
Methyl acetate	100	102		ug/L		102	60 - 140	1	25
Methyl tert-butyl ether	50.0	46.9		ug/L		94	65 - 135	0	25
Methylene Chloride	50.0	45.2		ug/L		90	75 - 125	1	25
o-Xylene	50.0	49.8		ug/L		100	75 - 125	4	25
Styrene	50.0	51.8		ug/L		104	75 - 125	4	25
Tetrachloroethene	50.0	48.7		ug/L		97	71 - 125	4	25
Toluene	50.0	49.4		ug/L		99	70 - 130	4	25
trans-1,2-Dichloroethene	50.0	52.0		ug/L		104	75 - 125	3	25
trans-1,3-Dichloropropene	50.0	46.6		ug/L		93	66 - 125	4	25
Trichloroethene	50.0	48.2		ug/L		96	75 - 135	3	25
Trichlorofluoromethane	50.0	48.7		ug/L		97	60 - 140	0	25
Vinyl chloride	50.0	52.2		ug/L		104	60 - 140	4	25
Xylenes, Total	100	99.9		ug/L		100	75 - 125	4	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*90*		*63 - 144*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*
Toluene-d8 (Surr)	*102*		*80 - 117*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-14029-7 MS
Matrix: Water
Analysis Batch: 88994

Client Sample ID: CCB-MW0114-015.0-20230201
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.64	U	50.0	44.1		ug/L		88	72 - 125
1,1,1-Trichloroethane	1.7	U	50.0	43.2		ug/L		86	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	50.0		ug/L		100	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	38.2		ug/L		76	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	49.5		ug/L		99	75 - 127
1,1-Dichloroethane	0.64	U	50.0	46.7		ug/L		93	72 - 125
1,1-Dichloroethene	0.74	U	50.0	46.0		ug/L		92	59 - 172
1,2,3-Trichlorobenzene	2.2	U	50.0	56.0		ug/L		112	75 - 137
1,2,4-Trichlorobenzene	1.8	U	50.0	53.5		ug/L		107	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	49.4		ug/L		99	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	48.7		ug/L		97	73 - 125
1,2-Dichlorobenzene	0.51	U	50.0	50.1		ug/L		100	75 - 125
1,2-Dichloroethane	0.59	U	50.0	40.9		ug/L		82	68 - 127
1,2-Dichloropropane	0.67	U	50.0	47.9		ug/L		96	74 - 125
1,3-Dichlorobenzene	0.51	U	50.0	50.5		ug/L		101	75 - 125
1,4-Dichlorobenzene	0.51	U	50.0	49.8		ug/L		100	75 - 125
2-Butanone (MEK)	8.3	U	250	245		ug/L		98	60 - 140
2-Hexanone	7.4	U	250	247		ug/L		99	60 - 140
4-Methyl-2-pentanone	7.5	U	250	238		ug/L		95	60 - 140
Acetone	1.2	U	250	232		ug/L		93	60 - 140
Benzene	0.53	U	50.0	46.8		ug/L		94	66 - 142
Bromochloromethane	0.66	U	50.0	45.2		ug/L		90	60 - 140
Bromodichloromethane	0.55	U	50.0	43.5		ug/L		87	75 - 125
Bromoform	0.63	U	50.0	43.0		ug/L		86	75 - 125
Bromomethane	1.4	U	50.0	48.6		ug/L		97	60 - 140
Carbon disulfide	1.9	U	50.0	40.0		ug/L		80	60 - 140
Carbon tetrachloride	0.90	U	50.0	44.1		ug/L		88	62 - 125
Chlorobenzene	0.53	U	50.0	49.2		ug/L		98	60 - 133
Chloroethane	2.0	U	50.0	55.4		ug/L		111	60 - 140
Chloroform	0.64	U	50.0	44.5		ug/L		89	70 - 130
Chloromethane	2.0	U	50.0	49.7		ug/L		99	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	47.8		ug/L		96	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	46.8		ug/L		94	74 - 125
Cyclohexane	1.5	U	50.0	39.6		ug/L		79	70 - 130
Dibromochloromethane	0.55	U	50.0	44.5		ug/L		89	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	45.5		ug/L		91	70 - 130
Ethylbenzene	0.41	U	50.0	50.5		ug/L		101	75 - 125
Isopropylbenzene	0.61	U	50.0	51.7		ug/L		103	75 - 125
m,p-Xylenes	1.2	U	50.0	50.1		ug/L		100	75 - 125
Methyl acetate	4.0	U	100	96.4		ug/L		96	60 - 140
Methyl tert-butyl ether	1.4	U	50.0	45.0		ug/L		90	65 - 135
Methylene Chloride	1.7	U	50.0	42.5		ug/L		85	75 - 125
o-Xylene	0.55	U	50.0	49.8		ug/L		100	75 - 125
Styrene	0.66	U	50.0	52.6		ug/L		105	75 - 125
Tetrachloroethene	0.80	U	50.0	49.8		ug/L		100	71 - 125
Toluene	0.48	U	50.0	50.1		ug/L		100	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	46.3		ug/L		93	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	46.8		ug/L		94	66 - 125

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-14029-7 MS
Matrix: Water
Analysis Batch: 88994

Client Sample ID: CCB-MW0114-015.0-20230201
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Trichloroethene	0.79	U	50.0	46.8		ug/L		94	62 - 137
Trichlorofluoromethane	0.64	U	50.0	45.8		ug/L		92	60 - 140
Vinyl chloride	0.64	U	50.0	54.5		ug/L		109	60 - 140
Xylenes, Total	1.2	U	100	99.9		ug/L		100	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*89*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*100*		*75 - 131*
Toluene-d8 (Surr)	*101*		*80 - 117*

GC/MS VOA

Analysis Batch: 88994

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-14029-1	CCB-MW0061-030.0-20230201	Total/NA	Water	8260D	
670-14029-2	CCB-MW0127-025.0-20230201	Total/NA	Water	8260D	
670-14029-3	CCB-MW0128-015.0-20230201	Total/NA	Water	8260D	
670-14029-4	CCB-MW0129-035.0-20230201	Total/NA	Water	8260D	
670-14029-5	CCB-MW0113-030.0-20230201	Total/NA	Water	8260D	
670-14029-6	CCB-MW0073-015.0-20230201	Total/NA	Water	8260D	
670-14029-7	CCB-MW0114-015.0-20230201	Total/NA	Water	8260D	
MB 860-88994/9	Method Blank	Total/NA	Water	8260D	
LCS 860-88994/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-88994/4	Lab Control Sample Dup	Total/NA	Water	8260D	
670-14029-7 MS	CCB-MW0114-015.0-20230201	Total/NA	Water	8260D	

Lab Chronicle

Client: Tetra Tech, Inc. Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0061-030.0-20230201 **Lab Sample ID: 670-14029-1**
Date Collected: 02/01/23 09:25 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 13:30

Client Sample ID: CCB-MW0127-025.0-20230201 **Lab Sample ID: 670-14029-2**
Date Collected: 02/01/23 10:55 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 12:49

Client Sample ID: CCB-MW0128-015.0-20230201 **Lab Sample ID: 670-14029-3**
Date Collected: 02/01/23 12:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 13:09

Client Sample ID: CCB-MW0129-035.0-20230201 **Lab Sample ID: 670-14029-4**
Date Collected: 02/01/23 13:05 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 12:28

Client Sample ID: CCB-MW0113-030.0-20230201 **Lab Sample ID: 670-14029-5**
Date Collected: 02/01/23 14:20 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 11:47

Client Sample ID: CCB-MW0073-015.0-20230201 **Lab Sample ID: 670-14029-6**
Date Collected: 02/01/23 15:20 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 12:08

Client Sample ID: CCB-MW0114-015.0-20230201 **Lab Sample ID: 670-14029-7**
Date Collected: 02/01/23 16:30 **Matrix: Water**
Date Received: 02/02/23 15:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	88994	NA	EET HOU	02/07/23 10:25

Laboratory References:
EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Tetra Tech, Inc.
Job ID: 670-14029-1
Project/Site: NASA KSC CCB

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E871002	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Water	Cyclohexane

Method Summary

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-14029-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-14029-1	CCB-MW0061-030.0-20230201	Water	02/01/23 09:25	02/02/23 15:00
670-14029-2	CCB-MW0127-025.0-20230201	Water	02/01/23 10:55	02/02/23 15:00
670-14029-3	CCB-MW0128-015.0-20230201	Water	02/01/23 12:05	02/02/23 15:00
670-14029-4	CCB-MW0129-035.0-20230201	Water	02/01/23 13:05	02/02/23 15:00
670-14029-5	CCB-MW0113-030.0-20230201	Water	02/01/23 14:20	02/02/23 15:00
670-14029-6	CCB-MW0073-015.0-20230201	Water	02/01/23 15:20	02/02/23 15:00
670-14029-7	CCB-MW0114-015.0-20230201	Water	02/01/23 16:30	02/02/23 15:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1732 | PAGE 1 OF 1

PROJECT NO: 112G-08952
FACILITY: KSC NASA CCB
PROJECT MANAGER: Mark Jonet
PHONE NUMBER: 412.921.8022
LABORATORY NAME AND CONTACT: Eurofins Kaitlin Dylnicki
SAMPLERS (SIGNATURE): Robert Siegel
FIELD OPERATIONS LEADER: Chuck Sunden
PHONE NUMBER: 321.591.7580
ADDRESS: 481 Newport Ave
CARRIER/WAYBILL NUMBER: Lab # 6700 1359
CITY, STATE: Altamonte Springs Fl

STANDARD TAT ☒
RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G | G
PRESERVATIVE USED: HCL Ice | Ice

TYPE OF ANALYSIS: VOCs 8260d (mod) LC 34 Custom List | VOCs 8260d (mod) LC 34 Custom List

DATE YEAR 2023	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	VOCs 8260d (mod) LC 34 Custom List	VOCs 8260d (mod) LC 34 Custom List							COMMENTS
02/01	0925	CCB-MW0061-030.0-20230201	61	25.0	35.0	GW	G	6	X	X							
02/01	1055	CCB-MW0127-025.0-20230201	127	20.0	30.0	GW	G	6	X	X							
02/01	1205	CCB-MW0128-015.0-20230201	128	10.0	20.0	GW	G	6	X	X							
02/01	1305	CCB-MW0129-035.0-20230201	129	30.0	40.0	GW	G	6	X	X							
02/01	1420	CCB-MW0113-030.0-20230201	113	25.0	35.0	GW	G	6	X	X							
02/01	1520	CCB-MW0073-015.0-20230201	73	10.0	20.0	GW	G	6	X	X							
02/01	1630	CCB-MW0114-015.0-20230201	114	10.0	20.0	GW	G	6	X	X							

670-14029 Chain of Custody

1. RELINQUISHED BY	DATE	TIME	1. RECEIVED BY	DATE	TIME
R Siegel TT	2.2.23	1500	Cameron Gregory	2/2/23	1500
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY	DATE	TIME

COMMENTS

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TINUS-001

3.0/2.5

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-4688.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 1
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Florida		Job #: 670-14029-1
Address: 4145 Greenbriar Dr	Due Date Requested: 3/2/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL; B NaOH; C Zn Acetate; D Nitric Acid; E NaHSO4; F MeOH; G Amchlor; H Ascorbic Acid; I Ice; J DI Water; K EDTA; L EDA
M Hexane; N None; O AsNaO2; P Na2O4S; Q Na2SO3; R Na2S2O3; S H2SO4; T TSP Dodecahydrate; U Acetone; V MCAA; W pH 4-5; Y Trizma; Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 516/CCF Custom	8260D/5030C_UP (MOD) NASA 516/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0061-030.0-20230201 (670-14029-1)	2/1/23	09:25 Eastern		Water			X	X	6	
CCB-MW0127-025.0-20230201 (670-14029-2)	2/1/23	10:55 Eastern		Water			X	X	6	
CCB-MW0128-015.0-20230201 (670-14029-3)	2/1/23	12:05 Eastern		Water			X	X	6	
CCB-MW0129-035.0-20230201 (670-14029-4)	2/1/23	13:05 Eastern		Water			X	X	6	
CCB-MW0113-030.0-20230201 (670-14029-5)	2/1/23	14:20 Eastern		Water			X	X	6	
CCB-MW0073-015.0-20230201 (670-14029-6)	2/1/23	15:20 Eastern		Water			X	X	6	
CCB-MW0114-015.0-20230201 (670-14029-7)	2/1/23	16:30 Eastern		Water			X	X	6	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification
Unconfirmed

Deliverable Requested: I, II, III, IV Other (specify) — Primary Deliverable Rank: 2

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ____ *Months*

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
BB	2/3 1500		FedEX		
FedEX			[signature]	2/4/2023 12:32	EX

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: Temp: IR ID HOU-343 C/F +0.3 3 5 Corrected Temp: 3 8

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc. Job Number: 670-14029-1

Login Number: 14029 **List Source: Eurofins Orlando**
List Number: 1
Creator: Wehr, Alex C

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc. | Job Number: 670-14029-1

Login Number: 14029
List Number: 2
Creator: Pena, Jesiel

List Source: Eurofins Houston
List Creation: 02/06/23 01:51 PM

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

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ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

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JOB DESCRIPTION

NASA KSC CCB

JOB NUMBER

670-11241-1

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs FL 32701

See page two for job notes and contact information.

myEOL

Eurofins Orlando

Job Notes

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Client: Tetra Tech, Inc. Job ID: 670-11241-1
Project/Site: NASA KSC CCB

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
J3	Estimated value; value may not be accurate. Spike recovery or RPD outside of criteria.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Job ID: 670-11241-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-11241-1

Receipt

The samples were received on 12/9/2022 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 4.9°C

GC/MS VOA

Method 8260D: The laboratory control sample duplicate (LCSD) for analytical batch 860-83091 recovered outside control limits for the following analytes: 1,2-Dibromo-3-Chloropropane. These analytes were biased high in the LCSD and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The following sample(s) was collected in a properly preserved vial; however, the pH was outside the required criteria when verified by the laboratory. The samples were analyzed outside the 7-day holding time specified for unpreserved samples: CCB-MW0039-030.0-20221208 (670-11241-3) and CCB-MW0122-025.0-20221208 (670-11241-4). Note: pH 5.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Client Sample ID: CCB-MW0052-045.0-20221207 | Lab Sample ID: 670-11241-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	4.6		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene	17		5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	4.5		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0013-045.0-20221207 | Lab Sample ID: 670-11241-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.1	I	2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0039-030.0-20221208 | Lab Sample ID: 670-11241-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.6		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene	1.7	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	1.5	I	2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0122-025.0-20221208 | Lab Sample ID: 670-11241-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.7		1.0	0.71	ug/L	1		8260D	Total/NA
Trichloroethene	7.8		5.0	0.79	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CCB-MW0052-045.0-20221207
Date Collected: 12/07/22 14:30
Date Received: 12/09/22 14:00

Lab Sample ID: 670-11241-1
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/21/22 17:58	1
Benzene	0.53	U	1.0	0.53	ug/L			12/21/22 17:58	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/21/22 17:58	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/21/22 17:58	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/21/22 17:58	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/21/22 17:58	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/21/22 17:58	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/21/22 17:58	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/21/22 17:58	1
Chloroethane	2.0	U	10	2.0	ug/L			12/21/22 17:58	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/21/22 17:58	1
Chloromethane	2.0	U	10	2.0	ug/L			12/21/22 17:58	1
cis-1,2-Dichloroethene	**4.6**		1.0	0.71	ug/L			12/21/22 17:58	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/21/22 17:58	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/21/22 17:58	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/21/22 17:58	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/21/22 17:58	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/21/22 17:58	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/21/22 17:58	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/21/22 17:58	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/21/22 17:58	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/21/22 17:58	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/21/22 17:58	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/21/22 17:58	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/21/22 17:58	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/21/22 17:58	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/21/22 17:58	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:58	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/21/22 17:58	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/21/22 17:58	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/21/22 17:58	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/21/22 17:58	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:58	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/21/22 17:58	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:58	1
Styrene	0.66	U	1.0	0.66	ug/L			12/21/22 17:58	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/21/22 17:58	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/21/22 17:58	1
Toluene	0.48	U	1.0	0.48	ug/L			12/21/22 17:58	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/21/22 17:58	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/21/22 17:58	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/21/22 17:58	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/21/22 17:58	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/21/22 17:58	1
Trichloroethene	**17**		5.0	0.79	ug/L			12/21/22 17:58	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/21/22 17:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/21/22 17:58	1
Vinyl chloride	**4.5**		2.0	0.64	ug/L			12/21/22 17:58	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/21/22 17:58	1

Client Sample Results

Client: Tetra Tech, Inc.
Job ID: 670-11241-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0052-045.0-20221207
Lab Sample ID: 670-11241-1
Date Collected: 12/07/22 14:30
Matrix: Ground Water
Date Received: 12/09/22 14:00

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*		*12/21/22 17:58*	*1*
Toluene-d8 (Surr)	*108*		*80 - 117*		*12/21/22 17:58*	*1*
4-Bromofluorobenzene (Surr)	*107*		*74 - 124*		*12/21/22 17:58*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*12/21/22 17:58*	*1*

Client Sample ID: CCB-MW0013-045.0-20221207
Lab Sample ID: 670-11241-2
Date Collected: 12/07/22 15:25
Matrix: Ground Water
Date Received: 12/09/22 14:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/21/22 17:30	1
Benzene	0.53	U	1.0	0.53	ug/L			12/21/22 17:30	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/21/22 17:30	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/21/22 17:30	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/21/22 17:30	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/21/22 17:30	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/21/22 17:30	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/21/22 17:30	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/21/22 17:30	1
Chloroethane	2.0	U	10	2.0	ug/L			12/21/22 17:30	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/21/22 17:30	1
Chloromethane	2.0	U	10	2.0	ug/L			12/21/22 17:30	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/21/22 17:30	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/21/22 17:30	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/21/22 17:30	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/21/22 17:30	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/21/22 17:30	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/21/22 17:30	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/21/22 17:30	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/21/22 17:30	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/21/22 17:30	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/21/22 17:30	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/21/22 17:30	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/21/22 17:30	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/21/22 17:30	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/21/22 17:30	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/21/22 17:30	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:30	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/21/22 17:30	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/21/22 17:30	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/21/22 17:30	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/21/22 17:30	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:30	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/21/22 17:30	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 17:30	1
Styrene	0.66	U	1.0	0.66	ug/L			12/21/22 17:30	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/21/22 17:30	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/21/22 17:30	1
Toluene	0.48	U	1.0	0.48	ug/L			12/21/22 17:30	1

Client Sample ID: CCB-MW0013-045.0-20221207

Lab Sample ID: 670-11241-2
Date Collected: 12/07/22 15:25
Matrix: Ground Water
Date Received: 12/09/22 14:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/21/22 17:30	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/21/22 17:30	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/21/22 17:30	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/21/22 17:30	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/21/22 17:30	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/21/22 17:30	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/21/22 17:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/21/22 17:30	1
Vinyl chloride	**1.1**	**I**	2.0	0.64	ug/L			12/21/22 17:30	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/21/22 17:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*63 - 144*		*12/21/22 17:30*	*1*
Toluene-d8 (Surr)	*98*		*80 - 117*		*12/21/22 17:30*	*1*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*		*12/21/22 17:30*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*12/21/22 17:30*	*1*

Client Sample ID: CCB-MW0039-030.0-20221208

Lab Sample ID: 670-11241-3
Date Collected: 12/08/22 08:55
Matrix: Ground Water
Date Received: 12/09/22 14:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/22/22 11:00	1
Benzene	0.53	U	1.0	0.53	ug/L			12/22/22 11:00	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/22/22 11:00	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/22/22 11:00	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/22/22 11:00	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/22/22 11:00	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/22/22 11:00	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/22/22 11:00	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/22/22 11:00	1
Chloroethane	2.0	U	10	2.0	ug/L			12/22/22 11:00	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/22/22 11:00	1
Chloromethane	2.0	U	10	2.0	ug/L			12/22/22 11:00	1
cis-1,2-Dichloroethene	**2.6**		1.0	0.71	ug/L			12/22/22 11:00	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/22/22 11:00	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/22/22 11:00	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/22/22 11:00	1
1,2-Dibromo-3-Chloropropane	1.3	U J3	5.0	1.3	ug/L			12/22/22 11:00	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/22/22 11:00	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/22/22 11:00	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/22/22 11:00	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/22/22 11:00	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/22/22 11:00	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/22/22 11:00	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/22/22 11:00	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/22/22 11:00	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/22/22 11:00	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/22/22 11:00	1

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 670-11241-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0039-030.0-20221208 Lab Sample ID: 670-11241-3

Date Collected: 12/08/22 08:55 **Matrix: Ground Water**
Date Received: 12/09/22 14:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:00	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/22/22 11:00	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/22/22 11:00	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/22/22 11:00	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/22/22 11:00	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:00	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/22/22 11:00	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:00	1
Styrene	0.66	U	1.0	0.66	ug/L			12/22/22 11:00	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/22/22 11:00	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/22/22 11:00	1
Toluene	0.48	U	1.0	0.48	ug/L			12/22/22 11:00	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/22/22 11:00	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/22/22 11:00	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/22/22 11:00	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/22/22 11:00	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/22/22 11:00	1
Trichloroethene	**1.7**	**I**	5.0	0.79	ug/L			12/22/22 11:00	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/22/22 11:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/22/22 11:00	1
Vinyl chloride	**1.5**	**I**	2.0	0.64	ug/L			12/22/22 11:00	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/22/22 11:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/22/22 11:00*	*1*
Toluene-d8 (Surr)	*97*		*80 - 117*		*12/22/22 11:00*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*12/22/22 11:00*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*12/22/22 11:00*	*1*

Client Sample ID: CCB-MW0122-025.0-20221208 Lab Sample ID: 670-11241-4

Date Collected: 12/08/22 10:15 **Matrix: Ground Water**
Date Received: 12/09/22 14:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/22/22 11:21	1
Benzene	0.53	U	1.0	0.53	ug/L			12/22/22 11:21	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/22/22 11:21	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/22/22 11:21	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/22/22 11:21	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/22/22 11:21	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/22/22 11:21	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/22/22 11:21	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/22/22 11:21	1
Chloroethane	2.0	U	10	2.0	ug/L			12/22/22 11:21	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/22/22 11:21	1
Chloromethane	2.0	U	10	2.0	ug/L			12/22/22 11:21	1
cis-1,2-Dichloroethene	**1.7**		1.0	0.71	ug/L			12/22/22 11:21	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/22/22 11:21	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/22/22 11:21	1

Client Sample ID: CCB-MW0122-025.0-20221208

Date Collected: 12/08/22 10:15
Date Received: 12/09/22 14:00

Lab Sample ID: 670-11241-4

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/22/22 11:21	1
1,2-Dibromo-3-Chloropropane	1.3	U J3	5.0	1.3	ug/L			12/22/22 11:21	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/22/22 11:21	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/22/22 11:21	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/22/22 11:21	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/22/22 11:21	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/22/22 11:21	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/22/22 11:21	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/22/22 11:21	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/22/22 11:21	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/22/22 11:21	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/22/22 11:21	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:21	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/22/22 11:21	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/22/22 11:21	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/22/22 11:21	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/22/22 11:21	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:21	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/22/22 11:21	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 11:21	1
Styrene	0.66	U	1.0	0.66	ug/L			12/22/22 11:21	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/22/22 11:21	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/22/22 11:21	1
Toluene	0.48	U	1.0	0.48	ug/L			12/22/22 11:21	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/22/22 11:21	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/22/22 11:21	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/22/22 11:21	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/22/22 11:21	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/22/22 11:21	1
Trichloroethene	**7.8**		5.0	0.79	ug/L			12/22/22 11:21	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/22/22 11:21	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/22/22 11:21	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/22/22 11:21	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/22/22 11:21	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*112*		*63 - 144*		*12/22/22 11:21*	*1*
Toluene-d8 (Surr)	*97*		*80 - 117*		*12/22/22 11:21*	*1*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*		*12/22/22 11:21*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*12/22/22 11:21*	*1*

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Ground Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(63-144)	(80-117)	(74-124)	(75-131)
670-11241-1	CCB-MW0052-045.0-20221207	105	108	107	104
670-11241-2	CCB-MW0013-045.0-20221207	112	98	95	98
670-11241-3	CCB-MW0039-030.0-20221208	111	97	96	98
670-11241-4	CCB-MW0122-025.0-20221208	112	97	95	98

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(63-144)	(80-117)	(74-124)	(75-131)
670-11497-C-34 MS	Matrix Spike	105	98	97	97
860-39208-Y-1 MS	Matrix Spike	99	100	100	100
860-39414-D-3 MS	Matrix Spike	106	95	95	97
860-39414-D-3 MSD	Matrix Spike Duplicate	105	98	95	98
LCS 860-82913/3	Lab Control Sample	105	96	97	98
LCS 860-82923/3	Lab Control Sample	99	102	100	101
LCS 860-83091/3	Lab Control Sample	106	96	94	95
LCSD 860-82913/4	Lab Control Sample Dup	104	97	96	97
LCSD 860-82923/4	Lab Control Sample Dup	98	98	98	99
LCSD 860-83091/4	Lab Control Sample Dup	107	96	98	97
MB 860-82913/10	Method Blank	108	99	98	96
MB 860-82923/9	Method Blank	98	101	105	104
MB 860-83091/9	Method Blank	110	97	95	97

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
TOL = Toluene-d8 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-82913/10
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/21/22 10:40	1
Benzene	0.53	U	1.0	0.53	ug/L			12/21/22 10:40	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/21/22 10:40	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/21/22 10:40	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/21/22 10:40	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/21/22 10:40	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/21/22 10:40	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/21/22 10:40	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/21/22 10:40	1
Chloroethane	2.0	U	10	2.0	ug/L			12/21/22 10:40	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/21/22 10:40	1
Chloromethane	2.0	U	10	2.0	ug/L			12/21/22 10:40	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/21/22 10:40	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/21/22 10:40	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/21/22 10:40	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/21/22 10:40	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/21/22 10:40	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/21/22 10:40	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/21/22 10:40	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/21/22 10:40	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/21/22 10:40	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/21/22 10:40	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/21/22 10:40	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/21/22 10:40	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/21/22 10:40	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/21/22 10:40	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/21/22 10:40	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 10:40	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/21/22 10:40	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/21/22 10:40	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/21/22 10:40	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/21/22 10:40	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 10:40	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/21/22 10:40	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 10:40	1
Styrene	0.66	U	1.0	0.66	ug/L			12/21/22 10:40	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/21/22 10:40	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/21/22 10:40	1
Toluene	0.48	U	1.0	0.48	ug/L			12/21/22 10:40	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/21/22 10:40	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/21/22 10:40	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/21/22 10:40	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/21/22 10:40	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/21/22 10:40	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/21/22 10:40	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/21/22 10:40	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/21/22 10:40	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/21/22 10:40	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-82913/10
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			12/21/22 10:40	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/21/22 10:40*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/21/22 10:40*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*12/21/22 10:40*	*1*
Dibromofluoromethane (Surr)	*96*		*75 - 131*		*12/21/22 10:40*	*1*

Lab Sample ID: LCS 860-82913/3
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	250	215		ug/L		86	60 - 140
Benzene	50.0	47.0		ug/L		94	75 - 125
Bromodichloromethane	50.0	50.9		ug/L		102	75 - 125
Bromoform	50.0	53.9		ug/L		108	70 - 130
Bromomethane	50.0	49.9		ug/L		100	60 - 140
2-Butanone (MEK)	250	221		ug/L		88	60 - 140
Carbon disulfide	50.0	44.0		ug/L		88	60 - 140
Carbon tetrachloride	50.0	56.3		ug/L		113	70 - 130
Chlorobenzene	50.0	49.0		ug/L		98	65 - 135
Chloroethane	50.0	49.8		ug/L		100	60 - 140
Chloroform	50.0	49.3		ug/L		99	70 - 121
Chloromethane	50.0	44.1		ug/L		88	60 - 140
cis-1,2-Dichloroethene	50.0	45.0		ug/L		90	75 - 125
cis-1,3-Dichloropropene	50.0	49.8		ug/L		100	74 - 125
Cyclohexane	50.0	48.0		ug/L		96	70 - 130
Dibromochloromethane	50.0	52.7		ug/L		105	73 - 125
1,2-Dibromo-3-Chloropropane	50.0	57.0		ug/L		114	59 - 125
1,2-Dibromoethane (EDB)	50.0	48.9		ug/L		98	73 - 125
Dichlorodifluoromethane	50.0	64.7		ug/L		129	70 - 130
1,1-Dichloroethane	50.0	46.7		ug/L		93	70 - 130
1,2-Dichloroethane	50.0	52.0		ug/L		104	72 - 130
1,1-Dichloroethene	50.0	50.0		ug/L		100	50 - 150
1,2-Dichloropropane	50.0	44.7		ug/L		89	74 - 125
1,1-Dichloropropene	50.0	48.8		ug/L		98	75 - 125
Ethylbenzene	50.0	50.7		ug/L		101	75 - 125
2-Hexanone	250	217		ug/L		87	60 - 140
Isopropylbenzene	50.0	53.5		ug/L		107	75 - 125
m-Dichlorobenzene	50.0	49.8		ug/L		100	75 - 125
Methyl acetate	100	116		ug/L		116	60 - 140
Methylene Chloride	50.0	45.8		ug/L		92	75 - 125
Methyl tert-butyl ether	50.0	49.2		ug/L		98	65 - 135
m,p-Xylenes	50.0	51.5		ug/L		103	75 - 125
o-Dichlorobenzene	50.0	49.7		ug/L		99	75 - 125
o-Xylene	50.0	51.7		ug/L		103	75 - 125
para-Dichlorobenzene	50.0	48.8		ug/L		98	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-82913/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 82913

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Styrene	50.0	51.6		ug/L		103	75 - 125
1,1,2,2-Tetrachloroethane	50.0	43.4		ug/L		87	74 - 125
Tetrachloroethene	50.0	55.1		ug/L		110	71 - 125
Toluene	50.0	47.7		ug/L		95	70 - 130
trans-1,2-Dichloroethene	50.0	47.9		ug/L		96	75 - 125
trans-1,3-Dichloropropene	50.0	48.8		ug/L		98	66 - 125
1,2,4-Trichlorobenzene	50.0	53.9		ug/L		108	75 - 135
1,1,1-Trichloroethane	50.0	53.3		ug/L		107	70 - 130
1,1,2-Trichloroethane	50.0	45.2		ug/L		90	70 - 130
Trichloroethene	50.0	52.8		ug/L		106	75 - 135
Trichlorofluoromethane	50.0	65.5		ug/L		131	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.4		ug/L		115	60 - 140
Vinyl chloride	50.0	51.1		ug/L		102	60 - 140
Xylenes, Total	100	103		ug/L		103	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*
Toluene-d8 (Surr)	*96*		*80 - 117*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*

Lab Sample ID: LCSD 860-82913/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 82913

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	250	222		ug/L		89	60 - 140	3	25
Benzene	50.0	44.8		ug/L		90	75 - 125	5	25
Bromodichloromethane	50.0	50.3		ug/L		101	75 - 125	1	25
Bromoform	50.0	53.5		ug/L		107	70 - 130	1	25
Bromomethane	50.0	46.0		ug/L		92	60 - 140	8	25
2-Butanone (MEK)	250	224		ug/L		90	60 - 140	1	25
Carbon disulfide	50.0	41.7		ug/L		83	60 - 140	5	25
Carbon tetrachloride	50.0	52.7		ug/L		105	70 - 130	7	25
Chlorobenzene	50.0	47.8		ug/L		96	65 - 135	3	25
Chloroethane	50.0	44.2		ug/L		88	60 - 140	12	25
Chloroform	50.0	47.8		ug/L		96	70 - 121	3	25
Chloromethane	50.0	41.1		ug/L		82	60 - 140	7	25
cis-1,2-Dichloroethene	50.0	43.9		ug/L		88	75 - 125	2	25
cis-1,3-Dichloropropene	50.0	47.0		ug/L		94	74 - 125	6	25
Cyclohexane	50.0	44.6		ug/L		89	70 - 130	7	25
Dibromochloromethane	50.0	51.3		ug/L		103	73 - 125	3	25
1,2-Dibromo-3-Chloropropane	50.0	55.4		ug/L		111	59 - 125	3	25
1,2-Dibromoethane (EDB)	50.0	48.6		ug/L		97	73 - 125	1	25
Dichlorodifluoromethane	50.0	57.4		ug/L		115	70 - 130	12	25
1,1-Dichloroethane	50.0	45.2		ug/L		90	70 - 130	3	25
1,2-Dichloroethane	50.0	50.7		ug/L		101	72 - 130	3	25
1,1-Dichloroethene	50.0	47.4		ug/L		95	50 - 150	5	25

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-82913/4
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloropropane			50.0	42.8		ug/L		86	74 - 125	4	25
1,1-Dichloropropene			50.0	46.4		ug/L		93	75 - 125	5	25
Ethylbenzene			50.0	48.1		ug/L		96	75 - 125	5	25
2-Hexanone			250	227		ug/L		91	60 - 140	4	25
Isopropylbenzene			50.0	50.9		ug/L		102	75 - 125	5	25
m-Dichlorobenzene			50.0	48.0		ug/L		96	75 - 125	4	25
Methyl acetate			100	117		ug/L		117	60 - 140	1	25
Methylene Chloride			50.0	43.8		ug/L		88	75 - 125	4	25
Methyl tert-butyl ether			50.0	49.0		ug/L		98	65 - 135	0	25
m,p-Xylenes			50.0	48.8		ug/L		98	75 - 125	5	25
o-Dichlorobenzene			50.0	47.5		ug/L		95	75 - 125	5	25
o-Xylene			50.0	48.9		ug/L		98	75 - 125	6	25
para-Dichlorobenzene			50.0	47.1		ug/L		94	75 - 125	4	25
Styrene			50.0	50.2		ug/L		100	75 - 125	3	25
1,1,2,2-Tetrachloroethane			50.0	42.1		ug/L		84	74 - 125	3	25
Tetrachloroethene			50.0	52.0		ug/L		104	71 - 125	6	25
Toluene			50.0	45.8		ug/L		92	70 - 130	4	25
trans-1,2-Dichloroethene			50.0	45.7		ug/L		91	75 - 125	5	25
trans-1,3-Dichloropropene			50.0	47.7		ug/L		95	66 - 125	2	25
1,2,4-Trichlorobenzene			50.0	52.2		ug/L		104	75 - 135	3	25
1,1,1-Trichloroethane			50.0	50.6		ug/L		101	70 - 130	5	25
1,1,2-Trichloroethane			50.0	46.0		ug/L		92	70 - 130	2	25
Trichloroethene			50.0	50.6		ug/L		101	75 - 135	4	25
Trichlorofluoromethane			50.0	59.2		ug/L		118	60 - 140	10	25
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	54.0		ug/L		108	60 - 140	6	25
Vinyl chloride			50.0	46.1		ug/L		92	60 - 140	10	25
Xylenes, Total			100	97.7		ug/L		98	75 - 125	5	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*
Toluene-d8 (Surr)	*97*		*80 - 117*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*

Lab Sample ID: 670-11497-C-34 MS
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	1.2	U	250	219		ug/L		88	60 - 140
Benzene	0.53	U	50.0	52.6		ug/L		105	66 - 142
Bromodichloromethane	0.55	U	50.0	57.2		ug/L		114	75 - 125
Bromoform	0.63	U	50.0	59.2		ug/L		118	75 - 125
Bromomethane	1.4	U	50.0	47.9		ug/L		96	60 - 140
2-Butanone (MEK)	8.3	U	250	239		ug/L		96	60 - 140
Carbon disulfide	1.9	U	50.0	54.0		ug/L		108	60 - 140
Carbon tetrachloride	0.90	U	50.0	61.9		ug/L		124	62 - 125
Chlorobenzene	0.53	U	50.0	55.0		ug/L		110	60 - 133

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 670-11497-C-34 MS
Matrix: Water
Analysis Batch: 82913

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroethane	2.9	I	50.0	48.8		ug/L		92	60 - 140
Chloroform	0.64	U	50.0	53.0		ug/L		106	70 - 130
Chloromethane	2.0	U	50.0	39.4		ug/L		79	60 - 140
cis-1,2-Dichloroethene	35		50.0	84.8		ug/L		99	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	54.7		ug/L		109	74 - 125
Cyclohexane	1.5	U	50.0	54.4		ug/L		109	70 - 130
Dibromochloromethane	0.55	U	50.0	59.0		ug/L		118	73 - 125
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	57.2		ug/L		114	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	53.7		ug/L		107	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	46.5		ug/L		93	70 - 130
1,1-Dichloroethane	0.64	U	50.0	51.3		ug/L		103	72 - 125
1,2-Dichloroethane	0.59	U	50.0	57.4		ug/L		115	68 - 127
1,1-Dichloroethene	0.74	U	50.0	57.7		ug/L		115	59 - 172
1,2-Dichloropropane	0.67	U	50.0	49.2		ug/L		98	74 - 125
1,1-Dichloropropene	1.6	U	50.0	53.0		ug/L		106	75 - 125
Ethylbenzene	0.41	U	50.0	56.4		ug/L		113	75 - 125
2-Hexanone	7.4	U	250	235		ug/L		94	60 - 140
Isopropylbenzene	0.61	U	50.0	59.1		ug/L		118	75 - 125
m-Dichlorobenzene	0.51	U	50.0	55.4		ug/L		111	75 - 125
Methyl acetate	4.0	U	100	115		ug/L		115	60 - 140
Methylene Chloride	1.7	U	50.0	48.6		ug/L		97	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	52.4		ug/L		105	65 - 135
m,p-Xylenes	1.2	U	50.0	56.9		ug/L		114	75 - 125
o-Dichlorobenzene	0.51	U	50.0	55.1		ug/L		110	75 - 125
o-Xylene	0.55	U	50.0	56.5		ug/L		113	75 - 125
para-Dichlorobenzene	0.51	U	50.0	54.0		ug/L		108	75 - 125
Styrene	0.66	U	50.0	57.5		ug/L		115	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	46.3		ug/L		93	74 - 125
Tetrachloroethene	0.80	U	50.0	59.9		ug/L		120	71 - 125
Toluene	0.48	U	50.0	53.8		ug/L		108	59 - 139
trans-1,2-Dichloroethene	1.7		50.0	57.1		ug/L		111	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	54.7		ug/L		109	66 - 125
1,2,4-Trichlorobenzene	1.8	U	50.0	56.4		ug/L		113	75 - 135
1,1,1-Trichloroethane	1.7	U	50.0	58.5		ug/L		117	75 - 125
1,1,2-Trichloroethane	0.51	U	50.0	50.9		ug/L		102	75 - 127
Trichloroethene	3.5	I	50.0	61.6		ug/L		116	62 - 137
Trichlorofluoromethane	0.64	U	50.0	61.2		ug/L		122	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	64.7		ug/L		129	60 - 140
Vinyl chloride	24		50.0	68.7		ug/L		89	60 - 140
Xylenes, Total	1.2	U	100	113		ug/L		113	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*
Toluene-d8 (Surr)	*98*		*80 - 117*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-82923/9
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/21/22 16:04	1
Benzene	0.53	U	1.0	0.53	ug/L			12/21/22 16:04	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/21/22 16:04	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/21/22 16:04	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/21/22 16:04	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/21/22 16:04	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/21/22 16:04	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/21/22 16:04	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/21/22 16:04	1
Chloroethane	2.0	U	10	2.0	ug/L			12/21/22 16:04	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/21/22 16:04	1
Chloromethane	2.0	U	10	2.0	ug/L			12/21/22 16:04	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/21/22 16:04	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/21/22 16:04	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/21/22 16:04	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/21/22 16:04	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/21/22 16:04	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/21/22 16:04	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/21/22 16:04	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/21/22 16:04	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/21/22 16:04	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/21/22 16:04	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/21/22 16:04	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/21/22 16:04	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/21/22 16:04	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/21/22 16:04	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/21/22 16:04	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 16:04	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/21/22 16:04	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/21/22 16:04	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/21/22 16:04	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/21/22 16:04	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 16:04	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/21/22 16:04	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/21/22 16:04	1
Styrene	0.66	U	1.0	0.66	ug/L			12/21/22 16:04	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/21/22 16:04	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/21/22 16:04	1
Toluene	0.48	U	1.0	0.48	ug/L			12/21/22 16:04	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/21/22 16:04	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/21/22 16:04	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/21/22 16:04	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/21/22 16:04	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/21/22 16:04	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/21/22 16:04	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/21/22 16:04	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/21/22 16:04	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/21/22 16:04	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-82923/9 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 82923

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			12/21/22 16:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*		*12/21/22 16:04*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/21/22 16:04*	*1*
4-Bromofluorobenzene (Surr)	*105*		*74 - 124*		*12/21/22 16:04*	*1*
Dibromofluoromethane (Surr)	*104*		*75 - 131*		*12/21/22 16:04*	*1*

Lab Sample ID: LCS 860-82923/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 82923

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	250	230		ug/L		92	60 - 140
Benzene	50.0	48.1		ug/L		96	75 - 125
Bromodichloromethane	50.0	48.6		ug/L		97	75 - 125
Bromoform	50.0	52.2		ug/L		104	70 - 130
Bromomethane	50.0	45.8		ug/L		92	60 - 140
2-Butanone (MEK)	250	239		ug/L		96	60 - 140
Carbon disulfide	50.0	48.2		ug/L		96	60 - 140
Carbon tetrachloride	50.0	48.2		ug/L		96	70 - 130
Chlorobenzene	50.0	48.8		ug/L		98	65 - 135
Chloroethane	50.0	43.3		ug/L		87	60 - 140
Chloroform	50.0	47.8		ug/L		96	70 - 121
Chloromethane	50.0	46.5		ug/L		93	60 - 140
cis-1,2-Dichloroethene	50.0	48.5		ug/L		97	75 - 125
cis-1,3-Dichloropropene	50.0	50.1		ug/L		100	74 - 125
Cyclohexane	50.0	50.9		ug/L		102	70 - 130
Dibromochloromethane	50.0	50.6		ug/L		101	73 - 125
1,2-Dibromo-3-Chloropropane	50.0	53.4		ug/L		107	59 - 125
1,2-Dibromoethane (EDB)	50.0	49.7		ug/L		99	73 - 125
Dichlorodifluoromethane	50.0	41.9		ug/L		84	70 - 130
1,1-Dichloroethane	50.0	49.3		ug/L		99	70 - 130
1,2-Dichloroethane	50.0	46.6		ug/L		93	72 - 130
1,1-Dichloroethene	50.0	48.8		ug/L		98	50 - 150
1,2-Dichloropropane	50.0	47.8		ug/L		96	74 - 125
1,1-Dichloropropene	50.0	48.0		ug/L		96	75 - 125
Ethylbenzene	50.0	48.7		ug/L		97	75 - 125
2-Hexanone	250	240		ug/L		96	60 - 140
Isopropylbenzene	50.0	49.3		ug/L		99	75 - 125
m-Dichlorobenzene	50.0	50.0		ug/L		100	75 - 125
Methyl acetate	100	96.7		ug/L		97	60 - 140
Methylene Chloride	50.0	43.8		ug/L		88	75 - 125
Methyl tert-butyl ether	50.0	49.5		ug/L		99	65 - 135
m,p-Xylenes	50.0	48.3		ug/L		97	75 - 125
o-Dichlorobenzene	50.0	51.1		ug/L		102	75 - 125
o-Xylene	50.0	49.2		ug/L		98	75 - 125
para-Dichlorobenzene	50.0	49.9		ug/L		100	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-82923/3
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Styrene	50.0	50.4		ug/L		101	75 - 125
1,1,2,2-Tetrachloroethane	50.0	51.4		ug/L		103	74 - 125
Tetrachloroethene	50.0	50.4		ug/L		101	71 - 125
Toluene	50.0	48.4		ug/L		97	70 - 130
trans-1,2-Dichloroethene	50.0	48.8		ug/L		98	75 - 125
trans-1,3-Dichloropropene	50.0	51.5		ug/L		103	66 - 125
1,2,4-Trichlorobenzene	50.0	52.8		ug/L		106	75 - 135
1,1,1-Trichloroethane	50.0	45.8		ug/L		92	70 - 130
1,1,2-Trichloroethane	50.0	51.2		ug/L		102	70 - 130
Trichloroethene	50.0	48.3		ug/L		97	75 - 135
Trichlorofluoromethane	50.0	48.8		ug/L		98	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	45.3		ug/L		91	60 - 140
Vinyl chloride	50.0	44.9		ug/L		90	60 - 140
Xylenes, Total	100	97.5		ug/L		98	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*
Toluene-d8 (Surr)	*102*		*80 - 117*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*101*		*75 - 131*

Lab Sample ID: LCSD 860-82923/4
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	250	240		ug/L		96	60 - 140	4	25
Benzene	50.0	49.9		ug/L		100	75 - 125	4	25
Bromodichloromethane	50.0	49.5		ug/L		99	75 - 125	2	25
Bromoform	50.0	52.1		ug/L		104	70 - 130	0	25
Bromomethane	50.0	48.3		ug/L		97	60 - 140	5	25
2-Butanone (MEK)	250	242		ug/L		97	60 - 140	1	25
Carbon disulfide	50.0	53.6		ug/L		107	60 - 140	11	25
Carbon tetrachloride	50.0	55.7		ug/L		111	70 - 130	14	25
Chlorobenzene	50.0	48.5		ug/L		97	65 - 135	1	25
Chloroethane	50.0	47.1		ug/L		94	60 - 140	8	25
Chloroform	50.0	48.3		ug/L		97	70 - 121	1	25
Chloromethane	50.0	48.1		ug/L		96	60 - 140	3	25
cis-1,2-Dichloroethene	50.0	50.0		ug/L		100	75 - 125	3	25
cis-1,3-Dichloropropene	50.0	49.7		ug/L		99	74 - 125	1	25
Cyclohexane	50.0	61.5		ug/L		123	70 - 130	19	25
Dibromochloromethane	50.0	49.9		ug/L		100	73 - 125	1	25
1,2-Dibromo-3-Chloropropane	50.0	50.3		ug/L		101	59 - 125	6	25
1,2-Dibromoethane (EDB)	50.0	48.8		ug/L		98	73 - 125	2	25
Dichlorodifluoromethane	50.0	52.6		ug/L		105	70 - 130	23	25
1,1-Dichloroethane	50.0	50.2		ug/L		100	70 - 130	2	25
1,2-Dichloroethane	50.0	46.3		ug/L		93	72 - 130	1	25
1,1-Dichloroethene	50.0	56.6		ug/L		113	50 - 150	15	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-82923/4
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloropropane	50.0	48.6		ug/L		97	74 - 125	2	25
1,1-Dichloropropene	50.0	53.2		ug/L		106	75 - 125	10	25
Ethylbenzene	50.0	50.4		ug/L		101	75 - 125	4	25
2-Hexanone	250	241		ug/L		96	60 - 140	1	25
Isopropylbenzene	50.0	53.2		ug/L		106	75 - 125	8	25
m-Dichlorobenzene	50.0	48.4		ug/L		97	75 - 125	3	25
Methyl acetate	100	98.4		ug/L		98	60 - 140	2	25
Methylene Chloride	50.0	44.4		ug/L		89	75 - 125	1	25
Methyl tert-butyl ether	50.0	49.5		ug/L		99	65 - 135	0	25
m,p-Xylenes	50.0	50.3		ug/L		101	75 - 125	4	25
o-Dichlorobenzene	50.0	48.6		ug/L		97	75 - 125	5	25
o-Xylene	50.0	49.6		ug/L		99	75 - 125	1	25
para-Dichlorobenzene	50.0	47.6		ug/L		95	75 - 125	5	25
Styrene	50.0	50.4		ug/L		101	75 - 125	0	25
1,1,2,2-Tetrachloroethane	50.0	47.1		ug/L		94	74 - 125	9	25
Tetrachloroethene	50.0	56.3		ug/L		113	71 - 125	11	25
Toluene	50.0	49.9		ug/L		100	70 - 130	3	25
trans-1,2-Dichloroethene	50.0	53.0		ug/L		106	75 - 125	8	25
trans-1,3-Dichloropropene	50.0	49.0		ug/L		98	66 - 125	5	25
1,2,4-Trichlorobenzene	50.0	52.7		ug/L		105	75 - 135	0	25
1,1,1-Trichloroethane	50.0	50.9		ug/L		102	70 - 130	11	25
1,1,2-Trichloroethane	50.0	48.4		ug/L		97	70 - 130	6	25
Trichloroethene	50.0	53.5		ug/L		107	75 - 135	10	25
Trichlorofluoromethane	50.0	59.1		ug/L		118	60 - 140	19	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	56.5		ug/L		113	60 - 140	22	25
Vinyl chloride	50.0	50.6		ug/L		101	60 - 140	12	25
Xylenes, Total	100	99.9		ug/L		100	75 - 125	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*98*		*63 - 144*
Toluene-d8 (Surr)	*98*		*80 - 117*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*

Lab Sample ID: 860-39208-Y-1 MS
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	1.2	U	250	250		ug/L		100	60 - 140
Benzene	0.53	U	50.0	50.4		ug/L		101	66 - 142
Bromodichloromethane	0.55	U	50.0	52.4		ug/L		105	75 - 125
Bromoform	0.63	U	50.0	55.6		ug/L		111	75 - 125
Bromomethane	1.4	U	50.0	48.5		ug/L		97	60 - 140
2-Butanone (MEK)	8.3	U	250	252		ug/L		101	60 - 140
Carbon disulfide	1.9	U	50.0	49.9		ug/L		100	60 - 140
Carbon tetrachloride	0.90	U	50.0	51.8		ug/L		104	62 - 125
Chlorobenzene	0.53	U	50.0	51.6		ug/L		103	60 - 133

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-39208-Y-1 MS
Matrix: Water
Analysis Batch: 82923

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroethane	2.0	U	50.0	45.3		ug/L		91	60 - 140
Chloroform	0.64	U	50.0	50.1		ug/L		100	70 - 130
Chloromethane	2.0	U	50.0	49.0		ug/L		98	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	50.5		ug/L		101	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	53.2		ug/L		106	74 - 125
Cyclohexane	1.5	U	50.0	53.7		ug/L		107	70 - 130
Dibromochloromethane	0.55	U	50.0	54.3		ug/L		109	73 - 125
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	56.1		ug/L		112	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	53.3		ug/L		107	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	45.7		ug/L		91	70 - 130
1,1-Dichloroethane	0.64	U	50.0	51.5		ug/L		103	72 - 125
1,2-Dichloroethane	0.59	U	50.0	49.0		ug/L		98	68 - 127
1,1-Dichloroethene	0.74	U	50.0	51.4		ug/L		103	59 - 172
1,2-Dichloropropane	0.67	U	50.0	49.9		ug/L		100	74 - 125
1,1-Dichloropropene	1.6	U	50.0	50.7		ug/L		101	75 - 125
Ethylbenzene	0.41	U	50.0	51.3		ug/L		103	75 - 125
2-Hexanone	7.4	U	250	255		ug/L		102	60 - 140
Isopropylbenzene	0.61	U	50.0	52.8		ug/L		106	75 - 125
m-Dichlorobenzene	0.51	U	50.0	52.6		ug/L		105	75 - 125
Methyl acetate	4.0	U	100	100		ug/L		100	60 - 140
Methylene Chloride	1.7	U	50.0	44.7		ug/L		89	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	52.2		ug/L		104	65 - 135
m,p-Xylenes	1.2	U	50.0	52.1		ug/L		104	75 - 125
o-Dichlorobenzene	0.51	U	50.0	53.3		ug/L		107	75 - 125
o-Xylene	0.55	U	50.0	52.2		ug/L		104	75 - 125
para-Dichlorobenzene	0.51	U	50.0	52.1		ug/L		104	75 - 125
Styrene	0.66	U	50.0	53.6		ug/L		107	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	53.0		ug/L		106	74 - 125
Tetrachloroethene	0.80	U	50.0	54.8		ug/L		110	71 - 125
Toluene	0.48	U	50.0	52.0		ug/L		104	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	52.0		ug/L		104	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	53.5		ug/L		107	66 - 125
1,2,4-Trichlorobenzene	1.8	U	50.0	56.6		ug/L		113	75 - 135
1,1,1-Trichloroethane	1.7	U	50.0	48.9		ug/L		98	75 - 125
1,1,2-Trichloroethane	0.51	U	50.0	52.8		ug/L		106	75 - 127
Trichloroethene	0.79	U	50.0	52.1		ug/L		104	62 - 137
Trichlorofluoromethane	0.64	U	50.0	54.8		ug/L		110	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	49.7		ug/L		99	60 - 140
Vinyl chloride	0.64	U	50.0	48.9		ug/L		98	60 - 140
Xylenes, Total	1.2	U	100	104		ug/L		104	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*99*		*63 - 144*
Toluene-d8 (Surr)	*100*		*80 - 117*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*100*		*75 - 131*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-83091/9
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/22/22 09:58	1
Benzene	0.53	U	1.0	0.53	ug/L			12/22/22 09:58	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/22/22 09:58	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/22/22 09:58	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/22/22 09:58	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/22/22 09:58	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/22/22 09:58	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/22/22 09:58	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/22/22 09:58	1
Chloroethane	2.0	U	10	2.0	ug/L			12/22/22 09:58	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/22/22 09:58	1
Chloromethane	2.0	U	10	2.0	ug/L			12/22/22 09:58	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/22/22 09:58	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/22/22 09:58	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/22/22 09:58	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/22/22 09:58	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/22/22 09:58	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/22/22 09:58	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/22/22 09:58	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/22/22 09:58	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/22/22 09:58	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/22/22 09:58	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/22/22 09:58	1
1,1-Dichloropropene	1.6	U	5.0	1.6	ug/L			12/22/22 09:58	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/22/22 09:58	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/22/22 09:58	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/22/22 09:58	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 09:58	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/22/22 09:58	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/22/22 09:58	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/22/22 09:58	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/22/22 09:58	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 09:58	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/22/22 09:58	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/22/22 09:58	1
Styrene	0.66	U	1.0	0.66	ug/L			12/22/22 09:58	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/22/22 09:58	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/22/22 09:58	1
Toluene	0.48	U	1.0	0.48	ug/L			12/22/22 09:58	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/22/22 09:58	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/22/22 09:58	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/22/22 09:58	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/22/22 09:58	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/22/22 09:58	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/22/22 09:58	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/22/22 09:58	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/22/22 09:58	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/22/22 09:58	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-83091/9
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Xylenes, Total	1.2	U	10	1.2	ug/L			12/22/22 09:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*12/22/22 09:58*	*1*
Toluene-d8 (Surr)	*97*		*80 - 117*		*12/22/22 09:58*	*1*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*		*12/22/22 09:58*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*12/22/22 09:58*	*1*

Lab Sample ID: LCS 860-83091/3
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	250	218		ug/L		87	60 - 140
Benzene	50.0	49.4		ug/L		99	75 - 125
Bromodichloromethane	50.0	54.5		ug/L		109	75 - 125
Bromoform	50.0	58.4		ug/L		117	70 - 130
Bromomethane	50.0	49.1		ug/L		98	60 - 140
2-Butanone (MEK)	250	232		ug/L		93	60 - 140
Carbon disulfide	50.0	48.1		ug/L		96	60 - 140
Carbon tetrachloride	50.0	58.8		ug/L		118	70 - 130
Chlorobenzene	50.0	51.7		ug/L		103	65 - 135
Chloroethane	50.0	47.6		ug/L		95	60 - 140
Chloroform	50.0	50.2		ug/L		100	70 - 121
Chloromethane	50.0	42.1		ug/L		84	60 - 140
cis-1,2-Dichloroethene	50.0	46.3		ug/L		93	75 - 125
cis-1,3-Dichloropropene	50.0	51.7		ug/L		103	74 - 125
Cyclohexane	50.0	48.7		ug/L		97	70 - 130
Dibromochloromethane	50.0	56.1		ug/L		112	73 - 125
1,2-Dibromo-3-Chloropropane	50.0	55.7		ug/L		111	59 - 125
1,2-Dibromoethane (EDB)	50.0	51.4		ug/L		103	73 - 125
Dichlorodifluoromethane	50.0	55.1		ug/L		110	70 - 130
1,1-Dichloroethane	50.0	47.3		ug/L		95	70 - 130
1,2-Dichloroethane	50.0	55.9		ug/L		112	72 - 130
1,1-Dichloroethene	50.0	51.2		ug/L		102	50 - 150
1,2-Dichloropropane	50.0	46.5		ug/L		93	74 - 125
1,1-Dichloropropene	50.0	49.8		ug/L		100	75 - 125
Ethylbenzene	50.0	52.7		ug/L		105	75 - 125
2-Hexanone	250	229		ug/L		92	60 - 140
Isopropylbenzene	50.0	55.3		ug/L		111	75 - 125
m-Dichlorobenzene	50.0	50.5		ug/L		101	75 - 125
Methyl acetate	100	109		ug/L		109	60 - 140
Methylene Chloride	50.0	48.3		ug/L		97	75 - 125
Methyl tert-butyl ether	50.0	50.0		ug/L		100	65 - 135
m,p-Xylenes	50.0	53.4		ug/L		107	75 - 125
o-Dichlorobenzene	50.0	50.5		ug/L		101	75 - 125
o-Xylene	50.0	53.2		ug/L		106	75 - 125
para-Dichlorobenzene	50.0	50.7		ug/L		101	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-83091/3
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Styrene	50.0	55.5		ug/L		111	75 - 125
1,1,2,2-Tetrachloroethane	50.0	43.1		ug/L		86	74 - 125
Tetrachloroethene	50.0	56.5		ug/L		113	71 - 125
Toluene	50.0	50.6		ug/L		101	70 - 130
trans-1,2-Dichloroethene	50.0	51.1		ug/L		102	75 - 125
trans-1,3-Dichloropropene	50.0	52.6		ug/L		105	66 - 125
1,2,4-Trichlorobenzene	50.0	52.9		ug/L		106	75 - 135
1,1,1-Trichloroethane	50.0	54.7		ug/L		109	70 - 130
1,1,2-Trichloroethane	50.0	48.4		ug/L		97	70 - 130
Trichloroethene	50.0	55.4		ug/L		111	75 - 135
Trichlorofluoromethane	50.0	65.1		ug/L		130	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	58.0		ug/L		116	60 - 140
Vinyl chloride	50.0	49.7		ug/L		99	60 - 140
Xylenes, Total	100	107		ug/L		107	75 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*
Toluene-d8 (Surr)	*96*		*80 - 117*
4-Bromofluorobenzene (Surr)	*94*		*74 - 124*
Dibromofluoromethane (Surr)	*95*		*75 - 131*

Lab Sample ID: LCSD 860-83091/4
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	250	232		ug/L		93	60 - 140	6	25
Benzene	50.0	50.8		ug/L		102	75 - 125	3	25
Bromodichloromethane	50.0	54.5		ug/L		109	75 - 125	0	25
Bromoform	50.0	58.8		ug/L		118	70 - 130	1	25
Bromomethane	50.0	50.8		ug/L		102	60 - 140	3	25
2-Butanone (MEK)	250	235		ug/L		94	60 - 140	1	25
Carbon disulfide	50.0	51.2		ug/L		102	60 - 140	6	25
Carbon tetrachloride	50.0	60.8		ug/L		122	70 - 130	3	25
Chlorobenzene	50.0	51.8		ug/L		104	65 - 135	0	25
Chloroethane	50.0	50.5		ug/L		101	60 - 140	6	25
Chloroform	50.0	50.8		ug/L		102	70 - 121	1	25
Chloromethane	50.0	44.3		ug/L		89	60 - 140	5	25
cis-1,2-Dichloroethene	50.0	46.7		ug/L		93	75 - 125	1	25
cis-1,3-Dichloropropene	50.0	52.3		ug/L		105	74 - 125	1	25
Cyclohexane	50.0	51.8		ug/L		104	70 - 130	6	25
Dibromochloromethane	50.0	55.9		ug/L		112	73 - 125	0	25
1,2-Dibromo-3-Chloropropane	50.0	63.2	J3	ug/L		126	59 - 125	13	25
1,2-Dibromoethane (EDB)	50.0	51.6		ug/L		103	73 - 125	0	25
Dichlorodifluoromethane	50.0	58.9		ug/L		118	70 - 130	7	25
1,1-Dichloroethane	50.0	49.4		ug/L		99	70 - 130	4	25
1,2-Dichloroethane	50.0	56.4		ug/L		113	72 - 130	1	25
1,1-Dichloroethene	50.0	53.5		ug/L		107	50 - 150	4	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-83091/4
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloropropane			50.0	46.6		ug/L		93	74 - 125	0	25
1,1-Dichloropropene			50.0	51.3		ug/L		103	75 - 125	3	25
Ethylbenzene			50.0	53.4		ug/L		107	75 - 125	1	25
2-Hexanone			250	237		ug/L		95	60 - 140	3	25
Isopropylbenzene			50.0	56.9		ug/L		114	75 - 125	3	25
m-Dichlorobenzene			50.0	53.2		ug/L		106	75 - 125	5	25
Methyl acetate			100	111		ug/L		111	60 - 140	2	25
Methylene Chloride			50.0	48.6		ug/L		97	75 - 125	1	25
Methyl tert-butyl ether			50.0	51.7		ug/L		103	65 - 135	3	25
m,p-Xylenes			50.0	54.8		ug/L		110	75 - 125	3	25
o-Dichlorobenzene			50.0	53.0		ug/L		106	75 - 125	5	25
o-Xylene			50.0	54.1		ug/L		108	75 - 125	2	25
para-Dichlorobenzene			50.0	52.8		ug/L		106	75 - 125	4	25
Styrene			50.0	55.2		ug/L		110	75 - 125	1	25
1,1,2,2-Tetrachloroethane			50.0	46.3		ug/L		93	74 - 125	7	25
Tetrachloroethene			50.0	59.0		ug/L		118	71 - 125	4	25
Toluene			50.0	51.7		ug/L		103	70 - 130	2	25
trans-1,2-Dichloroethene			50.0	52.2		ug/L		104	75 - 125	2	25
trans-1,3-Dichloropropene			50.0	52.1		ug/L		104	66 - 125	1	25
1,2,4-Trichlorobenzene			50.0	58.9		ug/L		118	75 - 135	11	25
1,1,1-Trichloroethane			50.0	55.5		ug/L		111	70 - 130	2	25
1,1,2-Trichloroethane			50.0	48.6		ug/L		97	70 - 130	0	25
Trichloroethene			50.0	56.5		ug/L		113	75 - 135	2	25
Trichlorofluoromethane			50.0	70.0		ug/L		140	60 - 140	7	25
1,1,2-Trichloro-1,2,2-trifluoroethane			50.0	62.3		ug/L		125	60 - 140	7	25
Vinyl chloride			50.0	51.8		ug/L		104	60 - 140	4	25
Xylenes, Total			100	109		ug/L		109	75 - 125	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*
Toluene-d8 (Surr)	*96*		*80 - 117*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*

Lab Sample ID: 860-39414-D-3 MS
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Acetone	1.2	U	250	228		ug/L		91	60 - 140
Benzene	0.53	U	50.0	46.3		ug/L		93	66 - 142
Bromodichloromethane	0.55	U	50.0	53.3		ug/L		107	75 - 125
Bromoform	0.63	U	50.0	58.7		ug/L		117	75 - 125
Bromomethane	1.4	U	50.0	47.4		ug/L		95	60 - 140
2-Butanone (MEK)	8.3	U	250	239		ug/L		96	60 - 140
Carbon disulfide	1.9	U	50.0	32.7		ug/L		65	60 - 140
Carbon tetrachloride	0.90	U	50.0	54.9		ug/L		110	62 - 125
Chlorobenzene	0.53	U	50.0	50.1		ug/L		100	60 - 133

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-39414-D-3 MS
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chloroethane	2.0	U	50.0	47.9		ug/L		96	60 - 140
Chloroform	0.64	U	50.0	50.8		ug/L		102	70 - 130
Chloromethane	2.0	U	50.0	37.2		ug/L		74	60 - 140
cis-1,2-Dichloroethene	0.71	U	50.0	45.7		ug/L		91	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	50.0		ug/L		100	74 - 125
Cyclohexane	1.5	U	50.0	39.2		ug/L		78	70 - 130
Dibromochloromethane	0.55	U	50.0	55.6		ug/L		111	73 - 125
1,2-Dibromo-3-Chloropropane	1.3	U J3	50.0	59.9		ug/L		120	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	50.7		ug/L		101	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	37.1		ug/L		74	70 - 130
1,1-Dichloroethane	0.64	U	50.0	46.1		ug/L		92	72 - 125
1,2-Dichloroethane	0.59	U	50.0	53.7		ug/L		107	68 - 127
1,1-Dichloroethene	0.74	U	50.0	44.5		ug/L		89	59 - 172
1,2-Dichloropropane	0.67	U	50.0	44.4		ug/L		89	74 - 125
1,1-Dichloropropene	1.6	U	50.0	44.8		ug/L		90	75 - 125
Ethylbenzene	0.41	U	50.0	51.8		ug/L		104	75 - 125
2-Hexanone	7.4	U	250	239		ug/L		95	60 - 140
Isopropylbenzene	0.61	U	50.0	54.6		ug/L		109	75 - 125
m-Dichlorobenzene	0.51	U	50.0	52.3		ug/L		105	75 - 125
Methyl acetate	4.0	U	100	124		ug/L		124	60 - 140
Methylene Chloride	1.7	U	50.0	43.9		ug/L		88	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	52.5		ug/L		105	65 - 135
m,p-Xylenes	1.2	U	50.0	51.3		ug/L		103	75 - 125
o-Dichlorobenzene	0.51	U	50.0	52.4		ug/L		105	75 - 125
o-Xylene	0.55	U	50.0	52.3		ug/L		105	75 - 125
para-Dichlorobenzene	0.51	U	50.0	51.7		ug/L		103	75 - 125
Styrene	0.66	U	50.0	53.1		ug/L		106	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	45.4		ug/L		91	74 - 125
Tetrachloroethene	0.80	U	50.0	52.7		ug/L		105	71 - 125
Toluene	0.48	U	50.0	47.6		ug/L		95	59 - 139
trans-1,2-Dichloroethene	0.95	U	50.0	44.9		ug/L		90	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	51.7		ug/L		103	66 - 125
1,2,4-Trichlorobenzene	1.8	U	50.0	56.1		ug/L		112	75 - 135
1,1,1-Trichloroethane	1.7	U	50.0	52.4		ug/L		105	75 - 125
1,1,2-Trichloroethane	0.51	U	50.0	48.7		ug/L		97	75 - 127
Trichloroethene	0.79	U	50.0	51.3		ug/L		103	62 - 137
Trichlorofluoromethane	0.64	U	50.0	66.1		ug/L		132	60 - 140
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	53.2		ug/L		106	60 - 140
Vinyl chloride	0.64	U	50.0	46.2		ug/L		92	60 - 140
Xylenes, Total	1.2	U	100	104		ug/L		104	75 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*
Toluene-d8 (Surr)	*95*		*80 - 117*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*
Dibromofluoromethane (Surr)	*97*		*75 - 131*

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-39414-D-3 MSD
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Acetone	1.2	U	250	228		ug/L		91	60 - 140	0	25
Benzene	0.53	U	50.0	45.4		ug/L		91	66 - 142	2	25
Bromodichloromethane	0.55	U	50.0	53.4		ug/L		107	75 - 125	0	25
Bromoform	0.63	U	50.0	60.3		ug/L		121	75 - 125	3	25
Bromomethane	1.4	U	50.0	46.7		ug/L		93	60 - 140	1	25
2-Butanone (MEK)	8.3	U	250	247		ug/L		99	60 - 140	3	25
Carbon disulfide	1.9	U	50.0	31.8		ug/L		64	60 - 140	3	25
Carbon tetrachloride	0.90	U	50.0	54.7		ug/L		109	62 - 125	0	25
Chlorobenzene	0.53	U	50.0	50.8		ug/L		102	60 - 133	1	25
Chloroethane	2.0	U	50.0	48.1		ug/L		96	60 - 140	0	25
Chloroform	0.64	U	50.0	49.5		ug/L		99	70 - 130	3	25
Chloromethane	2.0	U	50.0	37.2		ug/L		74	60 - 140	0	25
cis-1,2-Dichloroethene	0.71	U	50.0	45.1		ug/L		90	75 - 125	1	25
cis-1,3-Dichloropropene	1.1	U	50.0	49.6		ug/L		99	74 - 125	1	25
Cyclohexane	1.5	U	50.0	35.4		ug/L		71	70 - 130	10	25
Dibromochloromethane	0.55	U	50.0	55.8		ug/L		112	73 - 125	0	25
1,2-Dibromo-3-Chloropropane	1.3	U J3	50.0	59.2		ug/L		118	59 - 125	1	25
1,2-Dibromoethane (EDB)	1.0	U	50.0	51.6		ug/L		103	73 - 125	2	25
Dichlorodifluoromethane	0.92	U	50.0	36.3		ug/L		73	70 - 130	2	25
1,1-Dichloroethane	0.64	U	50.0	46.5		ug/L		93	72 - 125	1	25
1,2-Dichloroethane	0.59	U	50.0	53.1		ug/L		106	68 - 127	1	25
1,1-Dichloroethene	0.74	U	50.0	45.5		ug/L		91	59 - 172	2	25
1,2-Dichloropropane	0.67	U	50.0	45.0		ug/L		90	74 - 125	1	25
1,1-Dichloropropene	1.6	U	50.0	44.2		ug/L		88	75 - 125	1	25
Ethylbenzene	0.41	U	50.0	50.4		ug/L		101	75 - 125	3	25
2-Hexanone	7.4	U	250	244		ug/L		97	60 - 140	2	25
Isopropylbenzene	0.61	U	50.0	54.3		ug/L		109	75 - 125	0	25
m-Dichlorobenzene	0.51	U	50.0	50.5		ug/L		101	75 - 125	3	25
Methyl acetate	4.0	U	100	126		ug/L		126	60 - 140	2	25
Methylene Chloride	1.7	U	50.0	43.9		ug/L		88	75 - 125	0	25
Methyl tert-butyl ether	1.4	U	50.0	51.8		ug/L		104	65 - 135	1	25
m,p-Xylenes	1.2	U	50.0	51.5		ug/L		103	75 - 125	0	25
o-Dichlorobenzene	0.51	U	50.0	50.8		ug/L		102	75 - 125	3	25
o-Xylene	0.55	U	50.0	51.9		ug/L		104	75 - 125	1	25
para-Dichlorobenzene	0.51	U	50.0	50.3		ug/L		101	75 - 125	3	25
Styrene	0.66	U	50.0	53.4		ug/L		107	75 - 125	1	25
1,1,2,2-Tetrachloroethane	0.47	U	50.0	45.7		ug/L		91	74 - 125	1	25
Tetrachloroethene	0.80	U	50.0	50.8		ug/L		102	71 - 125	4	25
Toluene	0.48	U	50.0	47.0		ug/L		94	59 - 139	1	25
trans-1,2-Dichloroethene	0.95	U	50.0	44.6		ug/L		89	75 - 125	1	25
trans-1,3-Dichloropropene	1.3	U	50.0	51.4		ug/L		103	66 - 125	1	25
1,2,4-Trichlorobenzene	1.8	U	50.0	54.0		ug/L		108	75 - 135	4	25
1,1,1-Trichloroethane	1.7	U	50.0	52.3		ug/L		105	75 - 125	0	25
1,1,2-Trichloroethane	0.51	U	50.0	49.5		ug/L		99	75 - 127	2	25
Trichloroethene	0.79	U	50.0	50.4		ug/L		101	62 - 137	2	25
Trichlorofluoromethane	0.64	U	50.0	66.9		ug/L		134	60 - 140	1	25
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	53.0		ug/L		106	60 - 140	0	25
Vinyl chloride	0.64	U	50.0	46.9		ug/L		94	60 - 140	1	25

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-39414-D-3 MSD
Matrix: Water
Analysis Batch: 83091

Client Sample ID: Matrix Spike Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Xylenes, Total	1.2	U	100	103		ug/L		103	75 - 125	0	25

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*
Toluene-d8 (Surr)	*98*		*80 - 117*
4-Bromofluorobenzene (Surr)	*95*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*

QC Association Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11241-1

GC/MS VOA

Analysis Batch: 82913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-11241-2	CCB-MW0013-045.0-20221207	Total/NA	Ground Water	8260D	
MB 860-82913/10	Method Blank	Total/NA	Water	8260D	
LCS 860-82913/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-82913/4	Lab Control Sample Dup	Total/NA	Water	8260D	
670-11497-C-34 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 82923

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-11241-1	CCB-MW0052-045.0-20221207	Total/NA	Ground Water	8260D	
MB 860-82923/9	Method Blank	Total/NA	Water	8260D	
LCS 860-82923/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-82923/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-39208-Y-1 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 83091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-11241-3	CCB-MW0039-030.0-20221208	Total/NA	Ground Water	8260D	
670-11241-4	CCB-MW0122-025.0-20221208	Total/NA	Ground Water	8260D	
MB 860-83091/9	Method Blank	Total/NA	Water	8260D	
LCS 860-83091/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-83091/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-39414-D-3 MS	Matrix Spike	Total/NA	Water	8260D	
860-39414-D-3 MSD	Matrix Spike Duplicate	Total/NA	Water	8260D	

Client Sample ID: CCB-MW0052-045.0-20221207
Lab Sample ID: 670-11241-1
Date Collected: 12/07/22 14:30
Matrix: Ground Water
Date Received: 12/09/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	82923	TTD	EET HOU	12/21/22 17:58

Client Sample ID: CCB-MW0013-045.0-20221207
Lab Sample ID: 670-11241-2
Date Collected: 12/07/22 15:25
Matrix: Ground Water
Date Received: 12/09/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	82913	NA	EET HOU	12/21/22 17:30

Client Sample ID: CCB-MW0039-030.0-20221208
Lab Sample ID: 670-11241-3
Date Collected: 12/08/22 08:55
Matrix: Ground Water
Date Received: 12/09/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	83091	NA	EET HOU	12/22/22 11:00

Client Sample ID: CCB-MW0122-025.0-20221208
Lab Sample ID: 670-11241-4
Date Collected: 12/08/22 10:15
Matrix: Ground Water
Date Received: 12/09/22 14:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	83091	NA	EET HOU	12/22/22 11:21

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Accreditation/Certification Summary

Client: Tetra Tech, Inc. Job ID: 670-11241-1
Project/Site: NASA KSC CCB

Laboratory: Eurofins Houston

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-00759	08-04-23
Florida	NELAP	E871002	06-30-23
Louisiana	NELAP	03054	06-30-23
Louisiana (All)	NELAP	03054	06-30-23
Oklahoma	State	1306	08-31-23
Texas	NELAP	T104704215-22-48	06-30-23
Texas	TCEQ Water Supply	T104704215	12-27-22
USDA	US Federal Programs	P330-22-00025	03-02-23

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-11241-1	CCB-MW0052-045.0-20221207	Ground Water	12/07/22 14:30	12/09/22 14:00
670-11241-2	CCB-MW0013-045.0-20221207	Ground Water	12/07/22 15:25	12/09/22 14:00
670-11241-3	CCB-MW0039-030.0-20221208	Ground Water	12/08/22 08:55	12/09/22 14:00
670-11241-4	CCB-MW0122-025.0-20221208	Ground Water	12/08/22 10:15	12/09/22 14:00

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 1670 | PAGE 1 OF 1

PROJECT NO: /	FACILITY: KSC-NASA CCB	PROJECT MANAGER: Mark Jonnet	PHONE NUMBER: 412-921-8622	LABORATORY NAME AND CONTACT: Eurofins / Kaitlin dylnicki
SAMPLERS (SIGNATURE): A Siegel TT		FIELD OPERATIONS LEADER: Chuck Sorden	PHONE NUMBER: 321-591-7580	ADDRESS: 481 Newburyport Ave
		CARRIER/WAYBILL NUMBER: 67060925		CITY, STATE: Altamonte Springs, Fl 32701

STANDARD TAT ☑
RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G
PRESERVATIVE USED: HCl/4°C, 4°C

TYPE OF ANALYSIS: 8260D-(mod) NASA LCS Custom; 8260D-(mod) NASA LCS Custom

DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D-(mod) NASA LCS Custom	8260D-(mod) NASA LCS Custom	COMMENTS
12/07	1430	CCB-MW0052-045.0-20221207	52	40	50	GW	G	4	✓	✓	
12/07	1525	CCB-MW0013-045.0-20221207	13	40	50	GW	G	4	✓	✓	
12/08	0855	CCB-MW0039-080.0-20221208	39	25	35	GW	G	4	✓	✓	
12/08	1015	CCB-MW0122-025.0-20221208	122	20	30	GW	G	4	✓	✓	

670-11241 Chain of Custody

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY: A Siegel	12 8 22	1600	1. RECEIVED BY:	12 8 22	1600
2. RELINQUISHED BY:	12-9-22	1230	2. RECEIVED BY:	12/9/22	1230
3. RELINQUISHED BY:	12/9/22	1352	3. RECEIVED BY: 1400	12/9/22	1400

COMMENTS: 5.0°C

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Login Sample Receipt Checklist

Client: Tetra Tech, Inc.

Job Number: 670-11241-1

Login Number: 11241
List Number: 1
Creator: Ferguson, Craig

List Source: Eurofins Orlando

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

ANALYTICAL REPORT

PREPARED FOR

Attn: Mr. Mark Jonnet
Tetra Tech, Inc.
Foster Plaza 7
661 Anderson Drive
Suite 200
Pittsburgh, Pennsylvania 15220-2745

Generated 1/6/2023 5:19:47 PM

JOB DESCRIPTION

NASA KSC CCB

JOB NUMBER

670-11087-1

Eurofins Orlando

Job Notes

The test results in this report meet NELAP requirements for parameters for which accreditation is required or available. Any exceptions to the NELAP requirements are noted. Results pertain only to samples listed in this report. This report may not be reproduced, except in full, without the written approval of the laboratory. Questions should be directed to the person who signed this report.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southeast, LLC Project Manager.

Authorization

Kaitlin Dylnicki

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1/6/2023 5:19:47 PM

Authorized for release by
Kaitlin Dylnicki, Project Manager
kaitlin.dylnicki@et.eurofinsus.com
(407)339-5984

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Definitions/Glossary

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Indicates that the compound was analyzed for but not detected.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Laboratory: Eurofins Orlando

Narrative

Job Narrative
670-11087-1

Comments
No additional comments.

Receipt
The samples were received on 12/7/2022 5:10 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.8º C.

GC/MS VOA

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0109-045.0-20221205 (670-11087-1), CCB-MW0045-025.0-20221205 (670-11087-2), CCB-MW0046-035.0-20221205 (670-11087-3), CCB-MW0086-035.0-20221205 (670-11087-4), CCB-MW0138-035.0-20221205 (670-11087-5), CCB-MW0137-025.0-20221205 (670-11087-6), CCB-MW0133-030.0-20221205 (670-11087-7), CCB-MW0134-025.0-20221206 (670-11087-8), CCB-MW0135-030.0-20221206 (670-11087-9), CCB-MW0132-030.0-20221206 (670-11087-10), CCB-MW0136-030.0-20221206 (670-11087-11), CCB-MW0034-025.020221206 (670-11087-12), CCB-MW0144-025.020221206 (670-11087-13), CCB-MW0147-025.0-20221205 (670-11087-14), CCB-MW0131-030.0-22021205 (670-11087-15), CCB-MW0130-030.0-20221205 (670-11087-16), CCB-MW0012-045.0-20221206 (670-11087-20) and CCB-MW0024-030.0-20221206 (670-11087-22) .

Method 8260D: The following sample(s) was received unpreserved and presented a pH 5. Analysis was performed within 7 days per EPA recommendation: CCB-MW0040-015.0-20221205 (670-11087-17), CCB-MW0148-045.0-2022206 (670-11087-18), CCB-MW0056-046.0-20221206 (670-11087-19), CCB-MW0125-015.0-20221206 (670-11087-21), CCB-MW0025-045.0-20221206 (670-11087-23), CCB-MW0026-018.0-20221207 (670-11087-24) and CCB-MW0029-045.0-20221207 (670-11087-25) .

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

VOA Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0109-045.0-20221205 Lab Sample ID: 670-11087-1

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.3	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	2.4		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.3		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0045-025.0-20221205 Lab Sample ID: 670-11087-2

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.8	I	5.0	0.79	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0046-035.0-20221205 Lab Sample ID: 670-11087-3

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.6	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	1.4	I	2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.5		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0086-035.0-20221205 Lab Sample ID: 670-11087-4

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	2.5		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0138-035.0-20221205 Lab Sample ID: 670-11087-5

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.2	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	1.5	I	2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.80	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0137-025.0-20221205 Lab Sample ID: 670-11087-6

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	4.6	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.0		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0133-030.0-20221205 Lab Sample ID: 670-11087-7

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	8.4		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.2		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0134-025.0-20221206 Lab Sample ID: 670-11087-8

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.6	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0135-030.0-20221206 Lab Sample ID: 670-11087-9

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.3	I	2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.5		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0132-030.0-20221206 — Lab Sample ID: 670-11087-10

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.2	I	2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.4		1.0	0.71	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	1.1		1.0	0.95	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0136-030.0-20221206 — Lab Sample ID: 670-11087-11

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.1	I	5.0	0.79	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0034-025.020221206 — Lab Sample ID: 670-11087-12

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	10		5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	3.5		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0144-025.020221206 — Lab Sample ID: 670-11087-13

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	9.5		5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	1.1		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0147-025.0-20221205 — Lab Sample ID: 670-11087-14

No Detections.

Client Sample ID: CCB-MW0131-030.0-22021205 — Lab Sample ID: 670-11087-15

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	9.4		2.0	0.64	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0130-030.0-20221205 — Lab Sample ID: 670-11087-16

No Detections.

Client Sample ID: CCB-MW0040-015.0-20221205 — Lab Sample ID: 670-11087-17

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.5	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.1		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0148-045.0-2022206 — Lab Sample ID: 670-11087-18

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.1		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0056-046.0-20221206 — Lab Sample ID: 670-11087-19

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	19		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	5.5		1.0	0.71	ug/L	1		8260D	Total/NA
trans-1,2-Dichloroethene	2.7		1.0	0.95	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0012-045.0-20221206 — Lab Sample ID: 670-11087-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	9.4		2.0	0.64	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CCB-MW0012-045.0-20221206 (Continued) Lab Sample ID: 670-11087-20

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	5.3		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0125-015.0-20221206 Lab Sample ID: 670-11087-21

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	26		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	5.4		1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0024-030.0-20221206 Lab Sample ID: 670-11087-22

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	6.3	I	100	1.2	ug/L	1		8260D	Total/NA
Trichloroethene	2.9	I	5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.71	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0025-045.0-20221206 Lab Sample ID: 670-11087-23

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.3	I	2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.88	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0026-018.0-20221207 Lab Sample ID: 670-11087-24

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	80		5.0	0.79	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	0.84	I	1.0	0.71	ug/L	1		8260D	Total/NA

Client Sample ID: CCB-MW0029-045.0-20221207 Lab Sample ID: 670-11087-25

Analyte	Result	Qualifier	PQL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	1.1	I	5.0	0.79	ug/L	1		8260D	Total/NA
Vinyl chloride	8.2		2.0	0.64	ug/L	1		8260D	Total/NA
cis-1,2-Dichloroethene	2.6		1.0	0.71	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0109-045.0-20221205
Date Collected: 12/05/22 11:00
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-1
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:26	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 14:26	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 14:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 14:26	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 14:26	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:26	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 14:26	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 14:26	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 14:26	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 14:26	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 14:26	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:26	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 14:26	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 14:26	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:26	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:26	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 14:26	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 14:26	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 14:26	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 14:26	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 14:26	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 14:26	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 14:26	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 14:26	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 14:26	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 14:26	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 14:26	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 14:26	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 14:26	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 14:26	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 14:26	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 14:26	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 14:26	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 14:26	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 14:26	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 14:26	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 14:26	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 14:26	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 14:26	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 14:26	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 14:26	1
Trichloroethene	**4.3**	**I**	5.0	0.79	ug/L			12/09/22 14:26	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:26	1
Vinyl chloride	**2.4**		2.0	0.64	ug/L			12/09/22 14:26	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 14:26	1
cis-1,2-Dichloroethene	**2.3**		1.0	0.71	ug/L			12/09/22 14:26	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 14:26	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 14:26	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 14:26	1

Client Sample ID: CCB-MW0109-045.0-20221205

Lab Sample ID: 670-11087-1
Date Collected: 12/05/22 11:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 14:26	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 14:26	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 14:26	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/09/22 14:26*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*12/09/22 14:26*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/09/22 14:26*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 14:26*	*1*

Client Sample ID: CCB-MW0045-025.0-20221205

Lab Sample ID: 670-11087-2
Date Collected: 12/05/22 11:50
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:47	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 14:47	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 14:47	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 14:47	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 14:47	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:47	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 14:47	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 14:47	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 14:47	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 14:47	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 14:47	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:47	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 14:47	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 14:47	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:47	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 14:47	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 14:47	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 14:47	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 14:47	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 14:47	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 14:47	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 14:47	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 14:47	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 14:47	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 14:47	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 14:47	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 14:47	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 14:47	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 14:47	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 14:47	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 14:47	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 14:47	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 14:47	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 14:47	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0045-025.0-20221205

Lab Sample ID: 670-11087-2

Date Collected: 12/05/22 11:50
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 14:47	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 14:47	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 14:47	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 14:47	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 14:47	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 14:47	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 14:47	1
Trichloroethene	**3.8**	**I**	5.0	0.79	ug/L			12/09/22 14:47	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 14:47	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 14:47	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 14:47	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 14:47	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 14:47	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 14:47	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 14:47	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 14:47	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 14:47	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 14:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*63 - 144*		*12/09/22 14:47*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*12/09/22 14:47*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 14:47*	*1*
Toluene-d8 (Surr)	*102*		*80 - 117*		*12/09/22 14:47*	*1*

Client Sample ID: CCB-MW0046-035.0-20221205

Lab Sample ID: 670-11087-3

Date Collected: 12/05/22 12:20
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:07	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 15:07	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 15:07	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 15:07	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 15:07	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:07	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 15:07	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 15:07	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 15:07	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 15:07	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 15:07	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:07	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 15:07	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 15:07	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:07	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:07	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 15:07	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 15:07	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 15:07	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0046-035.0-20221205

Lab Sample ID: 670-11087-3

Date Collected: 12/05/22 12:20
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/09/22 15:07	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:07	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 15:07	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 15:07	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 15:07	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 15:07	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 15:07	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 15:07	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:07	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 15:07	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 15:07	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 15:07	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 15:07	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 15:07	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 15:07	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 15:07	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 15:07	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 15:07	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 15:07	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 15:07	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 15:07	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 15:07	1
Trichloroethene	**1.6**	**I**	5.0	0.79	ug/L			12/09/22 15:07	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:07	1
Vinyl chloride	**1.4**	**I**	2.0	0.64	ug/L			12/09/22 15:07	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 15:07	1
cis-1,2-Dichloroethene	**1.5**		1.0	0.71	ug/L			12/09/22 15:07	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 15:07	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 15:07	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 15:07	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 15:07	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 15:07	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 15:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/09/22 15:07*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/09/22 15:07*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 15:07*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 15:07*	*1*

Client Sample ID: CCB-MW0086-035.0-20221205

Lab Sample ID: 670-11087-4

Date Collected: 12/05/22 13:50
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:28	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 15:28	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 15:28	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 15:28	1

Client Sample ID: CCB-MW0086-035.0-20221205
Date Collected: 12/05/22 13:50
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-4
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 15:28	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:28	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 15:28	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 15:28	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 15:28	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 15:28	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 15:28	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:28	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 15:28	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 15:28	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:28	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:28	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 15:28	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 15:28	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 15:28	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 15:28	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:28	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 15:28	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 15:28	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 15:28	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 15:28	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 15:28	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 15:28	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:28	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 15:28	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 15:28	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 15:28	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 15:28	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 15:28	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 15:28	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 15:28	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 15:28	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 15:28	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 15:28	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 15:28	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 15:28	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 15:28	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 15:28	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:28	1
Vinyl chloride	**2.5**		2.0	0.64	ug/L			12/09/22 15:28	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 15:28	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 15:28	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 15:28	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 15:28	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 15:28	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 15:28	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 15:28	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 15:28	1

Client Sample ID: CCB-MW0086-035.0-20221205 **Lab Sample ID: 670-11087-4**
Date Collected: 12/05/22 13:50 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/09/22 15:28*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/09/22 15:28*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 15:28*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 15:28*	*1*

Client Sample ID: CCB-MW0138-035.0-20221205 **Lab Sample ID: 670-11087-5**
Date Collected: 12/05/22 14:20 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:48	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 15:48	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 15:48	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 15:48	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 15:48	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:48	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 15:48	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 15:48	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 15:48	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 15:48	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 15:48	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:48	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 15:48	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 15:48	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:48	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 15:48	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 15:48	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 15:48	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 15:48	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 15:48	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:48	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 15:48	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 15:48	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 15:48	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 15:48	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 15:48	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 15:48	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 15:48	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 15:48	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 15:48	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 15:48	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 15:48	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 15:48	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 15:48	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 15:48	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 15:48	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 15:48	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 15:48	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 15:48	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0138-035.0-20221205
Lab Sample ID: 670-11087-5
Date Collected: 12/05/22 14:20
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 15:48	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 15:48	1
Trichloroethene	**1.2**	**I**	5.0	0.79	ug/L			12/09/22 15:48	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 15:48	1
Vinyl chloride	**1.5**	**I**	2.0	0.64	ug/L			12/09/22 15:48	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 15:48	1
cis-1,2-Dichloroethene	**0.80**	**I**	1.0	0.71	ug/L			12/09/22 15:48	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 15:48	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 15:48	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 15:48	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 15:48	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 15:48	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 15:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*12/09/22 15:48*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*12/09/22 15:48*	*1*
Dibromofluoromethane (Surr)	*102*		*75 - 131*		*12/09/22 15:48*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 15:48*	*1*

Client Sample ID: CCB-MW0137-025.0-20221205
Lab Sample ID: 670-11087-6
Date Collected: 12/05/22 15:35
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:09	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 16:09	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 16:09	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 16:09	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 16:09	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:09	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 16:09	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 16:09	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 16:09	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 16:09	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 16:09	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:09	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 16:09	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 16:09	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:09	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:09	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 16:09	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 16:09	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 16:09	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 16:09	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:09	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 16:09	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 16:09	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 16:09	1

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0137-025.0-20221205 Lab Sample ID: 670-11087-6
Date Collected: 12/05/22 15:35 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 16:09	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 16:09	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 16:09	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:09	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 16:09	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 16:09	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 16:09	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 16:09	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 16:09	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 16:09	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 16:09	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 16:09	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 16:09	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 16:09	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 16:09	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 16:09	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 16:09	1
Trichloroethene	**4.6**	**I**	5.0	0.79	ug/L			12/09/22 16:09	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:09	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 16:09	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 16:09	1
cis-1,2-Dichloroethene	**2.0**		1.0	0.71	ug/L			12/09/22 16:09	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 16:09	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 16:09	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 16:09	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 16:09	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 16:09	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 16:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/09/22 16:09*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*12/09/22 16:09*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 16:09*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 16:09*	*1*

Client Sample ID: CCB-MW0133-030.0-20221205 Lab Sample ID: 670-11087-7
Date Collected: 12/05/22 08:40 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:29	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 16:29	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 16:29	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 16:29	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 16:29	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:29	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 16:29	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 16:29	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 16:29	1

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0133-030.0-20221205 Lab Sample ID: 670-11087-7
Date Collected: 12/05/22 08:40 Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 16:29	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 16:29	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:29	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 16:29	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 16:29	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:29	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:29	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 16:29	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 16:29	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 16:29	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 16:29	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:29	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 16:29	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 16:29	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 16:29	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 16:29	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 16:29	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 16:29	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:29	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 16:29	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 16:29	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 16:29	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 16:29	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 16:29	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 16:29	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 16:29	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 16:29	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 16:29	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 16:29	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 16:29	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 16:29	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 16:29	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 16:29	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:29	1
Vinyl chloride	**8.4**		2.0	0.64	ug/L			12/09/22 16:29	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 16:29	1
cis-1,2-Dichloroethene	**1.2**		1.0	0.71	ug/L			12/09/22 16:29	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 16:29	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 16:29	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 16:29	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 16:29	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 16:29	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 16:29	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*12/09/22 16:29*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*12/09/22 16:29*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/09/22 16:29*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 16:29*	*1*

Client Sample ID: CCB-MW0134-025.0-20221206

Date Collected: 12/06/22 09:45
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-8

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:50	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 16:50	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 16:50	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 16:50	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 16:50	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:50	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 16:50	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 16:50	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 16:50	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 16:50	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 16:50	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:50	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 16:50	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 16:50	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:50	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 16:50	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 16:50	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 16:50	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 16:50	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 16:50	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:50	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 16:50	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 16:50	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 16:50	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 16:50	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 16:50	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 16:50	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 16:50	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 16:50	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 16:50	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 16:50	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 16:50	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 16:50	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 16:50	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 16:50	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 16:50	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 16:50	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 16:50	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 16:50	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 16:50	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 16:50	1
Trichloroethene	**2.6**	**I**	5.0	0.79	ug/L			12/09/22 16:50	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 16:50	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 16:50	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 16:50	1
cis-1,2-Dichloroethene	**1.4**		1.0	0.71	ug/L			12/09/22 16:50	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 16:50	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 16:50	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 16:50	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0134-025.0-20221206

Lab Sample ID: 670-11087-8

Date Collected: 12/06/22 09:45
Date Received: 12/07/22 17:10

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 16:50	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 16:50	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/09/22 16:50*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 16:50*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/09/22 16:50*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*12/09/22 16:50*	*1*

Client Sample ID: CCB-MW0135-030.0-20221206

Lab Sample ID: 670-11087-9

Date Collected: 12/06/22 10:35
Date Received: 12/07/22 17:10

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:10	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 17:10	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 17:10	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 17:10	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 17:10	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:10	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 17:10	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 17:10	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 17:10	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 17:10	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 17:10	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:10	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 17:10	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 17:10	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:10	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:10	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 17:10	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 17:10	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 17:10	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 17:10	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:10	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 17:10	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 17:10	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 17:10	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 17:10	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 17:10	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 17:10	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:10	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 17:10	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 17:10	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 17:10	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 17:10	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 17:10	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 17:10	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0135-030.0-20221206

Lab Sample ID: 670-11087-9

Date Collected: 12/06/22 10:35
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 17:10	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 17:10	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 17:10	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 17:10	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 17:10	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 17:10	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 17:10	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 17:10	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:10	1
Vinyl chloride	**1.3**	**I**	2.0	0.64	ug/L			12/09/22 17:10	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 17:10	1
cis-1,2-Dichloroethene	**1.5**		1.0	0.71	ug/L			12/09/22 17:10	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 17:10	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 17:10	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 17:10	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 17:10	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 17:10	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 17:10	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/09/22 17:10*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/09/22 17:10*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 17:10*	*1*
Toluene-d8 (Surr)	*103*		*80 - 117*		*12/09/22 17:10*	*1*

Client Sample ID: CCB-MW0132-030.0-20221206

Lab Sample ID: 670-11087-10

Date Collected: 12/06/22 11:10
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:31	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 17:31	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 17:31	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 17:31	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 17:31	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:31	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 17:31	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 17:31	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 17:31	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 17:31	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 17:31	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:31	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 17:31	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 17:31	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:31	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:31	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 17:31	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 17:31	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 17:31	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0132-030.0-20221206

Date Collected: 12/06/22 11:10
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-10

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/09/22 17:31	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:31	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 17:31	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 17:31	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 17:31	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 17:31	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 17:31	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 17:31	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:31	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 17:31	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 17:31	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 17:31	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 17:31	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 17:31	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 17:31	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 17:31	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 17:31	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 17:31	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 17:31	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 17:31	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 17:31	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 17:31	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 17:31	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:31	1
Vinyl chloride	**1.2**	**I**	2.0	0.64	ug/L			12/09/22 17:31	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 17:31	1
cis-1,2-Dichloroethene	**1.4**		1.0	0.71	ug/L			12/09/22 17:31	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 17:31	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 17:31	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 17:31	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 17:31	1
trans-1,2-Dichloroethene	**1.1**		1.0	0.95	ug/L			12/09/22 17:31	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 17:31	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*63 - 144*		*12/09/22 17:31*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/09/22 17:31*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 17:31*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 17:31*	*1*

Client Sample ID: CCB-MW0136-030.0-20221206

Date Collected: 12/06/22 11:55
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-11

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:51	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 17:51	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 17:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 17:51	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0136-030.0-20221206

Date Collected: 12/06/22 11:55
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-11

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 17:51	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:51	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 17:51	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 17:51	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 17:51	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 17:51	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 17:51	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:51	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 17:51	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 17:51	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:51	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 17:51	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 17:51	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 17:51	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 17:51	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 17:51	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:51	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 17:51	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 17:51	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 17:51	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 17:51	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 17:51	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 17:51	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 17:51	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 17:51	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 17:51	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 17:51	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 17:51	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 17:51	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 17:51	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 17:51	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 17:51	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 17:51	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 17:51	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 17:51	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 17:51	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 17:51	1
Trichloroethene	**1.1**	**I**	5.0	0.79	ug/L			12/09/22 17:51	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 17:51	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 17:51	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 17:51	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 17:51	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 17:51	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 17:51	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 17:51	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 17:51	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 17:51	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 17:51	1

Client Sample ID: CCB-MW0136-030.0-20221206
Lab Sample ID: 670-11087-11
Date Collected: 12/06/22 11:55
Matrix: Ground Water
Date Received: 12/07/22 17:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*12/09/22 17:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 17:51*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/09/22 17:51*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 17:51*	*1*

Client Sample ID: CCB-MW0034-025.020221206
Lab Sample ID: 670-11087-12
Date Collected: 12/06/22 14:45
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:12	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 18:12	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 18:12	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 18:12	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 18:12	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:12	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 18:12	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 18:12	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 18:12	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 18:12	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 18:12	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:12	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 18:12	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 18:12	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:12	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:12	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 18:12	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 18:12	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 18:12	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 18:12	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:12	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 18:12	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 18:12	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 18:12	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 18:12	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 18:12	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 18:12	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:12	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 18:12	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 18:12	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 18:12	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 18:12	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 18:12	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 18:12	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 18:12	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 18:12	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 18:12	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 18:12	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 18:12	1

Client Sample Results

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0034-025.020221206 Lab Sample ID: 670-11087-12
Date Collected: 12/06/22 14:45 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 18:12	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 18:12	1
Trichloroethene	**10**		5.0	0.79	ug/L			12/09/22 18:12	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:12	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 18:12	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 18:12	1
cis-1,2-Dichloroethene	**3.5**		1.0	0.71	ug/L			12/09/22 18:12	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 18:12	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 18:12	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 18:12	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 18:12	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 18:12	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 18:12	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*110*		*63 - 144*		*12/09/22 18:12*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*12/09/22 18:12*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 18:12*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 18:12*	*1*

Client Sample ID: CCB-MW0144-025.020221206 Lab Sample ID: 670-11087-13
Date Collected: 12/06/22 15:45 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:32	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 18:32	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 18:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 18:32	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 18:32	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:32	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 18:32	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 18:32	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 18:32	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 18:32	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 18:32	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:32	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 18:32	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 18:32	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:32	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:32	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 18:32	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 18:32	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 18:32	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 18:32	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:32	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 18:32	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 18:32	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 18:32	1

Client Sample ID: CCB-MW0144-025.020221206

Lab Sample ID: 670-11087-13

Date Collected: 12/06/22 15:45

Matrix: Ground Water

Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 18:32	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 18:32	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 18:32	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:32	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 18:32	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 18:32	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 18:32	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 18:32	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 18:32	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 18:32	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 18:32	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 18:32	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 18:32	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 18:32	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 18:32	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 18:32	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 18:32	1
Trichloroethene	**9.5**		5.0	0.79	ug/L			12/09/22 18:32	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:32	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 18:32	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 18:32	1
cis-1,2-Dichloroethene	**1.1**		1.0	0.71	ug/L			12/09/22 18:32	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 18:32	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 18:32	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 18:32	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 18:32	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 18:32	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 18:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/09/22 18:32*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*12/09/22 18:32*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/09/22 18:32*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 18:32*	*1*

Client Sample ID: CCB-MW0147-025.0-20221205

Lab Sample ID: 670-11087-14

Date Collected: 12/05/22 11:00

Matrix: Ground Water

Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:53	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 18:53	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 18:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 18:53	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 18:53	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:53	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 18:53	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 18:53	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 18:53	1

Client Sample ID: CCB-MW0147-025.0-20221205
Date Collected: 12/05/22 11:00
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-14
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 18:53	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 18:53	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:53	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 18:53	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 18:53	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:53	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 18:53	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 18:53	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 18:53	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 18:53	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 18:53	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:53	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 18:53	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 18:53	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 18:53	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 18:53	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 18:53	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 18:53	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 18:53	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 18:53	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 18:53	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 18:53	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 18:53	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 18:53	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 18:53	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 18:53	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 18:53	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 18:53	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 18:53	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 18:53	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 18:53	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 18:53	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 18:53	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 18:53	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 18:53	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 18:53	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 18:53	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 18:53	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 18:53	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 18:53	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 18:53	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 18:53	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 18:53	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/09/22 18:53*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 18:53*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 18:53*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 18:53*	*1*

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0131-030.0-22021205

Date Collected: 12/05/22 12:00
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-15

Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:14	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 19:14	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 19:14	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 19:14	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 19:14	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:14	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 19:14	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 19:14	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 19:14	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 19:14	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 19:14	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:14	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 19:14	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 19:14	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:14	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:14	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 19:14	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 19:14	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 19:14	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 19:14	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:14	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 19:14	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 19:14	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 19:14	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 19:14	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 19:14	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 19:14	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:14	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 19:14	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 19:14	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 19:14	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 19:14	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 19:14	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 19:14	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 19:14	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 19:14	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 19:14	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 19:14	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 19:14	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 19:14	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 19:14	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 19:14	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:14	1
Vinyl chloride	**9.4**		2.0	0.64	ug/L			12/09/22 19:14	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 19:14	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 19:14	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 19:14	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 19:14	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 19:14	1

Client Sample ID: CCB-MW0131-030.0-22021205

Lab Sample ID: 670-11087-15

Date Collected: 12/05/22 12:00

Matrix: Ground Water

Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 19:14	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 19:14	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 19:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/09/22 19:14*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/09/22 19:14*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/09/22 19:14*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/09/22 19:14*	*1*

Client Sample ID: CCB-MW0130-030.0-20221205

Lab Sample ID: 670-11087-16

Date Collected: 12/05/22 13:20

Matrix: Ground Water

Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:34	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 19:34	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 19:34	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 19:34	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 19:34	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:34	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 19:34	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 19:34	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 19:34	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 19:34	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 19:34	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:34	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 19:34	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 19:34	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:34	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:34	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 19:34	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 19:34	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 19:34	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 19:34	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:34	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 19:34	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 19:34	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 19:34	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 19:34	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 19:34	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 19:34	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:34	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 19:34	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 19:34	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 19:34	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 19:34	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 19:34	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 19:34	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: CCB-MW0130-030.0-20221205

Lab Sample ID: 670-11087-16

Date Collected: 12/05/22 13:20
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 19:34	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 19:34	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 19:34	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 19:34	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 19:34	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 19:34	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 19:34	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 19:34	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:34	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 19:34	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 19:34	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 19:34	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 19:34	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 19:34	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 19:34	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 19:34	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 19:34	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 19:34	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*109*		*63 - 144*		*12/09/22 19:34*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 19:34*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/09/22 19:34*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/09/22 19:34*	*1*

Client Sample ID: CCB-MW0040-015.0-20221205

Lab Sample ID: 670-11087-17

Date Collected: 12/05/22 15:40
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:30	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 12:30	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 12:30	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 12:30	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 12:30	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:30	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 12:30	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 12:30	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 12:30	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 12:30	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 12:30	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:30	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 12:30	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 12:30	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:30	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:30	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 12:30	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 12:30	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 12:30	1

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0040-015.0-20221205 Lab Sample ID: 670-11087-17

Date Collected: 12/05/22 15:40 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/12/22 12:30	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 12:30	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 12:30	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 12:30	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 12:30	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 12:30	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 12:30	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 12:30	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 12:30	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 12:30	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 12:30	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 12:30	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 12:30	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 12:30	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 12:30	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 12:30	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 12:30	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 12:30	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 12:30	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 12:30	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 12:30	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 12:30	1
Trichloroethene	**3.5**	**I**	5.0	0.79	ug/L			12/12/22 12:30	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:30	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/12/22 12:30	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 12:30	1
cis-1,2-Dichloroethene	**2.1**		1.0	0.71	ug/L			12/12/22 12:30	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 12:30	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 12:30	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 12:30	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 12:30	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 12:30	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 12:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/12/22 12:30*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/12/22 12:30*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/12/22 12:30*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/12/22 12:30*	*1*

Client Sample ID: CCB-MW0148-045.0-2022206 Lab Sample ID: 670-11087-18

Date Collected: 12/06/22 08:35 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:51	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 12:51	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 12:51	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 12:51	1

Client Sample Results

Client: Tetra Tech, Inc. | Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0148-045.0-2022206 | Lab Sample ID: 670-11087-18
Date Collected: 12/06/22 08:35 | **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 12:51	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:51	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 12:51	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 12:51	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 12:51	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 12:51	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 12:51	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:51	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 12:51	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 12:51	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:51	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 12:51	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 12:51	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 12:51	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 12:51	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 12:51	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 12:51	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 12:51	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 12:51	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 12:51	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 12:51	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 12:51	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 12:51	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 12:51	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 12:51	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 12:51	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 12:51	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 12:51	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 12:51	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 12:51	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 12:51	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 12:51	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 12:51	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 12:51	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 12:51	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 12:51	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 12:51	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/12/22 12:51	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 12:51	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/12/22 12:51	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 12:51	1
cis-1,2-Dichloroethene	**3.1**		1.0	0.71	ug/L			12/12/22 12:51	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 12:51	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 12:51	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 12:51	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 12:51	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 12:51	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 12:51	1

Client Sample Results

Client: Tetra Tech, Inc. | Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0148-045.0-2022206 | Lab Sample ID: 670-11087-18

Date Collected: 12/06/22 08:35 | **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/12/22 12:51*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/12/22 12:51*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/12/22 12:51*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/12/22 12:51*	*1*

Client Sample ID: CCB-MW0056-046.0-20221206 | Lab Sample ID: 670-11087-19

Date Collected: 12/06/22 09:50 | **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:11	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 13:11	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 13:11	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 13:11	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 13:11	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:11	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 13:11	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 13:11	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 13:11	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 13:11	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 13:11	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:11	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 13:11	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 13:11	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:11	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:11	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 13:11	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 13:11	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 13:11	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 13:11	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:11	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 13:11	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 13:11	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 13:11	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 13:11	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 13:11	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 13:11	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:11	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 13:11	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 13:11	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 13:11	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 13:11	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 13:11	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 13:11	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 13:11	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 13:11	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 13:11	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 13:11	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 13:11	1

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0056-046.0-20221206

Date Collected: 12/06/22 09:50
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-19
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 13:11	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 13:11	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/12/22 13:11	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:11	1
Vinyl chloride	**19**		2.0	0.64	ug/L			12/12/22 13:11	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 13:11	1
cis-1,2-Dichloroethene	**5.5**		1.0	0.71	ug/L			12/12/22 13:11	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 13:11	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 13:11	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 13:11	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 13:11	1
trans-1,2-Dichloroethene	**2.7**		1.0	0.95	ug/L			12/12/22 13:11	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 13:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/12/22 13:11*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*12/12/22 13:11*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/12/22 13:11*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/12/22 13:11*	*1*

Client Sample ID: CCB-MW0012-045.0-20221206

Date Collected: 12/06/22 11:00
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-20
Matrix: Ground Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 13:24	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 13:24	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 13:24	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 13:24	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 13:24	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 13:24	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 13:24	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 13:24	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 13:24	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 13:24	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 13:24	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 13:24	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 13:24	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 13:24	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 13:24	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 13:24	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 13:24	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 13:24	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 13:24	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 13:24	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 13:24	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 13:24	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 13:24	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 13:24	1

Client Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Client Sample ID: CCB-MW0012-045.0-20221206

Lab Sample ID: 670-11087-20

Date Collected: 12/06/22 11:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 13:24	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 13:24	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 13:24	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 13:24	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 13:24	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 13:24	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 13:24	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 13:24	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 13:24	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 13:24	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 13:24	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 13:24	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 13:24	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 13:24	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 13:24	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 13:24	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 13:24	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 13:24	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 13:24	1
Vinyl chloride	**9.4**		2.0	0.64	ug/L			12/09/22 13:24	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 13:24	1
cis-1,2-Dichloroethene	**5.3**		1.0	0.71	ug/L			12/09/22 13:24	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 13:24	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 13:24	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 13:24	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 13:24	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 13:24	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 13:24	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*12/09/22 13:24*	*1*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*		*12/09/22 13:24*	*1*
Dibromofluoromethane (Surr)	*97*		*75 - 131*		*12/09/22 13:24*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 13:24*	*1*

Client Sample ID: CCB-MW0125-015.0-20221206

Lab Sample ID: 670-11087-21

Date Collected: 12/06/22 14:55
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:32	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 13:32	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 13:32	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 13:32	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 13:32	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:32	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 13:32	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 13:32	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 13:32	1

Client Sample ID: CCB-MW0125-015.0-20221206 Lab Sample ID: 670-11087-21

Date Collected: 12/06/22 14:55 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 13:32	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 13:32	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:32	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 13:32	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 13:32	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:32	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:32	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 13:32	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 13:32	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 13:32	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 13:32	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:32	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 13:32	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 13:32	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 13:32	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 13:32	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 13:32	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 13:32	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:32	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 13:32	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 13:32	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 13:32	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 13:32	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 13:32	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 13:32	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 13:32	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 13:32	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 13:32	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 13:32	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 13:32	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 13:32	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 13:32	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/12/22 13:32	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:32	1
Vinyl chloride	**26**		2.0	0.64	ug/L			12/12/22 13:32	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 13:32	1
cis-1,2-Dichloroethene	**5.4**		1.0	0.71	ug/L			12/12/22 13:32	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 13:32	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 13:32	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 13:32	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 13:32	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 13:32	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 13:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/12/22 13:32*	*1*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*		*12/12/22 13:32*	*1*
Dibromofluoromethane (Surr)	*98*		*75 - 131*		*12/12/22 13:32*	*1*
Toluene-d8 (Surr)	*101*		*80 - 117*		*12/12/22 13:32*	*1*

Client Sample Results

Client: Tetra Tech, Inc. | Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0024-030.0-20221206 | Lab Sample ID: 670-11087-22

Date Collected: 12/06/22 16:00 | **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:55	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 19:55	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 19:55	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 19:55	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 19:55	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:55	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 19:55	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 19:55	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 19:55	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 19:55	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 19:55	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:55	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 19:55	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 19:55	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:55	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 19:55	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 19:55	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 19:55	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 19:55	1
Acetone	**6.3**	**I**	100	1.2	ug/L			12/09/22 19:55	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:55	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 19:55	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 19:55	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 19:55	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 19:55	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 19:55	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 19:55	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 19:55	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 19:55	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 19:55	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 19:55	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 19:55	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 19:55	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 19:55	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 19:55	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 19:55	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 19:55	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 19:55	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 19:55	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 19:55	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 19:55	1
Trichloroethene	**2.9**	**I**	5.0	0.79	ug/L			12/09/22 19:55	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 19:55	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 19:55	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 19:55	1
cis-1,2-Dichloroethene	**0.71**	**I**	1.0	0.71	ug/L			12/09/22 19:55	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 19:55	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 19:55	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 19:55	1

Client Sample ID: CCB-MW0024-030.0-20221206
Lab Sample ID: 670-11087-22
Date Collected: 12/06/22 16:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 19:55	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 19:55	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*63 - 144*		*12/09/22 19:55*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 19:55*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/09/22 19:55*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/09/22 19:55*	*1*

Client Sample ID: CCB-MW0025-045.0-20221206
Lab Sample ID: 670-11087-23
Date Collected: 12/06/22 17:10
Matrix: Ground Water
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:52	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 13:52	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 13:52	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 13:52	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 13:52	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:52	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 13:52	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 13:52	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 13:52	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 13:52	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 13:52	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:52	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 13:52	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 13:52	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:52	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 13:52	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 13:52	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 13:52	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 13:52	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 13:52	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:52	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 13:52	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 13:52	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 13:52	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 13:52	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 13:52	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 13:52	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 13:52	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 13:52	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 13:52	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 13:52	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 13:52	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 13:52	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 13:52	1

Client Sample ID: CCB-MW0025-045.0-20221206 Lab Sample ID: 670-11087-23

Date Collected: 12/06/22 17:10 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 13:52	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 13:52	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 13:52	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 13:52	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 13:52	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 13:52	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 13:52	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/12/22 13:52	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 13:52	1
Vinyl chloride	**1.3**	**I**	2.0	0.64	ug/L			12/12/22 13:52	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 13:52	1
cis-1,2-Dichloroethene	**0.88**	**I**	1.0	0.71	ug/L			12/12/22 13:52	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 13:52	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 13:52	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 13:52	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 13:52	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 13:52	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 13:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/12/22 13:52*	*1*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*		*12/12/22 13:52*	*1*
Dibromofluoromethane (Surr)	*99*		*75 - 131*		*12/12/22 13:52*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/12/22 13:52*	*1*

Client Sample ID: CCB-MW0026-018.0-20221207 Lab Sample ID: 670-11087-24

Date Collected: 12/07/22 09:00 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:13	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 14:13	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 14:13	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 14:13	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 14:13	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:13	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 14:13	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 14:13	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 14:13	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 14:13	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 14:13	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:13	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 14:13	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 14:13	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:13	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:13	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 14:13	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 14:13	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 14:13	1

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: CCB-MW0026-018.0-20221207 Lab Sample ID: 670-11087-24

Date Collected: 12/07/22 09:00 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Acetone	1.2	U	100	1.2	ug/L			12/12/22 14:13	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 14:13	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 14:13	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 14:13	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 14:13	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 14:13	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 14:13	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 14:13	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 14:13	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 14:13	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 14:13	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 14:13	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 14:13	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 14:13	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 14:13	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 14:13	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 14:13	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 14:13	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 14:13	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 14:13	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 14:13	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 14:13	1
Trichloroethene	**80**		5.0	0.79	ug/L			12/12/22 14:13	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:13	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/12/22 14:13	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 14:13	1
cis-1,2-Dichloroethene	**0.84**	**I**	1.0	0.71	ug/L			12/12/22 14:13	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 14:13	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 14:13	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 14:13	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 14:13	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 14:13	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 14:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*111*		*63 - 144*		*12/12/22 14:13*	*1*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*		*12/12/22 14:13*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/12/22 14:13*	*1*
Toluene-d8 (Surr)	*99*		*80 - 117*		*12/12/22 14:13*	*1*

Client Sample ID: CCB-MW0029-045.0-20221207 Lab Sample ID: 670-11087-25

Date Collected: 12/07/22 10:25 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:33	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 14:33	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 14:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 14:33	1

Client: Tetra Tech, Inc.　　　　Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Client Sample ID: CCB-MW0029-045.0-20221207　　　　**Lab Sample ID: 670-11087-25**
Date Collected: 12/07/22 10:25　　　　**Matrix: Ground Water**
Date Received: 12/07/22 17:10

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Analyte	Result	Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 14:33	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:33	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 14:33	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 14:33	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 14:33	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 14:33	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 14:33	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:33	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 14:33	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 14:33	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:33	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 14:33	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 14:33	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 14:33	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 14:33	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 14:33	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 14:33	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 14:33	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 14:33	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 14:33	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 14:33	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 14:33	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 14:33	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 14:33	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 14:33	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 14:33	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 14:33	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 14:33	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 14:33	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 14:33	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 14:33	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 14:33	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 14:33	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 14:33	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 14:33	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 14:33	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 14:33	1
Trichloroethene	**1.1**	**I**	5.0	0.79	ug/L			12/12/22 14:33	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 14:33	1
Vinyl chloride	**8.2**		2.0	0.64	ug/L			12/12/22 14:33	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 14:33	1
cis-1,2-Dichloroethene	**2.6**		1.0	0.71	ug/L			12/12/22 14:33	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 14:33	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 14:33	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 14:33	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 14:33	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 14:33	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 14:33	1

Client Sample ID: CCB-MW0029-045.0-20221207
Date Collected: 12/07/22 10:25
Date Received: 12/07/22 17:10

Lab Sample ID: 670-11087-25
Matrix: Ground Water

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane-d4 (Surr)	109		63 - 144		12/12/22 14:33	1
4-Bromofluorobenzene (Surr)	96		74 - 124		12/12/22 14:33	1
Dibromofluoromethane (Surr)	100		75 - 131		12/12/22 14:33	1
Toluene-d8 (Surr)	100		80 - 117		12/12/22 14:33	1

Surrogate Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Ground Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
670-11087-1	CCB-MW0109-045.0-20221205	107	96	99	100
670-11087-2	CCB-MW0045-025.0-20221205	109	100	100	102
670-11087-3	CCB-MW0046-035.0-20221205	107	97	100	101
670-11087-4	CCB-MW0086-035.0-20221205	108	97	100	101
670-11087-5	CCB-MW0138-035.0-20221205	110	98	102	101
670-11087-6	CCB-MW0137-025.0-20221205	107	100	100	100
670-11087-7	CCB-MW0133-030.0-20221205	110	96	99	101
670-11087-8	CCB-MW0134-025.0-20221206	111	99	101	103
670-11087-9	CCB-MW0135-030.0-20221206	111	97	100	103
670-11087-10	CCB-MW0132-030.0-20221206	109	97	100	100
670-11087-11	CCB-MW0136-030.0-20221206	106	99	101	101
670-11087-12	CCB-MW0034-025.020221206	110	98	100	101
670-11087-13	CCB-MW0144-025.020221206	108	100	99	100
670-11087-14	CCB-MW0147-025.0-20221205	107	99	100	100
670-11087-15	CCB-MW0131-030.0-22021205	108	97	101	101
670-11087-16	CCB-MW0130-030.0-20221205	109	99	100	99
670-11087-17	CCB-MW0040-015.0-20221205	111	97	100	101
670-11087-18	CCB-MW0148-045.0-2022206	111	99	101	101
670-11087-19	CCB-MW0056-046.0-20221206	108	96	99	99
670-11087-20	CCB-MW0012-045.0-20221206	106	96	97	100
670-11087-21	CCB-MW0125-015.0-20221206	111	97	98	101
670-11087-22	CCB-MW0024-030.0-20221206	107	99	99	100
670-11087-23	CCB-MW0025-045.0-20221206	108	100	99	100
670-11087-24	CCB-MW0026-018.0-20221207	111	98	101	99
670-11087-25	CCB-MW0029-045.0-20221207	109	96	100	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)			
		DCA	BFB	DBFM	TOL
Lab Sample ID	Client Sample ID	(63-144)	(74-124)	(75-131)	(80-117)
860-38723-B-1 MS	Matrix Spike	101	100	99	99
860-38746-D-23 MS	Matrix Spike	103	98	98	98
LCS 860-81092/3	Lab Control Sample	104	97	99	99
LCS 860-81339/3	Lab Control Sample	104	96	98	96
LCSD 860-81092/4	Lab Control Sample Dup	105	101	99	97
LCSD 860-81339/4	Lab Control Sample Dup	103	97	100	97
MB 860-81092/9	Method Blank	106	99	101	102
MB 860-81339/9	Method Blank	108	99	100	100

Surrogate Legend

DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)

Surrogate Summary

TOL = Toluene-d8 (Surr)

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 860-81092/9
Matrix: Water
Analysis Batch: 81092

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 12:43	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/09/22 12:43	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/09/22 12:43	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/09/22 12:43	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/09/22 12:43	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/09/22 12:43	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/09/22 12:43	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/09/22 12:43	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/09/22 12:43	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/09/22 12:43	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/09/22 12:43	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 12:43	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/09/22 12:43	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/09/22 12:43	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 12:43	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/09/22 12:43	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/09/22 12:43	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/09/22 12:43	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/09/22 12:43	1
Acetone	1.2	U	100	1.2	ug/L			12/09/22 12:43	1
Benzene	0.53	U	1.0	0.53	ug/L			12/09/22 12:43	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/09/22 12:43	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/09/22 12:43	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/09/22 12:43	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/09/22 12:43	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/09/22 12:43	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/09/22 12:43	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/09/22 12:43	1
Chloroethane	2.0	U	10	2.0	ug/L			12/09/22 12:43	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/09/22 12:43	1
Chloromethane	2.0	U	10	2.0	ug/L			12/09/22 12:43	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/09/22 12:43	1
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/09/22 12:43	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/09/22 12:43	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/09/22 12:43	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/09/22 12:43	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/09/22 12:43	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/09/22 12:43	1
Styrene	0.66	U	1.0	0.66	ug/L			12/09/22 12:43	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/09/22 12:43	1
Toluene	0.48	U	1.0	0.48	ug/L			12/09/22 12:43	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/09/22 12:43	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/09/22 12:43	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/09/22 12:43	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/09/22 12:43	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/09/22 12:43	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/09/22 12:43	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/09/22 12:43	1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-81092/9
Matrix: Water
Analysis Batch: 81092

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/09/22 12:43	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/09/22 12:43	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/09/22 12:43	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/09/22 12:43	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*106*		*63 - 144*		*12/09/22 12:43*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/09/22 12:43*	*1*
Dibromofluoromethane (Surr)	*101*		*75 - 131*		*12/09/22 12:43*	*1*
Toluene-d8 (Surr)	*102*		*80 - 117*		*12/09/22 12:43*	*1*

Lab Sample ID: LCS 860-81092/3
Matrix: Water
Analysis Batch: 81092

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	52.5		ug/L		105	72 - 125
1,1,1-Trichloroethane	50.0	51.1		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	50.0	47.3		ug/L		95	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.2		ug/L		106	60 - 140
1,1,2-Trichloroethane	50.0	48.6		ug/L		97	70 - 130
1,1-Dichloroethane	50.0	48.8		ug/L		98	70 - 130
1,1-Dichloroethene	50.0	49.2		ug/L		98	50 - 150
1,2,3-Trichlorobenzene	50.0	59.8		ug/L		120	75 - 137
1,2,4-Trichlorobenzene	50.0	54.7		ug/L		109	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	59.3		ug/L		119	59 - 125
1,2-Dibromoethane (EDB)	50.0	50.1		ug/L		100	73 - 125
o-Dichlorobenzene	50.0	50.5		ug/L		101	75 - 125
1,2-Dichloroethane	50.0	51.5		ug/L		103	72 - 130
1,2-Dichloropropane	50.0	46.9		ug/L		94	74 - 125
m-Dichlorobenzene	50.0	50.1		ug/L		100	75 - 125
para-Dichlorobenzene	50.0	49.3		ug/L		99	75 - 125
2-Butanone (MEK)	250	235		ug/L		94	60 - 140
2-Hexanone	250	246		ug/L		98	60 - 140
4-Methyl-2-pentanone	250	240		ug/L		96	60 - 140
Acetone	250	233		ug/L		93	60 - 140
Benzene	50.0	48.5		ug/L		97	75 - 125
Bromochloromethane	50.0	48.8		ug/L		98	60 - 140
Bromodichloromethane	50.0	50.4		ug/L		101	75 - 125
Bromoform	50.0	54.0		ug/L		108	70 - 130
Bromomethane	50.0	45.6		ug/L		91	60 - 140
Carbon disulfide	50.0	48.4		ug/L		97	60 - 140
Carbon tetrachloride	50.0	53.2		ug/L		106	70 - 130
Chlorobenzene	50.0	49.9		ug/L		100	65 - 135
Chloroethane	50.0	45.4		ug/L		91	60 - 140
Chloroform	50.0	49.7		ug/L		99	70 - 121
Chloromethane	50.0	41.9		ug/L		84	60 - 140
Cyclohexane	50.0	48.0		ug/L		96	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-81092/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81092

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromochloromethane	50.0	52.5		ug/L		105	73 - 125
Dichlorodifluoromethane	50.0	45.1		ug/L		90	70 - 130
Ethylbenzene	50.0	51.0		ug/L		102	75 - 125
Methyl tert-butyl ether	50.0	50.9		ug/L		102	65 - 135
Methyl acetate	100	92.9		ug/L		93	60 - 140
Methylene Chloride	50.0	49.0		ug/L		98	75 - 125
Styrene	50.0	53.1		ug/L		106	75 - 125
Tetrachloroethene	50.0	51.6		ug/L		103	71 - 125
Toluene	50.0	48.8		ug/L		98	70 - 130
Trichloroethene	50.0	50.8		ug/L		102	75 - 135
Trichlorofluoromethane	50.0	52.4		ug/L		105	60 - 140
Vinyl chloride	50.0	44.4		ug/L		89	60 - 140
Xylenes, Total	100	103		ug/L		103	75 - 125
cis-1,2-Dichloroethene	50.0	47.4		ug/L		95	75 - 125
cis-1,3-Dichloropropene	50.0	49.5		ug/L		99	74 - 125
Isopropylbenzene	50.0	53.0		ug/L		106	75 - 125
m,p-Xylenes	50.0	50.9		ug/L		102	75 - 125
o-Xylene	50.0	52.0		ug/L		104	75 - 125
trans-1,2-Dichloroethene	50.0	49.9		ug/L		100	75 - 125
trans-1,3-Dichloropropene	50.0	50.8		ug/L		102	66 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: LCSD 860-81092/4 **Client Sample ID: Lab Control Sample Dup**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81092

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	48.7		ug/L		97	72 - 125	7	25
1,1,1-Trichloroethane	50.0	50.7		ug/L		101	70 - 130	1	25
1,1,2,2-Tetrachloroethane	50.0	44.3		ug/L		89	74 - 125	6	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.7		ug/L		107	60 - 140	1	25
1,1,2-Trichloroethane	50.0	45.3		ug/L		91	70 - 130	7	25
1,1-Dichloroethane	50.0	48.1		ug/L		96	70 - 130	1	25
1,1-Dichloroethene	50.0	49.2		ug/L		98	50 - 150	0	25
1,2,3-Trichlorobenzene	50.0	55.5		ug/L		111	75 - 137	7	25
1,2,4-Trichlorobenzene	50.0	52.6		ug/L		105	75 - 135	4	25
1,2-Dibromo-3-Chloropropane	50.0	56.3		ug/L		113	59 - 125	5	25
1,2-Dibromoethane (EDB)	50.0	46.8		ug/L		94	73 - 125	7	25
o-Dichlorobenzene	50.0	47.8		ug/L		96	75 - 125	6	25
1,2-Dichloroethane	50.0	49.6		ug/L		99	72 - 130	4	25
1,2-Dichloropropane	50.0	45.3		ug/L		91	74 - 125	3	25
m-Dichlorobenzene	50.0	47.9		ug/L		96	75 - 125	5	25
para-Dichlorobenzene	50.0	47.3		ug/L		95	75 - 125	4	25

Client: Tetra Tech, Inc.　　Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-81092/4　　**Client Sample ID: Lab Control Sample Dup**
Matrix: Water　　**Prep Type: Total/NA**
Analysis Batch: 81092

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
2-Butanone (MEK)	250	225		ug/L		90	60 - 140	4	25
2-Hexanone	250	223		ug/L		89	60 - 140	10	25
4-Methyl-2-pentanone	250	227		ug/L		91	60 - 140	5	25
Acetone	250	218		ug/L		87	60 - 140	6	25
Benzene	50.0	46.6		ug/L		93	75 - 125	4	25
Bromochloromethane	50.0	47.6		ug/L		95	60 - 140	2	25
Bromodichloromethane	50.0	48.8		ug/L		98	75 - 125	3	25
Bromoform	50.0	50.9		ug/L		102	70 - 130	6	25
Bromomethane	50.0	44.0		ug/L		88	60 - 140	4	25
Carbon disulfide	50.0	47.4		ug/L		95	60 - 140	2	25
Carbon tetrachloride	50.0	52.0		ug/L		104	70 - 130	2	25
Chlorobenzene	50.0	46.9		ug/L		94	65 - 135	6	25
Chloroethane	50.0	45.0		ug/L		90	60 - 140	1	25
Chloroform	50.0	47.7		ug/L		95	70 - 121	4	25
Chloromethane	50.0	40.8		ug/L		82	60 - 140	3	25
Cyclohexane	50.0	49.4		ug/L		99	70 - 130	3	25
Dibromochloromethane	50.0	48.6		ug/L		97	73 - 125	8	25
Dichlorodifluoromethane	50.0	46.0		ug/L		92	70 - 130	2	25
Ethylbenzene	50.0	48.0		ug/L		96	75 - 125	6	25
Methyl tert-butyl ether	50.0	48.5		ug/L		97	65 - 135	5	25
Methyl acetate	100	89.1		ug/L		89	60 - 140	4	25
Methylene Chloride	50.0	46.4		ug/L		93	75 - 125	5	25
Styrene	50.0	49.5		ug/L		99	75 - 125	7	25
Tetrachloroethene	50.0	51.0		ug/L		102	71 - 125	1	25
Toluene	50.0	46.5		ug/L		93	70 - 130	5	25
Trichloroethene	50.0	49.9		ug/L		100	75 - 135	2	25
Trichlorofluoromethane	50.0	52.1		ug/L		104	60 - 140	0	25
Vinyl chloride	50.0	45.2		ug/L		90	60 - 140	2	25
Xylenes, Total	100	97.8		ug/L		98	75 - 125	5	25
cis-1,2-Dichloroethene	50.0	46.0		ug/L		92	75 - 125	3	25
cis-1,3-Dichloropropene	50.0	48.3		ug/L		97	74 - 125	2	25
Isopropylbenzene	50.0	50.8		ug/L		102	75 - 125	4	25
m,p-Xylenes	50.0	48.9		ug/L		98	75 - 125	4	25
o-Xylene	50.0	48.9		ug/L		98	75 - 125	6	25
trans-1,2-Dichloroethene	50.0	50.1		ug/L		100	75 - 125	1	25
trans-1,3-Dichloropropene	50.0	47.1		ug/L		94	66 - 125	8	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*105*		*63 - 144*
4-Bromofluorobenzene (Surr)	*101*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*
Toluene-d8 (Surr)	*97*		*80 - 117*

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38723-B-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81092

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.64	U	50.0	51.8		ug/L		104	72 - 125
1,1,1-Trichloroethane	1.7	U	50.0	49.8		ug/L		100	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	47.6		ug/L		95	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	47.3		ug/L		95	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	49.2		ug/L		98	75 - 127
1,1-Dichloroethane	0.64	U	50.0	48.0		ug/L		96	72 - 125
1,1-Dichloroethene	0.74	U	50.0	49.4		ug/L		99	59 - 172
1,2,3-Trichlorobenzene	2.2	U	50.0	63.6		ug/L		127	75 - 137
1,2,4-Trichlorobenzene	1.8	U	50.0	56.4		ug/L		113	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	59.9		ug/L		120	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	50.5		ug/L		101	73 - 125
o-Dichlorobenzene	0.51	U	50.0	51.9		ug/L		104	75 - 125
1,2-Dichloroethane	0.59	U	50.0	51.6		ug/L		103	68 - 127
1,2-Dichloropropane	0.67	U	50.0	47.4		ug/L		95	74 - 125
m-Dichlorobenzene	0.51	U	50.0	51.1		ug/L		102	75 - 125
para-Dichlorobenzene	0.51	U	50.0	50.6		ug/L		101	75 - 125
2-Butanone (MEK)	8.3	U	250	239		ug/L		96	60 - 140
2-Hexanone	7.4	U	250	243		ug/L		97	60 - 140
4-Methyl-2-pentanone	7.5	U	250	243		ug/L		97	60 - 140
Acetone	1.2	U	250	229		ug/L		91	60 - 140
Benzene	0.53	U	50.0	48.2		ug/L		96	66 - 142
Bromochloromethane	0.66	U	50.0	49.7		ug/L		99	60 - 140
Bromodichloromethane	0.55	U	50.0	50.6		ug/L		101	75 - 125
Bromoform	0.63	U	50.0	52.5		ug/L		105	75 - 125
Bromomethane	1.4	U	50.0	48.7		ug/L		97	60 - 140
Carbon disulfide	1.9	U	50.0	47.6		ug/L		95	60 - 140
Carbon tetrachloride	0.90	U	50.0	50.7		ug/L		101	62 - 125
Chlorobenzene	0.53	U	50.0	49.5		ug/L		99	60 - 133
Chloroethane	2.0	U	50.0	47.7		ug/L		95	60 - 140
Chloroform	0.64	U	50.0	49.1		ug/L		98	70 - 130
Chloromethane	2.0	U	50.0	44.2		ug/L		88	60 - 140
Cyclohexane	1.5	U	50.0	42.0		ug/L		84	70 - 130
Dibromochloromethane	0.55	U	50.0	51.7		ug/L		103	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	39.0		ug/L		78	70 - 130
Ethylbenzene	0.41	U	50.0	49.4		ug/L		99	75 - 125
Methyl tert-butyl ether	1.4	U	50.0	51.3		ug/L		103	65 - 135
Methyl acetate	4.0	U	100	89.3		ug/L		89	60 - 140
Methylene Chloride	1.7	U	50.0	47.8		ug/L		96	75 - 125
Styrene	0.66	U	50.0	51.2		ug/L		102	75 - 125
Tetrachloroethene	0.80	U	50.0	50.4		ug/L		101	71 - 125
Toluene	0.48	U	50.0	47.6		ug/L		95	59 - 139
Trichloroethene	0.79	U	50.0	50.3		ug/L		101	62 - 137
Trichlorofluoromethane	0.64	U	50.0	49.5		ug/L		99	60 - 140
Vinyl chloride	0.64	U	50.0	45.9		ug/L		92	60 - 140
Xylenes, Total	1.2	U	100	101		ug/L		101	75 - 125
cis-1,2-Dichloroethene	0.71	U	50.0	47.2		ug/L		94	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	48.7		ug/L		97	74 - 125
Isopropylbenzene	0.61	U	50.0	51.3		ug/L		103	75 - 125

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38723-B-1 MS **Client Sample ID: Matrix Spike**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81092

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
m,p-Xylenes	1.2	U	50.0	49.8		ug/L		100	75 - 125
o-Xylene	0.55	U	50.0	51.0		ug/L		102	75 - 125
trans-1,2-Dichloroethene	0.95	U	50.0	50.1		ug/L		100	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	50.3		ug/L		101	66 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*101*		*63 - 144*
4-Bromofluorobenzene (Surr)	*100*		*74 - 124*
Dibromofluoromethane (Surr)	*99*		*75 - 131*
Toluene-d8 (Surr)	*99*		*80 - 117*

Lab Sample ID: MB 860-81339/9 **Client Sample ID: Method Blank**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81339

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 10:27	1
1,1,1-Trichloroethane	1.7	U	5.0	1.7	ug/L			12/12/22 10:27	1
1,1,2,2-Tetrachloroethane	0.47	U	1.0	0.47	ug/L			12/12/22 10:27	1
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	10	3.2	ug/L			12/12/22 10:27	1
1,1,2-Trichloroethane	0.51	U	1.0	0.51	ug/L			12/12/22 10:27	1
1,1-Dichloroethane	0.64	U	1.0	0.64	ug/L			12/12/22 10:27	1
1,1-Dichloroethene	0.74	U	1.0	0.74	ug/L			12/12/22 10:27	1
1,2,3-Trichlorobenzene	2.2	U	5.0	2.2	ug/L			12/12/22 10:27	1
1,2,4-Trichlorobenzene	1.8	U	5.0	1.8	ug/L			12/12/22 10:27	1
1,2-Dibromo-3-Chloropropane	1.3	U	5.0	1.3	ug/L			12/12/22 10:27	1
1,2-Dibromoethane (EDB)	1.0	U	5.0	1.0	ug/L			12/12/22 10:27	1
o-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 10:27	1
1,2-Dichloroethane	0.59	U	1.0	0.59	ug/L			12/12/22 10:27	1
1,2-Dichloropropane	0.67	U	5.0	0.67	ug/L			12/12/22 10:27	1
m-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 10:27	1
para-Dichlorobenzene	0.51	U	1.0	0.51	ug/L			12/12/22 10:27	1
2-Butanone (MEK)	8.3	U	50	8.3	ug/L			12/12/22 10:27	1
2-Hexanone	7.4	U	50	7.4	ug/L			12/12/22 10:27	1
4-Methyl-2-pentanone	7.5	U	50	7.5	ug/L			12/12/22 10:27	1
Acetone	1.2	U	100	1.2	ug/L			12/12/22 10:27	1
Benzene	0.53	U	1.0	0.53	ug/L			12/12/22 10:27	1
Bromochloromethane	0.66	U	1.0	0.66	ug/L			12/12/22 10:27	1
Bromodichloromethane	0.55	U	1.0	0.55	ug/L			12/12/22 10:27	1
Bromoform	0.63	U	5.0	0.63	ug/L			12/12/22 10:27	1
Bromomethane	1.4	U	5.0	1.4	ug/L			12/12/22 10:27	1
Carbon disulfide	1.9	U	5.0	1.9	ug/L			12/12/22 10:27	1
Carbon tetrachloride	0.90	U	5.0	0.90	ug/L			12/12/22 10:27	1
Chlorobenzene	0.53	U	1.0	0.53	ug/L			12/12/22 10:27	1
Chloroethane	2.0	U	10	2.0	ug/L			12/12/22 10:27	1
Chloroform	0.64	U	1.0	0.64	ug/L			12/12/22 10:27	1
Chloromethane	2.0	U	10	2.0	ug/L			12/12/22 10:27	1
Cyclohexane	1.5	U	5.0	1.5	ug/L			12/12/22 10:27	1

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

QC Sample Results

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 860-81339/9
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	PQL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromochloromethane	0.55	U	5.0	0.55	ug/L			12/12/22 10:27	1
Dichlorodifluoromethane	0.92	U	1.0	0.92	ug/L			12/12/22 10:27	1
Ethylbenzene	0.41	U	1.0	0.41	ug/L			12/12/22 10:27	1
Methyl tert-butyl ether	1.4	U	5.0	1.4	ug/L			12/12/22 10:27	1
Methyl acetate	4.0	U	20	4.0	ug/L			12/12/22 10:27	1
Methylene Chloride	1.7	U	5.0	1.7	ug/L			12/12/22 10:27	1
Styrene	0.66	U	1.0	0.66	ug/L			12/12/22 10:27	1
Tetrachloroethene	0.80	U	1.0	0.80	ug/L			12/12/22 10:27	1
Toluene	0.48	U	1.0	0.48	ug/L			12/12/22 10:27	1
Trichloroethene	0.79	U	5.0	0.79	ug/L			12/12/22 10:27	1
Trichlorofluoromethane	0.64	U	1.0	0.64	ug/L			12/12/22 10:27	1
Vinyl chloride	0.64	U	2.0	0.64	ug/L			12/12/22 10:27	1
Xylenes, Total	1.2	U	10	1.2	ug/L			12/12/22 10:27	1
cis-1,2-Dichloroethene	0.71	U	1.0	0.71	ug/L			12/12/22 10:27	1
cis-1,3-Dichloropropene	1.1	U	5.0	1.1	ug/L			12/12/22 10:27	1
Isopropylbenzene	0.61	U	1.0	0.61	ug/L			12/12/22 10:27	1
m,p-Xylenes	1.2	U	10	1.2	ug/L			12/12/22 10:27	1
o-Xylene	0.55	U	1.0	0.55	ug/L			12/12/22 10:27	1
trans-1,2-Dichloroethene	0.95	U	1.0	0.95	ug/L			12/12/22 10:27	1
trans-1,3-Dichloropropene	1.3	U	5.0	1.3	ug/L			12/12/22 10:27	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*108*		*63 - 144*		*12/12/22 10:27*	*1*
4-Bromofluorobenzene (Surr)	*99*		*74 - 124*		*12/12/22 10:27*	*1*
Dibromofluoromethane (Surr)	*100*		*75 - 131*		*12/12/22 10:27*	*1*
Toluene-d8 (Surr)	*100*		*80 - 117*		*12/12/22 10:27*	*1*

Lab Sample ID: LCS 860-81339/3
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	50.0	51.6		ug/L		103	72 - 125
1,1,1-Trichloroethane	50.0	52.0		ug/L		104	70 - 130
1,1,2,2-Tetrachloroethane	50.0	44.2		ug/L		88	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	53.5		ug/L		107	60 - 140
1,1,2-Trichloroethane	50.0	47.6		ug/L		95	70 - 130
1,1-Dichloroethane	50.0	48.7		ug/L		97	70 - 130
1,1-Dichloroethene	50.0	48.8		ug/L		98	50 - 150
1,2,3-Trichlorobenzene	50.0	56.4		ug/L		113	75 - 137
1,2,4-Trichlorobenzene	50.0	52.4		ug/L		105	75 - 135
1,2-Dibromo-3-Chloropropane	50.0	54.3		ug/L		109	59 - 125
1,2-Dibromoethane (EDB)	50.0	48.6		ug/L		97	73 - 125
o-Dichlorobenzene	50.0	49.5		ug/L		99	75 - 125
1,2-Dichloroethane	50.0	52.8		ug/L		106	72 - 130
1,2-Dichloropropane	50.0	47.5		ug/L		95	74 - 125
m-Dichlorobenzene	50.0	50.1		ug/L		100	75 - 125
para-Dichlorobenzene	50.0	47.9		ug/L		96	75 - 125

Client: Tetra Tech, Inc. Job ID: 670-11087-1
Project/Site: NASA KSC CCB

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 860-81339/3 **Client Sample ID: Lab Control Sample**
Matrix: Water **Prep Type: Total/NA**
Analysis Batch: 81339

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
2-Butanone (MEK)	250	229		ug/L		91	60 - 140
2-Hexanone	250	230		ug/L		92	60 - 140
4-Methyl-2-pentanone	250	236		ug/L		94	60 - 140
Acetone	250	228		ug/L		91	60 - 140
Benzene	50.0	47.9		ug/L		96	75 - 125
Bromochloromethane	50.0	49.1		ug/L		98	60 - 140
Bromodichloromethane	50.0	51.8		ug/L		104	75 - 125
Bromoform	50.0	53.5		ug/L		107	70 - 130
Bromomethane	50.0	47.9		ug/L		96	60 - 140
Carbon disulfide	50.0	47.1		ug/L		94	60 - 140
Carbon tetrachloride	50.0	54.4		ug/L		109	70 - 130
Chlorobenzene	50.0	48.6		ug/L		97	65 - 135
Chloroethane	50.0	45.8		ug/L		92	60 - 140
Chloroform	50.0	49.6		ug/L		99	70 - 121
Chloromethane	50.0	40.7		ug/L		81	60 - 140
Cyclohexane	50.0	47.5		ug/L		95	70 - 130
Dibromochloromethane	50.0	52.0		ug/L		104	73 - 125
Dichlorodifluoromethane	50.0	41.9		ug/L		84	70 - 130
Ethylbenzene	50.0	49.9		ug/L		100	75 - 125
Methyl tert-butyl ether	50.0	50.9		ug/L		102	65 - 135
Methyl acetate	100	89.5		ug/L		90	60 - 140
Methylene Chloride	50.0	47.5		ug/L		95	75 - 125
Styrene	50.0	51.3		ug/L		103	75 - 125
Tetrachloroethene	50.0	51.3		ug/L		103	71 - 125
Toluene	50.0	48.0		ug/L		96	70 - 130
Trichloroethene	50.0	50.7		ug/L		101	75 - 135
Trichlorofluoromethane	50.0	56.2		ug/L		112	60 - 140
Vinyl chloride	50.0	44.9		ug/L		90	60 - 140
Xylenes, Total	100	101		ug/L		101	75 - 125
cis-1,2-Dichloroethene	50.0	46.8		ug/L		94	75 - 125
cis-1,3-Dichloropropene	50.0	50.5		ug/L		101	74 - 125
Isopropylbenzene	50.0	52.3		ug/L		105	75 - 125
m,p-Xylenes	50.0	50.8		ug/L		102	75 - 125
o-Xylene	50.0	50.6		ug/L		101	75 - 125
trans-1,2-Dichloroethene	50.0	49.5		ug/L		99	75 - 125
trans-1,3-Dichloropropene	50.0	49.8		ug/L		100	66 - 125

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*104*		*63 - 144*
4-Bromofluorobenzene (Surr)	*96*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*
Toluene-d8 (Surr)	*96*		*80 - 117*

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-81339/4
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	50.0	52.3		ug/L		105	72 - 125	1	25
1,1,1-Trichloroethane	50.0	53.1		ug/L		106	70 - 130	2	25
1,1,2,2-Tetrachloroethane	50.0	46.0		ug/L		92	74 - 125	4	25
1,1,2-Trichloro-1,2,2-trifluoroethane	50.0	57.6		ug/L		115	60 - 140	7	25
1,1,2-Trichloroethane	50.0	47.8		ug/L		96	70 - 130	0	25
1,1-Dichloroethane	50.0	48.9		ug/L		98	70 - 130	0	25
1,1-Dichloroethene	50.0	51.2		ug/L		102	50 - 150	5	25
1,2,3-Trichlorobenzene	50.0	60.7		ug/L		121	75 - 137	7	25
1,2,4-Trichlorobenzene	50.0	55.0		ug/L		110	75 - 135	5	25
1,2-Dibromo-3-Chloropropane	50.0	57.1		ug/L		114	59 - 125	5	25
1,2-Dibromoethane (EDB)	50.0	50.7		ug/L		101	73 - 125	4	25
o-Dichlorobenzene	50.0	50.9		ug/L		102	75 - 125	3	25
1,2-Dichloroethane	50.0	50.9		ug/L		102	72 - 130	4	25
1,2-Dichloropropane	50.0	46.7		ug/L		93	74 - 125	2	25
m-Dichlorobenzene	50.0	50.2		ug/L		100	75 - 125	0	25
para-Dichlorobenzene	50.0	50.0		ug/L		100	75 - 125	4	25
2-Butanone (MEK)	250	231		ug/L		92	60 - 140	1	25
2-Hexanone	250	236		ug/L		94	60 - 140	2	25
4-Methyl-2-pentanone	250	233		ug/L		93	60 - 140	1	25
Acetone	250	226		ug/L		91	60 - 140	1	25
Benzene	50.0	48.5		ug/L		97	75 - 125	1	25
Bromochloromethane	50.0	48.4		ug/L		97	60 - 140	1	25
Bromodichloromethane	50.0	50.7		ug/L		101	75 - 125	2	25
Bromoform	50.0	54.7		ug/L		109	70 - 130	2	25
Bromomethane	50.0	46.3		ug/L		93	60 - 140	3	25
Carbon disulfide	50.0	47.9		ug/L		96	60 - 140	2	25
Carbon tetrachloride	50.0	55.5		ug/L		111	70 - 130	2	25
Chlorobenzene	50.0	50.4		ug/L		101	65 - 135	4	25
Chloroethane	50.0	47.2		ug/L		94	60 - 140	3	25
Chloroform	50.0	49.7		ug/L		99	70 - 121	0	25
Chloromethane	50.0	41.0		ug/L		82	60 - 140	1	25
Cyclohexane	50.0	51.0		ug/L		102	70 - 130	7	25
Dibromochloromethane	50.0	52.7		ug/L		105	73 - 125	1	25
Dichlorodifluoromethane	50.0	44.3		ug/L		89	70 - 130	6	25
Ethylbenzene	50.0	51.9		ug/L		104	75 - 125	4	25
Methyl tert-butyl ether	50.0	50.4		ug/L		101	65 - 135	1	25
Methyl acetate	100	91.8		ug/L		92	60 - 140	3	25
Methylene Chloride	50.0	46.9		ug/L		94	75 - 125	1	25
Styrene	50.0	52.3		ug/L		105	75 - 125	2	25
Tetrachloroethene	50.0	55.3		ug/L		111	71 - 125	8	25
Toluene	50.0	49.6		ug/L		99	70 - 130	3	25
Trichloroethene	50.0	53.0		ug/L		106	75 - 135	4	25
Trichlorofluoromethane	50.0	58.2		ug/L		116	60 - 140	3	25
Vinyl chloride	50.0	47.6		ug/L		95	60 - 140	6	25
Xylenes, Total	100	106		ug/L		106	75 - 125	4	25
cis-1,2-Dichloroethene	50.0	47.5		ug/L		95	75 - 125	2	25
cis-1,3-Dichloropropene	50.0	49.4		ug/L		99	74 - 125	2	25
Isopropylbenzene	50.0	55.1		ug/L		110	75 - 125	5	25

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCSD 860-81339/4
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
m,p-Xylenes			50.0	52.9		ug/L		106	75 - 125	4	25
o-Xylene			50.0	52.7		ug/L		105	75 - 125	4	25
trans-1,2-Dichloroethene			50.0	51.9		ug/L		104	75 - 125	5	25
trans-1,3-Dichloropropene			50.0	50.9		ug/L		102	66 - 125	2	25

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 144*
4-Bromofluorobenzene (Surr)	*97*		*74 - 124*
Dibromofluoromethane (Surr)	*100*		*75 - 131*
Toluene-d8 (Surr)	*97*		*80 - 117*

Lab Sample ID: 860-38746-D-23 MS
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	0.64	U	50.0	52.5		ug/L		105	72 - 125
1,1,1-Trichloroethane	1.7	U	50.0	49.2		ug/L		98	75 - 125
1,1,2,2-Tetrachloroethane	0.47	U	50.0	47.2		ug/L		94	74 - 125
1,1,2-Trichloro-1,2,2-trifluoroethane	3.2	U	50.0	48.8		ug/L		98	60 - 140
1,1,2-Trichloroethane	0.51	U	50.0	48.6		ug/L		97	75 - 127
1,1-Dichloroethane	0.64	U	50.0	46.4		ug/L		93	72 - 125
1,1-Dichloroethene	0.74	U	50.0	45.4		ug/L		91	59 - 172
1,2,3-Trichlorobenzene	2.2	U	50.0	58.3		ug/L		117	75 - 137
1,2,4-Trichlorobenzene	1.8	U	50.0	53.9		ug/L		108	75 - 135
1,2-Dibromo-3-Chloropropane	1.3	U	50.0	58.7		ug/L		117	59 - 125
1,2-Dibromoethane (EDB)	1.0	U	50.0	50.4		ug/L		101	73 - 125
o-Dichlorobenzene	0.51	U	50.0	49.5		ug/L		99	75 - 125
1,2-Dichloroethane	0.59	U	50.0	50.5		ug/L		101	68 - 127
1,2-Dichloropropane	0.67	U	50.0	45.4		ug/L		91	74 - 125
m-Dichlorobenzene	0.51	U	50.0	48.7		ug/L		97	75 - 125
para-Dichlorobenzene	0.51	U	50.0	48.6		ug/L		97	75 - 125
2-Butanone (MEK)	8.3	U	250	236		ug/L		94	60 - 140
2-Hexanone	7.4	U	250	247		ug/L		99	60 - 140
4-Methyl-2-pentanone	7.5	U	250	242		ug/L		97	60 - 140
Acetone	1.2	U	250	231		ug/L		92	60 - 140
Benzene	0.53	U	50.0	45.0		ug/L		90	66 - 142
Bromochloromethane	0.66	U	50.0	47.9		ug/L		96	60 - 140
Bromodichloromethane	0.55	U	50.0	50.2		ug/L		100	75 - 125
Bromoform	0.63	U	50.0	55.6		ug/L		111	75 - 125
Bromomethane	1.4	U	50.0	47.8		ug/L		96	60 - 140
Carbon disulfide	1.9	U	50.0	42.3		ug/L		85	60 - 140
Carbon tetrachloride	0.90	U	50.0	49.5		ug/L		99	62 - 125
Chlorobenzene	0.53	U	50.0	48.3		ug/L		97	60 - 133
Chloroethane	2.0	U	50.0	48.6		ug/L		97	60 - 140
Chloroform	0.64	U	50.0	47.2		ug/L		94	70 - 130
Chloromethane	2.0	U	50.0	43.0		ug/L		86	60 - 140
Cyclohexane	1.5	U	50.0	42.4		ug/L		85	70 - 130

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: 860-38746-D-23 MS
Matrix: Water
Analysis Batch: 81339

Client Sample ID: Matrix Spike
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Dibromochloromethane	0.55	U	50.0	52.9		ug/L		106	73 - 125
Dichlorodifluoromethane	0.92	U	50.0	46.2		ug/L		92	70 - 130
Ethylbenzene	0.41	U	50.0	48.0		ug/L		96	75 - 125
Methyl tert-butyl ether	1.5	I	50.0	52.2		ug/L		101	65 - 135
Methyl acetate	4.0	U	100	90.2		ug/L		90	60 - 140
Methylene Chloride	1.7	U	50.0	45.0		ug/L		90	75 - 125
Styrene	0.66	U	50.0	50.4		ug/L		101	75 - 125
Tetrachloroethene	0.80	U	50.0	49.8		ug/L		100	71 - 125
Toluene	0.48	U	50.0	45.6		ug/L		91	59 - 139
Trichloroethene	0.79	U	50.0	48.4		ug/L		97	62 - 137
Trichlorofluoromethane	0.64	U	50.0	59.1		ug/L		118	60 - 140
Vinyl chloride	0.64	U	50.0	49.1		ug/L		98	60 - 140
Xylenes, Total	1.2	U	100	99.5		ug/L		100	75 - 125
cis-1,2-Dichloroethene	0.71	U	50.0	44.9		ug/L		90	75 - 125
cis-1,3-Dichloropropene	1.1	U	50.0	47.9		ug/L		96	74 - 125
Isopropylbenzene	0.61	U	50.0	50.5		ug/L		101	75 - 125
m,p-Xylenes	1.2	U	50.0	49.1		ug/L		98	75 - 125
o-Xylene	0.55	U	50.0	50.4		ug/L		101	75 - 125
trans-1,2-Dichloroethene	0.95	U	50.0	45.5		ug/L		91	75 - 125
trans-1,3-Dichloropropene	1.3	U	50.0	50.0		ug/L		100	66 - 125

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,2-Dichloroethane-d4 (Surr)	*103*		*63 - 144*
4-Bromofluorobenzene (Surr)	*98*		*74 - 124*
Dibromofluoromethane (Surr)	*98*		*75 - 131*
Toluene-d8 (Surr)	*98*		*80 - 117*

GC/MS VOA

Analysis Batch: 81092

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-11087-1	CCB-MW0109-045.0-20221205	Total/NA	Ground Water	8260D	
670-11087-2	CCB-MW0045-025.0-20221205	Total/NA	Ground Water	8260D	
670-11087-3	CCB-MW0046-035.0-20221205	Total/NA	Ground Water	8260D	
670-11087-4	CCB-MW0086-035.0-20221205	Total/NA	Ground Water	8260D	
670-11087-5	CCB-MW0138-035.0-20221205	Total/NA	Ground Water	8260D	
670-11087-6	CCB-MW0137-025.0-20221205	Total/NA	Ground Water	8260D	
670-11087-7	CCB-MW0133-030.0-20221205	Total/NA	Ground Water	8260D	
670-11087-8	CCB-MW0134-025.0-20221206	Total/NA	Ground Water	8260D	
670-11087-9	CCB-MW0135-030.0-20221206	Total/NA	Ground Water	8260D	
670-11087-10	CCB-MW0132-030.0-20221206	Total/NA	Ground Water	8260D	
670-11087-11	CCB-MW0136-030.0-20221206	Total/NA	Ground Water	8260D	
670-11087-12	CCB-MW0034-025.020221206	Total/NA	Ground Water	8260D	
670-11087-13	CCB-MW0144-025.020221206	Total/NA	Ground Water	8260D	
670-11087-14	CCB-MW0147-025.0-20221205	Total/NA	Ground Water	8260D	
670-11087-15	CCB-MW0131-030.0-22021205	Total/NA	Ground Water	8260D	
670-11087-16	CCB-MW0130-030.0-20221205	Total/NA	Ground Water	8260D	
670-11087-20	CCB-MW0012-045.0-20221206	Total/NA	Ground Water	8260D	
670-11087-22	CCB-MW0024-030.0-20221206	Total/NA	Ground Water	8260D	
MB 860-81092/9	Method Blank	Total/NA	Water	8260D	
LCS 860-81092/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-81092/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-38723-B-1 MS	Matrix Spike	Total/NA	Water	8260D	

Analysis Batch: 81339

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
670-11087-17	CCB-MW0040-015.0-20221205	Total/NA	Ground Water	8260D	
670-11087-18	CCB-MW0148-045.0-2022206	Total/NA	Ground Water	8260D	
670-11087-19	CCB-MW0056-046.0-20221206	Total/NA	Ground Water	8260D	
670-11087-21	CCB-MW0125-015.0-20221206	Total/NA	Ground Water	8260D	
670-11087-23	CCB-MW0025-045.0-20221206	Total/NA	Ground Water	8260D	
670-11087-24	CCB-MW0026-018.0-20221207	Total/NA	Ground Water	8260D	
670-11087-25	CCB-MW0029-045.0-20221207	Total/NA	Ground Water	8260D	
MB 860-81339/9	Method Blank	Total/NA	Water	8260D	
LCS 860-81339/3	Lab Control Sample	Total/NA	Water	8260D	
LCSD 860-81339/4	Lab Control Sample Dup	Total/NA	Water	8260D	
860-38746-D-23 MS	Matrix Spike	Total/NA	Water	8260D	

Client Sample ID: CCB-MW0109-045.0-20221205 **Lab Sample ID: 670-11087-1**
Date Collected: 12/05/22 11:00 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 14:26

Client Sample ID: CCB-MW0045-025.0-20221205 **Lab Sample ID: 670-11087-2**
Date Collected: 12/05/22 11:50 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 14:47

Client Sample ID: CCB-MW0046-035.0-20221205 **Lab Sample ID: 670-11087-3**
Date Collected: 12/05/22 12:20 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 15:07

Client Sample ID: CCB-MW0086-035.0-20221205 **Lab Sample ID: 670-11087-4**
Date Collected: 12/05/22 13:50 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 15:28

Client Sample ID: CCB-MW0138-035.0-20221205 **Lab Sample ID: 670-11087-5**
Date Collected: 12/05/22 14:20 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 15:48

Client Sample ID: CCB-MW0137-025.0-20221205 **Lab Sample ID: 670-11087-6**
Date Collected: 12/05/22 15:35 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 16:09

Client Sample ID: CCB-MW0133-030.0-20221205 **Lab Sample ID: 670-11087-7**
Date Collected: 12/05/22 08:40 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 16:29

Client Sample ID: CCB-MW0134-025.0-20221206 **Lab Sample ID: 670-11087-8**
Date Collected: 12/06/22 09:45 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 16:50

Client Sample ID: CCB-MW0135-030.0-20221206 **Lab Sample ID: 670-11087-9**
Date Collected: 12/06/22 10:35 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 17:10

Client Sample ID: CCB-MW0132-030.0-20221206 **Lab Sample ID: 670-11087-10**
Date Collected: 12/06/22 11:10 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 17:31

Client Sample ID: CCB-MW0136-030.0-20221206 **Lab Sample ID: 670-11087-11**
Date Collected: 12/06/22 11:55 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 17:51

Client Sample ID: CCB-MW0034-025.020221206 **Lab Sample ID: 670-11087-12**
Date Collected: 12/06/22 14:45 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 18:12

Client Sample ID: CCB-MW0144-025.020221206 **Lab Sample ID: 670-11087-13**
Date Collected: 12/06/22 15:45 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 18:32

Client Sample ID: CCB-MW0147-025.0-20221205 **Lab Sample ID: 670-11087-14**
Date Collected: 12/05/22 11:00 **Matrix: Ground Water**
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 18:53

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15

Client Sample ID: CCB-MW0131-030.0-22021205
Lab Sample ID: 670-11087-15
Date Collected: 12/05/22 12:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 19:14

Client Sample ID: CCB-MW0130-030.0-20221205
Lab Sample ID: 670-11087-16
Date Collected: 12/05/22 13:20
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 19:34

Client Sample ID: CCB-MW0040-015.0-20221205
Lab Sample ID: 670-11087-17
Date Collected: 12/05/22 15:40
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 12:30

Client Sample ID: CCB-MW0148-045.0-2022206
Lab Sample ID: 670-11087-18
Date Collected: 12/06/22 08:35
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 12:51

Client Sample ID: CCB-MW0056-046.0-20221206
Lab Sample ID: 670-11087-19
Date Collected: 12/06/22 09:50
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 13:11

Client Sample ID: CCB-MW0012-045.0-20221206
Lab Sample ID: 670-11087-20
Date Collected: 12/06/22 11:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 13:24

Client Sample ID: CCB-MW0125-015.0-20221206
Lab Sample ID: 670-11087-21
Date Collected: 12/06/22 14:55
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 13:32

Client Sample ID: CCB-MW0024-030.0-20221206
Lab Sample ID: 670-11087-22

Date Collected: 12/06/22 16:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81092	NA	EET HOU	12/09/22 19:55

Client Sample ID: CCB-MW0025-045.0-20221206
Lab Sample ID: 670-11087-23

Date Collected: 12/06/22 17:10
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 13:52

Client Sample ID: CCB-MW0026-018.0-20221207
Lab Sample ID: 670-11087-24

Date Collected: 12/07/22 09:00
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 14:13

Client Sample ID: CCB-MW0029-045.0-20221207
Lab Sample ID: 670-11087-25

Date Collected: 12/07/22 10:25
Matrix: Ground Water
Date Received: 12/07/22 17:10

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	81339	TTD	EET HOU	12/12/22 14:33

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Laboratory: Eurofins Houston

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	Identification Number	Expiration Date
Florida	NELAP	E871002	06-30-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
8260D		Ground Water	Cyclohexane

Method Summary

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET HOU
5030C	Purge and Trap	SW846	EET HOU

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET HOU = Eurofins Houston, 4145 Greenbriar Dr, Stafford, TX 77477, TEL (281)240-4200

Sample Summary

Client: Tetra Tech, Inc.
Project/Site: NASA KSC CCB

Job ID: 670-11087-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
670-11087-1	CCB-MW0109-045.0-20221205	Ground Water	12/05/22 11:00	12/07/22 17:10
670-11087-2	CCB-MW0045-025.0-20221205	Ground Water	12/05/22 11:50	12/07/22 17:10
670-11087-3	CCB-MW0046-035.0-20221205	Ground Water	12/05/22 12:20	12/07/22 17:10
670-11087-4	CCB-MW0086-035.0-20221205	Ground Water	12/05/22 13:50	12/07/22 17:10
670-11087-5	CCB-MW0138-035.0-20221205	Ground Water	12/05/22 14:20	12/07/22 17:10
670-11087-6	CCB-MW0137-025.0-20221205	Ground Water	12/05/22 15:35	12/07/22 17:10
670-11087-7	CCB-MW0133-030.0-20221205	Ground Water	12/05/22 08:40	12/07/22 17:10
670-11087-8	CCB-MW0134-025.0-20221206	Ground Water	12/06/22 09:45	12/07/22 17:10
670-11087-9	CCB-MW0135-030.0-20221206	Ground Water	12/06/22 10:35	12/07/22 17:10
670-11087-10	CCB-MW0132-030.0-20221206	Ground Water	12/06/22 11:10	12/07/22 17:10
670-11087-11	CCB-MW0136-030.0-20221206	Ground Water	12/06/22 11:55	12/07/22 17:10
670-11087-12	CCB-MW0034-025.020221206	Ground Water	12/06/22 14:45	12/07/22 17:10
670-11087-13	CCB-MW0144-025.020221206	Ground Water	12/06/22 15:45	12/07/22 17:10
670-11087-14	CCB-MW0147-025.0-20221205	Ground Water	12/05/22 11:00	12/07/22 17:10
670-11087-15	CCB-MW0131-030.0-22021205	Ground Water	12/05/22 12:00	12/07/22 17:10
670-11087-16	CCB-MW0130-030.0-20221205	Ground Water	12/05/22 13:20	12/07/22 17:10
670-11087-17	CCB-MW0040-015.0-20221205	Ground Water	12/05/22 15:40	12/07/22 17:10
670-11087-18	CCB-MW0148-045.0-2022206	Ground Water	12/06/22 08:35	12/07/22 17:10
670-11087-19	CCB-MW0056-046.0-20221206	Ground Water	12/06/22 09:50	12/07/22 17:10
670-11087-20	CCB-MW0012-045.0-20221206	Ground Water	12/06/22 11:00	12/07/22 17:10
670-11087-21	CCB-MW0125-015.0-20221206	Ground Water	12/06/22 14:55	12/07/22 17:10
670-11087-22	CCB-MW0024-030.0-20221206	Ground Water	12/06/22 16:00	12/07/22 17:10
670-11087-23	CCB-MW0025-045.0-20221206	Ground Water	12/06/22 17:10	12/07/22 17:10
670-11087-24	CCB-MW0026-018.0-20221207	Ground Water	12/07/22 09:00	12/07/22 17:10
670-11087-25	CCB-MW0029-045.0-20221207	Ground Water	12/07/22 10:25	12/07/22 17:10

Tetra Tech, Inc.

CHAIN OF CUSTODY | NUMBER No. 2667 | PAGE 1 OF 2

PROJECT NO: 112G08452	FACILITY: NASA KSC CCB	PROJECT MANAGER: MArk Jonnet	PHONE NUMBER: 412-921-8622	LABORATORY NAME AND CONTACT: Eurofins (Kaitlin dylnicki
SAMPLERS (SIGNATURE): [signature]		FIELD OPERATIONS LEADER: Chuck Sorden	PHONE NUMBER: 321 591 7580	ADDRESS: 481 Newbury Port Ave
		CARRIER/WAYBILL NUMBER: 67001359		CITY, STATE: Altamonte Springs Fl

STANDARD TAT ☑ RUSH TAT ☐
☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

CONTAINER TYPE PLASTIC (P) or GLASS (G): G, G
PRESERVATIVE USED: HCl 4°C, 4°C
TYPE OF ANALYSIS: 8260D-(MOD) NASA LC34 Custom; 8260D-(MOD) NASA LC34 Custom

DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260D-(MOD) NASA LC34 Custom	8260D-(MOD) NASA LC34 Custom	COMMENTS
12/05	1100	CCB-MW0109-045.0-20221205	109	40	50	GW	G	4	✓	✓	
12/05	1150	CCB-MW0045-025.0-20221205	45	20	30	GW	G	4	✓	✓	
12/05	1220	CCB-MW0046-035.0-20221205	46	30	40	GW	G	4	✓	✓	
12/05	1350	CCB-MW0086-035.0-20221205	86	30	40	GW	G	4	✓	✓	
12/05	1420	CCB-MW0138-035.0-20221205	138	30	40	GW	G	4	✓	✓	
12/05	1535	CCB-MW0137-025.0-20221205	137	20	30	GW	G	4	✓	✓	
12/06	0840	CCB-MW0133-030.0-20221206	133	25	35	GW	G	4	✓	✓	
12/06	0945	CCB-MW0134-025.0-20221206	134	20	30	GW	G	4	✓	✓	
12/06	1035	CCB-MW0135-030.0-20221206	135	25	35	GW	G	4	✓	✓	
12/06	1110	CCB-MW0132-030.0-20221206	132	25	35	GW	G	4	✓	✓	
12/06	1155	CCB-MW0136-030.0-20221206	136	25	35	GW	G	4	✓	✓	
12/06	1445	CCB-MW0122-025.0-20221206	122	20	30	GW	G	4	✓	✓	
12/06	1545	CCB-MW0144-025.0-20221206	144	20	30	GW	G	4	✓	✓	

1. RELINQUISHED BY [signature]	DATE 12-07-22	TIME 1516	1. RECEIVED BY James W Gregory	DATE 12/7/22	TIME 1516
2. RELINQUISHED BY	DATE	TIME	2. RECEIVED BY	DATE	TIME
3. RELINQUISHED BY	DATE	TIME	3. RECEIVED BY ML	DATE 12/7/22	TIME 1710

COMMENTS

3.8

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

670-11087 Chain of Custody

1/6/2023

Tetra Tech, Inc. CHAIN OF CUSTODY | NUMBER No. 2668 | PAGE ~~1~~ 2 OF ~~1~~ 2

PROJECT NO: 112G08952	FACILITY: NASA KSC CCB	PROJECT MANAGER Mark Jonest	PHONE NUMBER 412-921-8622
SAMPLERS (SIGNATURE) R. Siegel TT		FIELD OPERATIONS LEADER Chuck Sordon	PHONE NUMBER 321-591-7580
		CARRIER/WAYBILL NUMBER 67001359	

LABORATORY NAME AND CONTACT: Eurofins (Kaitlin Julnicki)
ADDRESS 481 Newburyport Ave
CITY, STATE Altamonte Springs Fl

STANDARD TAT ☑ RUSH TAT ☐ ☐ 24 hr. ☐ 48 hr. ☐ 72 hr. ☐ 7 day ☐ 14 day

TYPE OF ANALYSIS: 8260 (mod) NASA LC34 Custom — CONTAINER TYPE G — PRESERVATIVE HCl 4C; 8260D (mod) NASA LC34 Custom — CONTAINER TYPE G — PRESERVATIVE 4C

DATE YEAR 2022	TIME	SAMPLE ID	LOCATION ID	TOP DEPTH (FT)	BOTTOM DEPTH (FT)	MATRIX (GW, SO, SW, SD, QC, ETC.)	COLLECTION METHOD GRAB (G) COMP (C)	No. OF CONTAINERS	8260 (mod) NASA LC34 Custom	8260D (mod) NASA LC34 Custom	COMMENTS
12/05	1100	CCB-MW0147-025.0-20221205	147	20	30	GW	G	4	✓	✓	
12/05	1200	CCB-MW0131-030.0-20221205	131	25	35	GW	G	4	✓	✓	
12/05	1320	CCB-MW0130-030.0-20221205	130	25	35	GW	G	4	✓	✓	
~~12/05~~	~~1445~~ 1445	~~CCB-MW0039-030.0-20221205~~	~~39~~	~~25~~	~~35~~	~~GW~~	~~G~~	~~4~~	~~✓~~	~~✓~~	
12/05	1540	CCB-MW0040-015.0-20221205	40	10	20	GW	G	4	✓	✓	
12/06	0835	CCB-MW0148-045.0-20221206	148	40	50	GW	G	4	✓	✓	
12/06	0950	CCB-MW0056-046.0-20221206	56	41	51	GW	G	4	✓	✓	
12/06	1100	CCB-MW0012-045.0-20221206	12	40	50	GW	G	4	✓	✓	
12/06	1455	CCB-MW0125-015.0-20221206	125	10	20	GW	G	4	✓	✓	
12/06	~~1700~~ 1600	CCB-MW0024-030.0-20221206	24	25	35	GW	G	4	✓	✓	
12/06	1710	CCB-MW0025-045.0-20221206	25	40	50	GW	G	4	✓	✓	
12/07	0900	CCB-MW0026-018.0-20221207	26	13	23	GW	G	4	✓	✓	
12/07	1025	CCB-MW0029-045.0-20221207	27	40	50	GW	G	4	✓	✓	

	DATE	TIME		DATE	TIME
1. RELINQUISHED BY R. Siegel TT	12-07-22	1400	1. RECEIVED BY	12-07-22	1400
2. RELINQUISHED BY	12-07-22	1516	2. RECEIVED BY Jameson Gregory	12/7/22	1516
3. RELINQUISHED BY			3. RECEIVED BY MC	12/7/22	1710

COMMENTS

3.8

DISTRIBUTION: WHITE (ACCOMPANIES SAMPLE) YELLOW (FIELD COPY) PINK (FILE COPY)

4/02R
FORM NO. TtNUS-001

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-2446.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 1 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Florida		Job #: 670-11087-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/9/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O - AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 518/CCF Custom	8260D/5030C_UP (MOD) NASA 518/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0109-045.0-20221205 (670-11087-1)	12/5/22	11:00 Eastern		Water			X	X	4	
CCB-MW0045-025.0-20221205 (670-11087-2)	12/5/22	11:50 Eastern		Water			X	X	4	
CCB-MW0046-035.0-20221205 (670-11087-3)	12/5/22	12:20 Eastern		Water			X	X	4	
CCB-MW0086-035.0-20221205 (670-11087-4)	12/5/22	13:50 Eastern		Water			X	X	4	
CCB-MW0138-035.0-20221205 (670-11087-5)	12/5/22	14:20 Eastern		Water			X	X	4	
CCB-MW0137-025.0-20221205 (670-11087-6)	12/5/22	15:35 Eastern		Water			X	X	4	
CCB-MW0133-030.0-20221205 (670-11087 7)	12/5/22	08:40 Eastern		Water			X	X	4	
CCB-MW0134-025.0-20221206 (670-11087-8)	12/6/22	09:45 Eastern		Water			X	X	4	
CCB-MW0135-030.0-20221206 (670-11087-9)	12/6/22	10:35 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: BB	Date/Time: 12/8 1712	Company	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: [signature]	Date/Time: 12/9/22 9:38	Company Ex
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks:

Temp: 0.3 IR ID HOU-344
C/F +1.2
Corrected Temp: 2.0

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki Kaitlin	Carrier Tracking No(s):	COC No: 670-2446.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 2 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Florida		Job #: 670-11087-1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/9/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 518/CCF Custom	8260D/5030C_UP (MOD) NASA 518/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0132-030.0-20221206 (670-11087-10)	12/6/22	11 10 Eastern		Water			X	X	4	
CCB-MW0136-030.0-20221206 (670-11087-11)	12/6/22	11:55 Eastern		Water			X	X	4	
CCB-MW0034-025.020221206 (670-11087-12)	12/6/22	14:45 Eastern		Water			X	X	4	
CCB-MW0144-025.020221206 (670-11087-13)	12/6/22	15:45 Eastern		Water			X	X	4	
CCB-MW0147-025.0-20221205 (670-11087-14)	12/5/22	11:00 Eastern		Water			X	X	4	
CCB-MW0131-030.0-22021205 (670-11087-15)	12/5/22	12:00 Eastern		Water			X	X	4	
CCB-MW0130-030.0-20221205 (670-11087-16)	12/5/22	13:20 Eastern		Water			X	X	4	
CCB-MW0040-015.0-20221205 (670-11087-17)	12/5/22	15:40 Eastern		Water			X	X	4	
CCB-MW0148-045.0-2022206 (670-11087-18)	12/6/22	08:35 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* ______ *Months*

Deliverable Requested: I II III IV Other (specify) Primary Deliverable Rank: 2
Special Instructions/QC Requirements.

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: BB	Date/Time: 12/8 1712	Company	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: Pedro Palmer	Date/Time: 12/9/2022 9:38	Company EX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks:	Temp: 0.8 IR ID·HOU-344 C/F·+1.2 Corrected Temp: 2.0	

08/2021

Eurofins Orlando
481 Newburyport Avenue
Altamonte Springs, FL 32701
Phone: 407-339-5984 Fax: 407-260-6110

Chain of Custody Record

eurofins

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Dylnicki, Kaitlin	Carrier Tracking No(s):	COC No: 670-2446.3
Client Contact: Shipping/Receiving	Phone:	E-Mail: kaitlin.dylnicki@et.eurofinsus.com	State of Origin: Florida	Page: Page 3 of 3
Company: Eurofins Environment Testing South Centr		Accreditations Required (See note): NELAP Florida		Job #: 670-11087 1
Address: 4145 Greenbriar Dr	Due Date Requested: 1/9/2023			
City: Stafford	TAT Requested (days):			
State, Zip: TX, 77477				
Phone: 281-240-4200(Tel)	PO #:			
Email:	WO #:			
Project Name: NASA KSC CCB	Project #: 67001359			
Site:	SSOW#:			

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA
M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Y Trizma, Z other (specify)
Other:

Analysis Requested

Sample Identification Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260D/5030C (MOD) NASA 516/CCF Custom	8260D/5030C_UP (MOD) NASA 516/CCF Custom	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
CCB-MW0056-046.0-20221206 (670-11087-19)	12/6/22	09:50 Eastern		Water			X	X	4	
CCB-MW0012-045.0-20221206 (670-11087-20)	12/6/22	11:00 Eastern		Water			X	X	4	
CCB-MW0125-015.0-20221206 (670-11087-21)	12/6/22	14:55 Eastern		Water			X	X	4	
CCB-MW0024-030.0-20221206 (670-11087-22)	12/6/22	16:00 Eastern		Water			X	X	4	
CCB-MW0025-045.0-20221206 (670-11087-23)	12/6/22	17:10 Eastern		Water			X	X	4	
CCB-MW0026-018.0-20221207 (670-11087-24)	12/7/22	09:00 Eastern		Water			X	X	4	
CCB-MW0029-045.0-20221207 (670-11087-25)	12/7/22	10:25 Eastern		Water			X	X	4	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Southeast, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Southeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Southeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing Southeast, LLC.

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For ______ Months*

Deliverable Requested: I II III IV Other (specify) — Primary Deliverable Rank. 2

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: BB	Date/Time: 12/8 1712	Company	Received by: FedEx	Date/Time:	Company
Relinquished by: FedEx	Date/Time:	Company	Received by: Pedro Palomo	Date/Time: 12/9/2022 9:38	Company EX
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No — Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: Temp. 0.8 IR ID HOU-344 C/F +1.2 Corrected Temp: 2.0

/08/2021

Login Sample Receipt Checklist

Client: Tetra Tech, Inc. | Job Number: 670-11087-1

Login Number: 11087 | **List Source: Eurofins Orlando**
List Number: 1
Creator: Clerisier, Meline

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Two samples arrived with the COC that were not listed on the COC. Logged last
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech, Inc. Job Number: 670-11087-1

Login Number: 11087 **List Source: Eurofins Houston**
List Number: 2 **List Creation: 12/09/22 11:59 AM**
Creator: Palmar, Pedro

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	

APPENDIX D

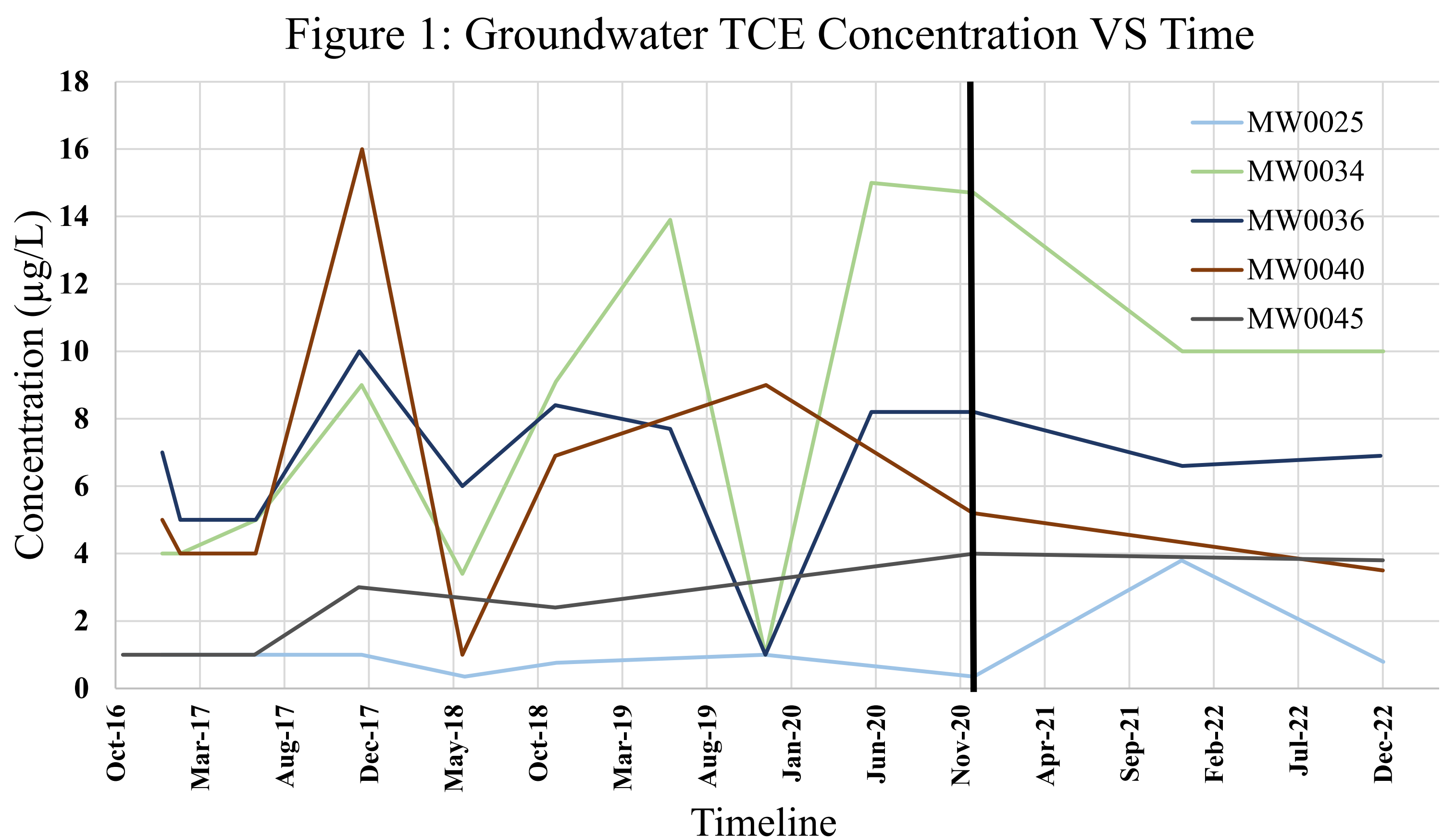
CCB GROUNDWATER CONCENTRATION GRAPHS

(PROVIDED IN ELECTRONIC VERSION ONLY)

Section 1: CCB Results Overview

The following graphs are an overview of all wells on the monitoring network that have experienced a detection of TCE, cDE or VC within the past 4 events. Wells are presented by COC and in descending numerical order with the exception of wells that had higher concentrations which were separated into their own graph.

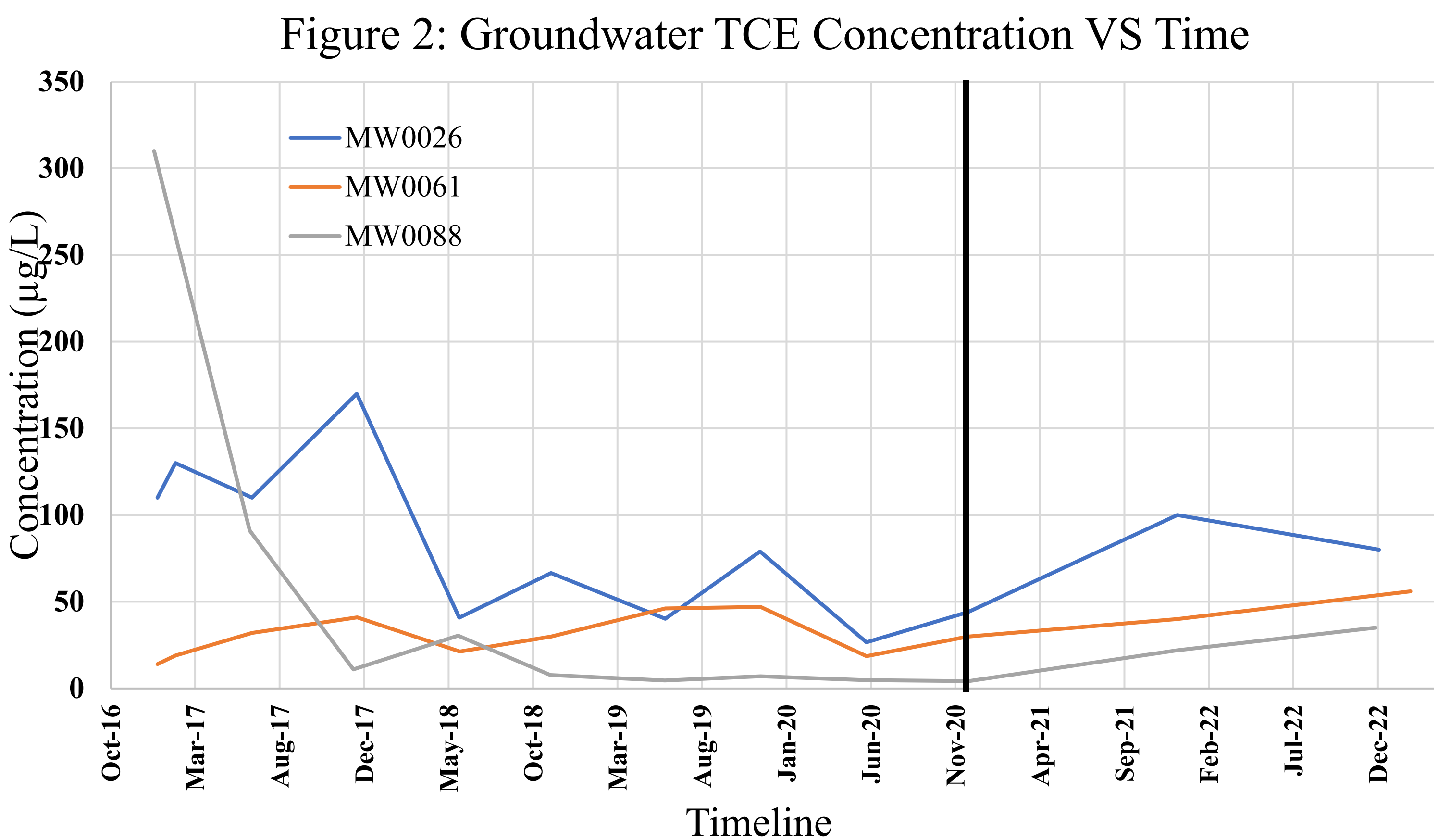
Appendix D: CCB Groundwater Concentration Graphs



Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).

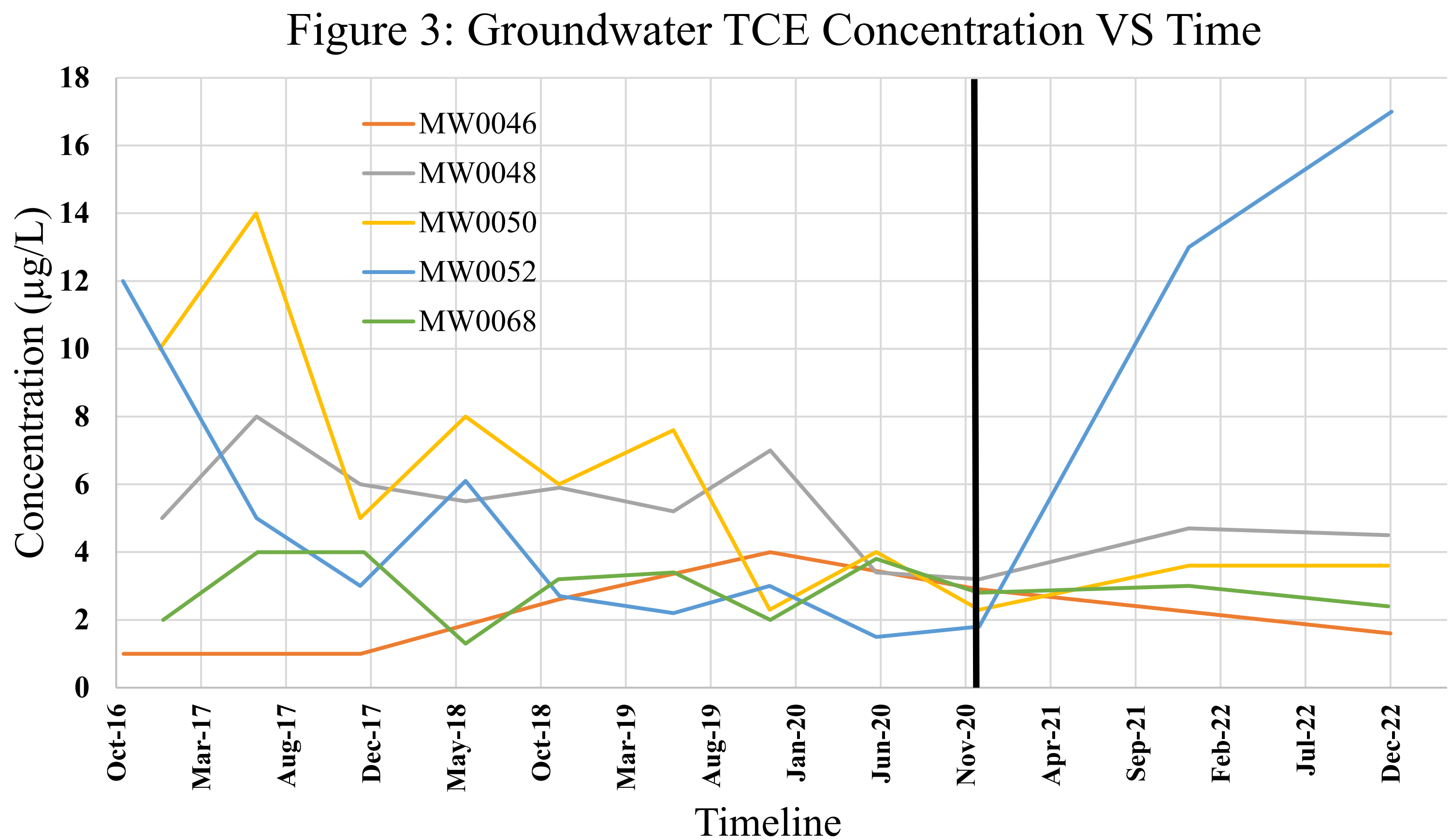
Appendix D: CCB Groundwater Concentration Graphs



Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).
- MW0026, MW0061, MW0088 depicted together due to similar (higher) concentrations.

Appendix D: CCB Groundwater Concentration Graphs

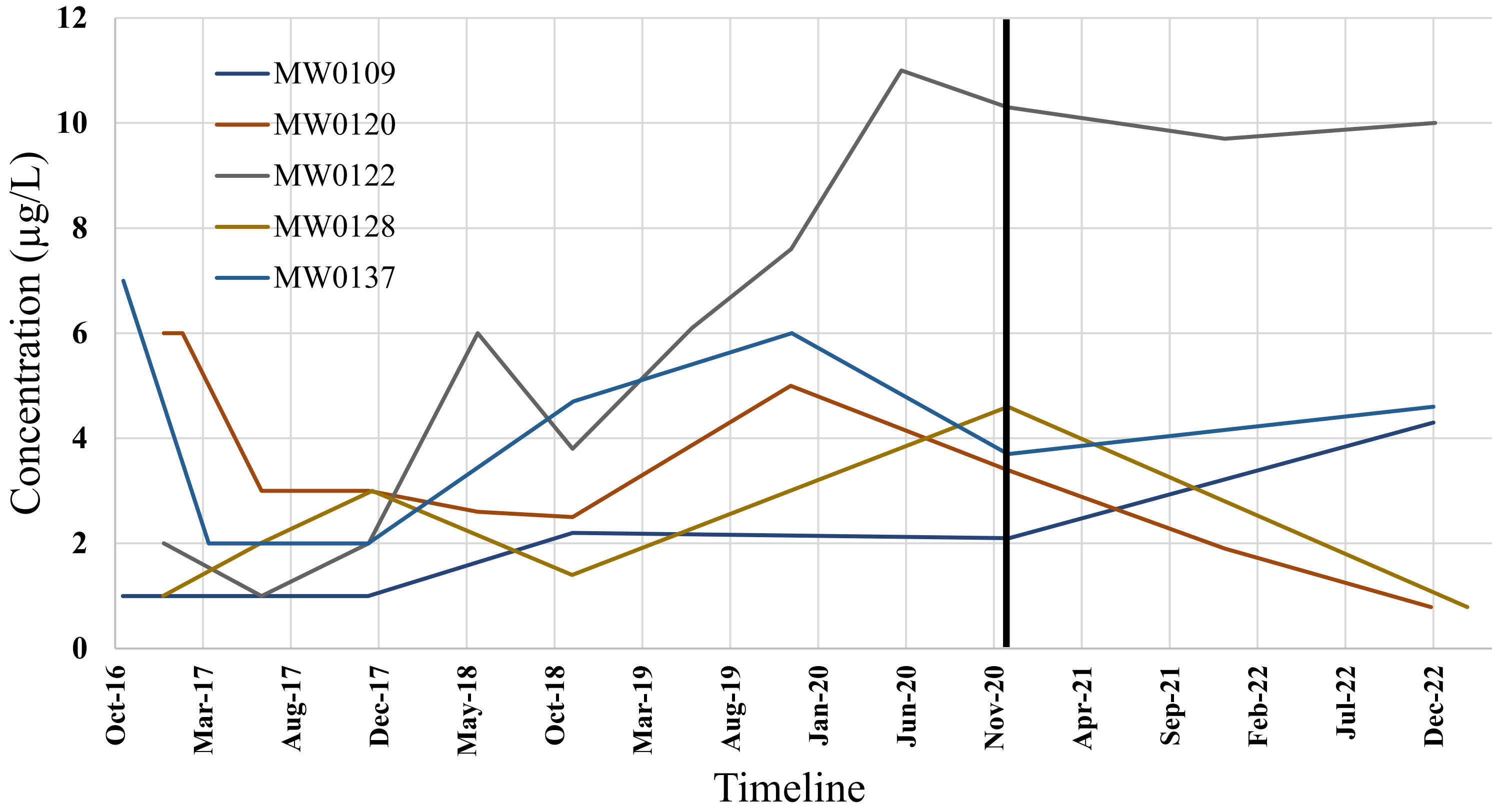


Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).

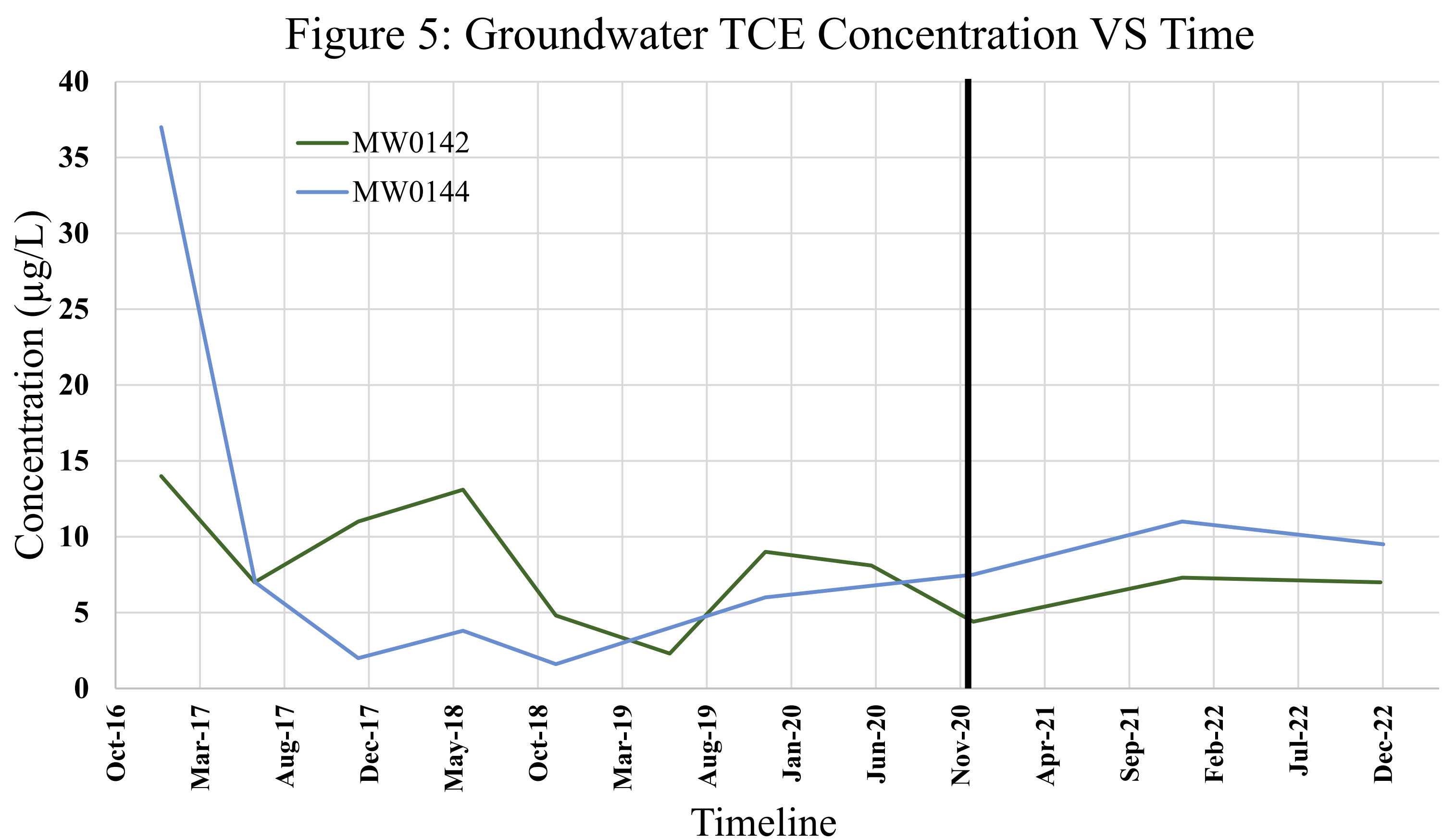
Appendix D: CCB Groundwater Concentration Graphs

Figure 4: Groundwater TCE Concentration VS Time



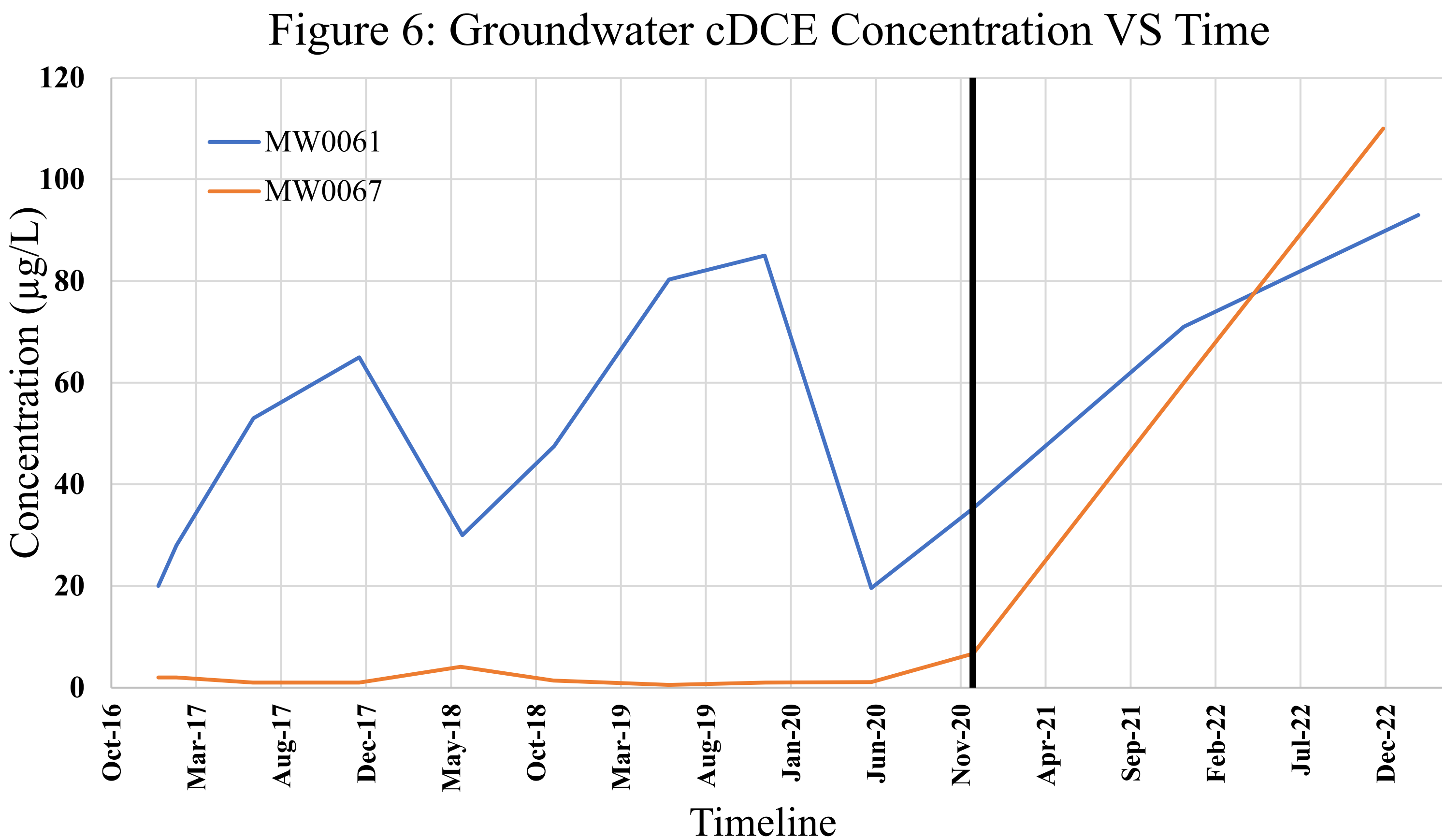
Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).



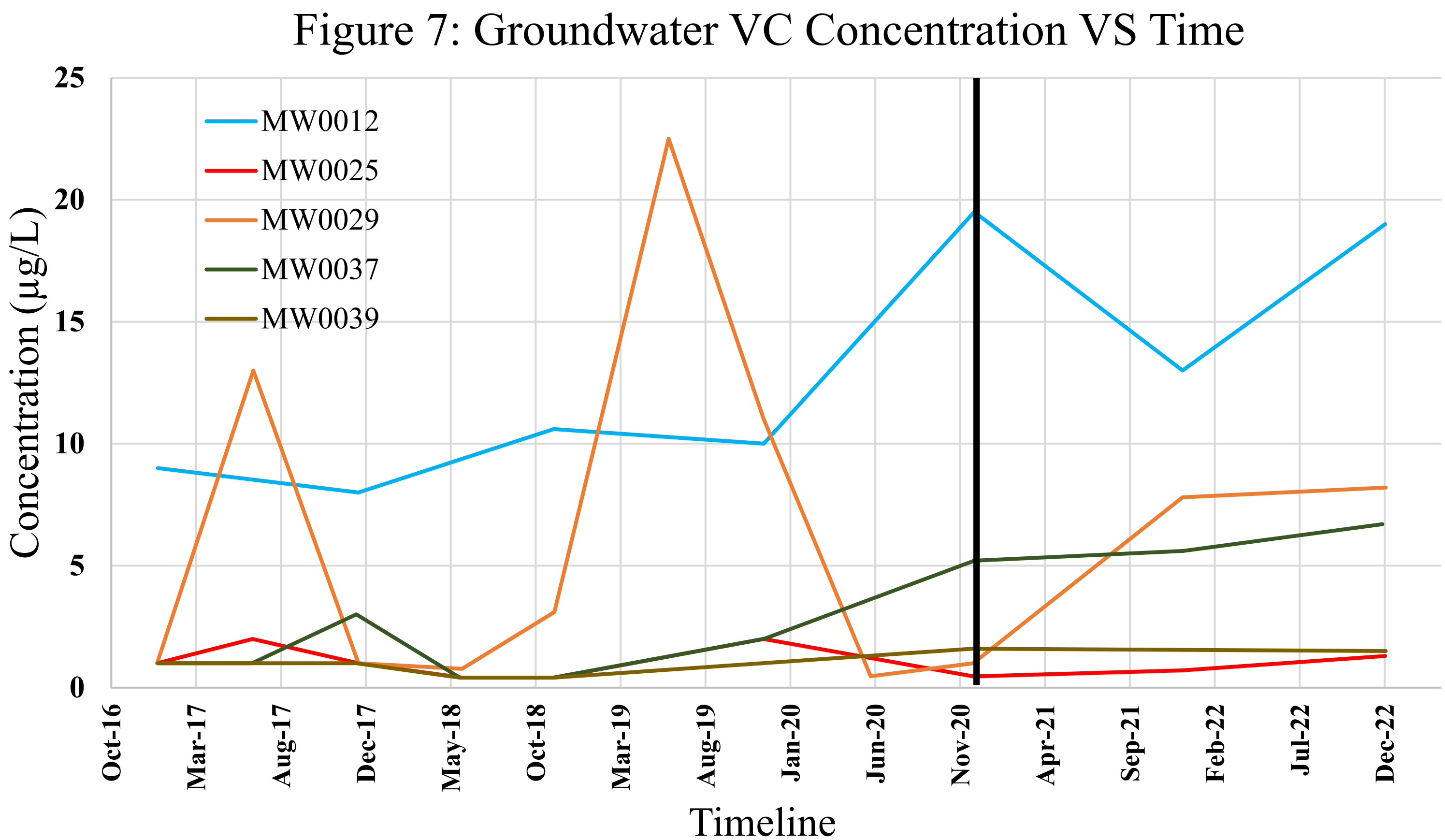
Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).



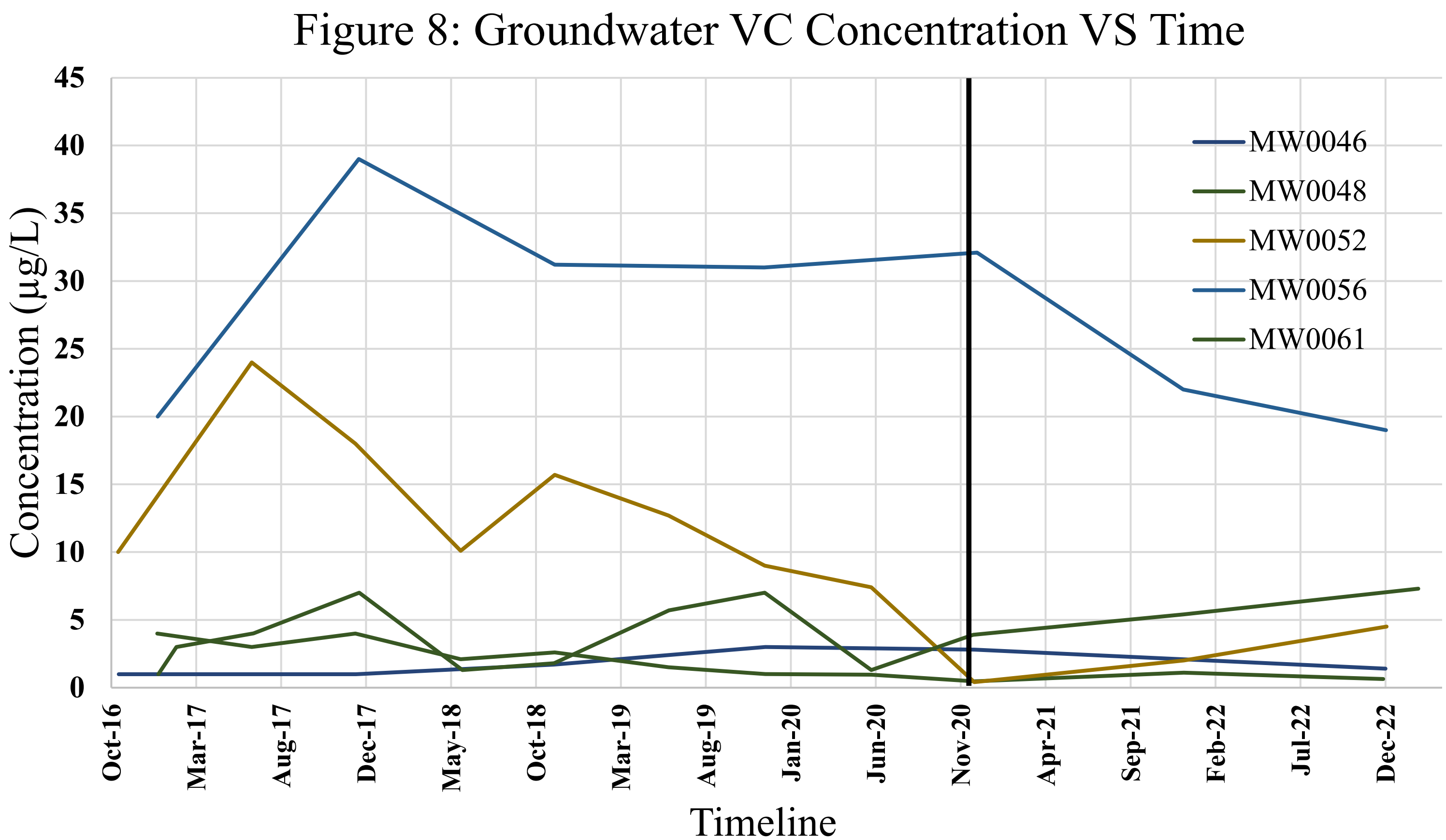
Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).



Notes:

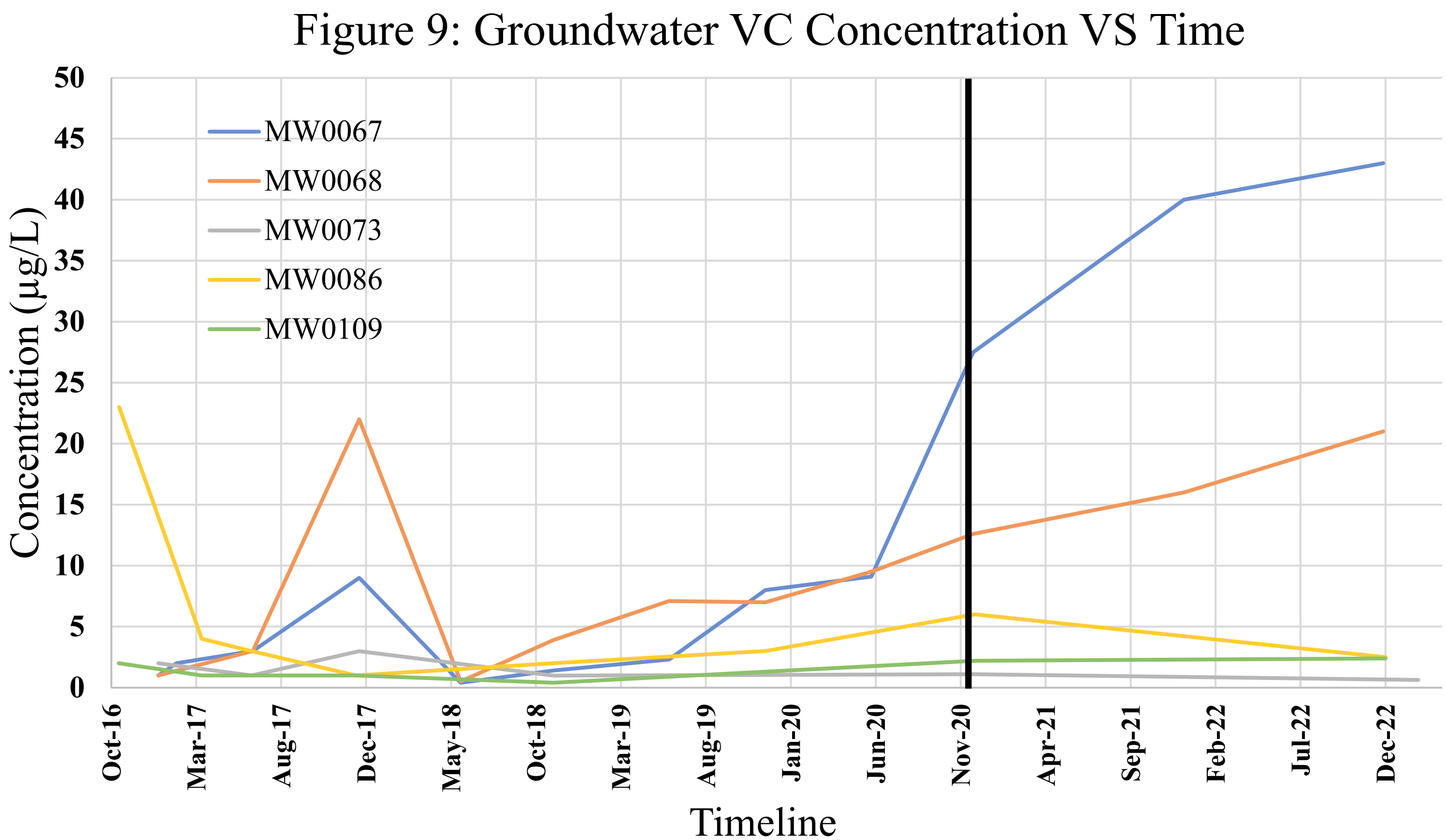
- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).



Notes:

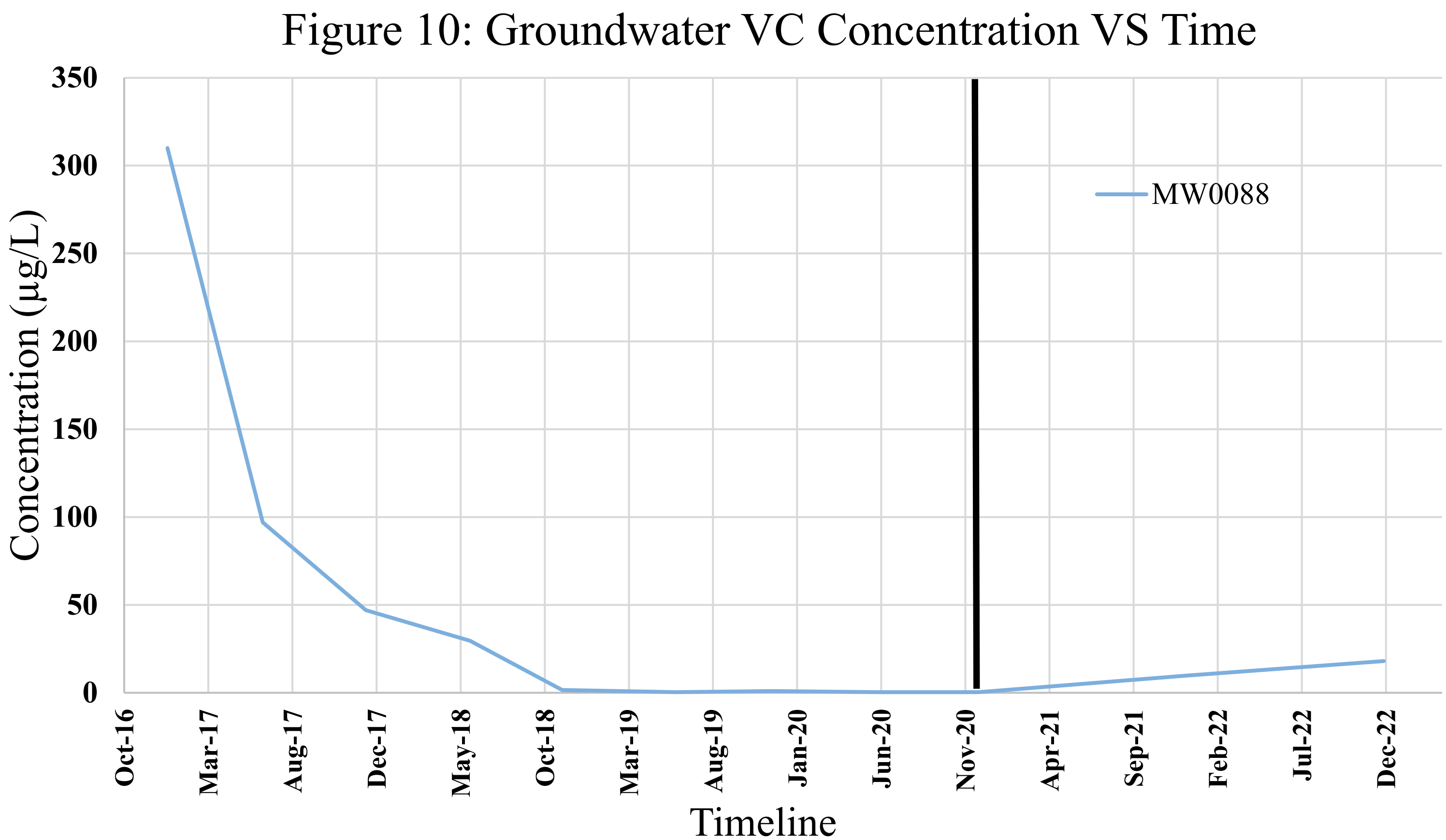
- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).

Appendix D: CCB Groundwater Concentration Graphs



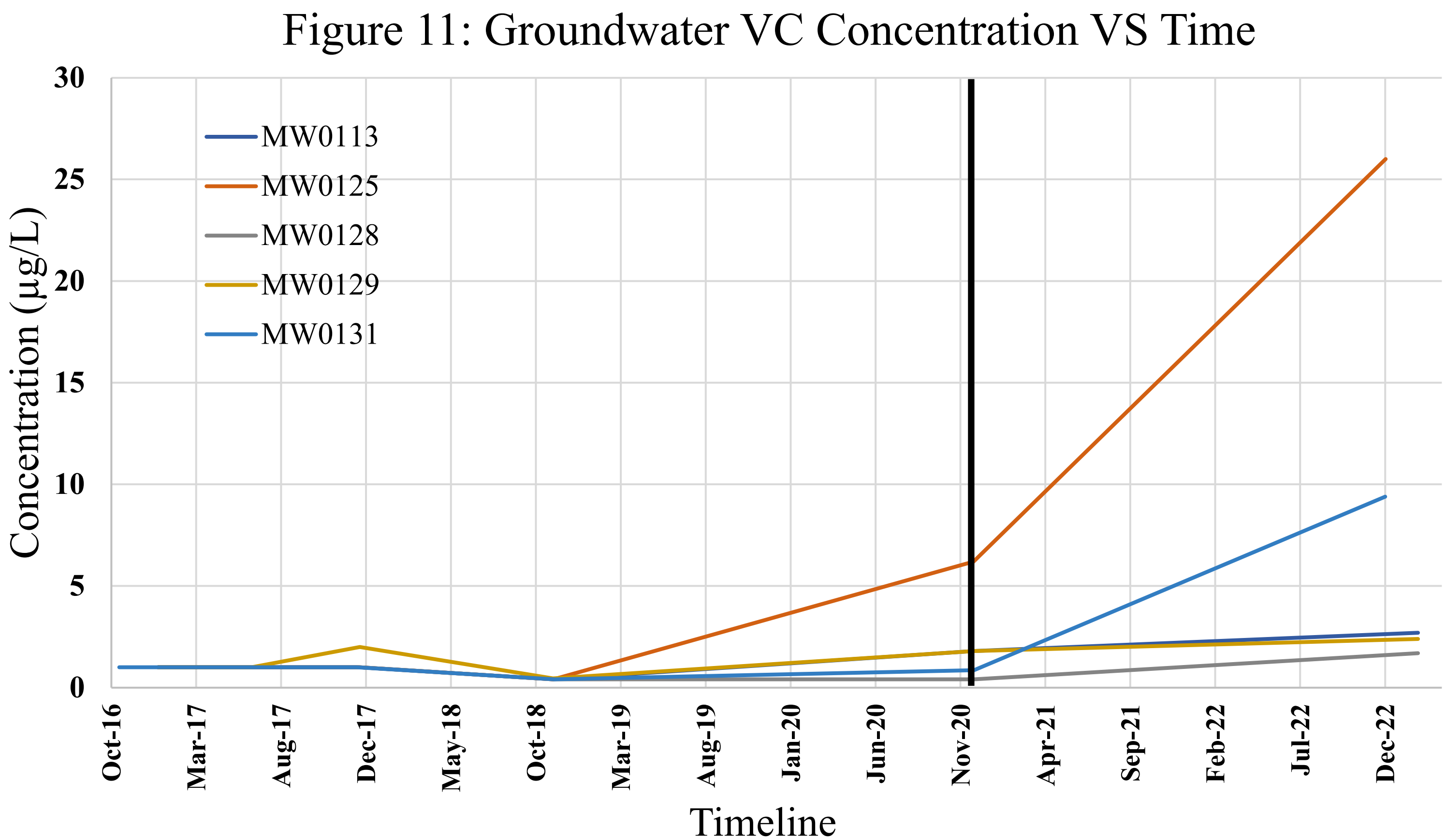
Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).



Notes:
- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).
- MW0088 depicted individually due to historically high concentrations.

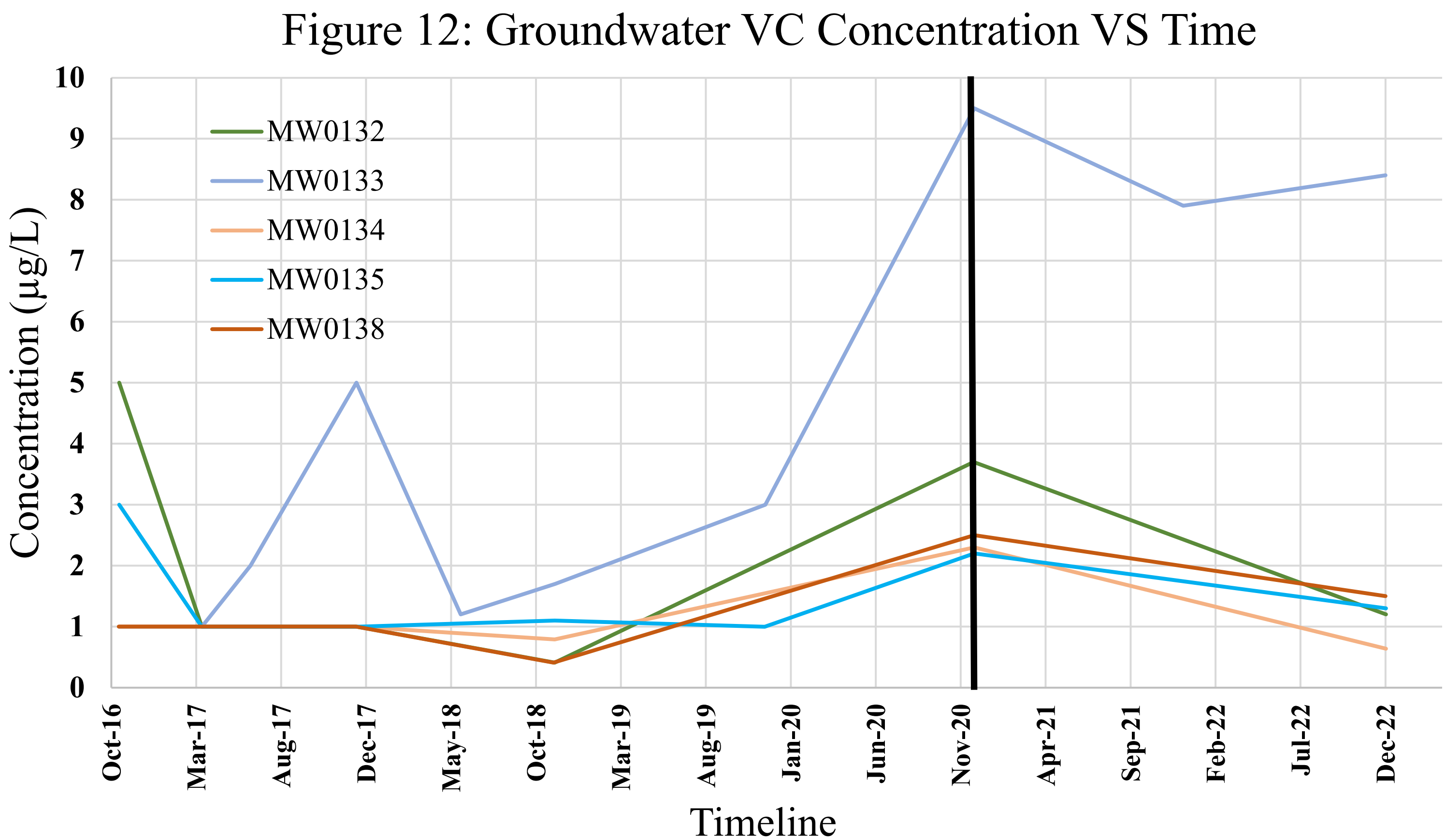
Appendix D: CCB Groundwater Concentration Graphs



Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation of post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).

Appendix D: CCB Groundwater Concentration Graphs

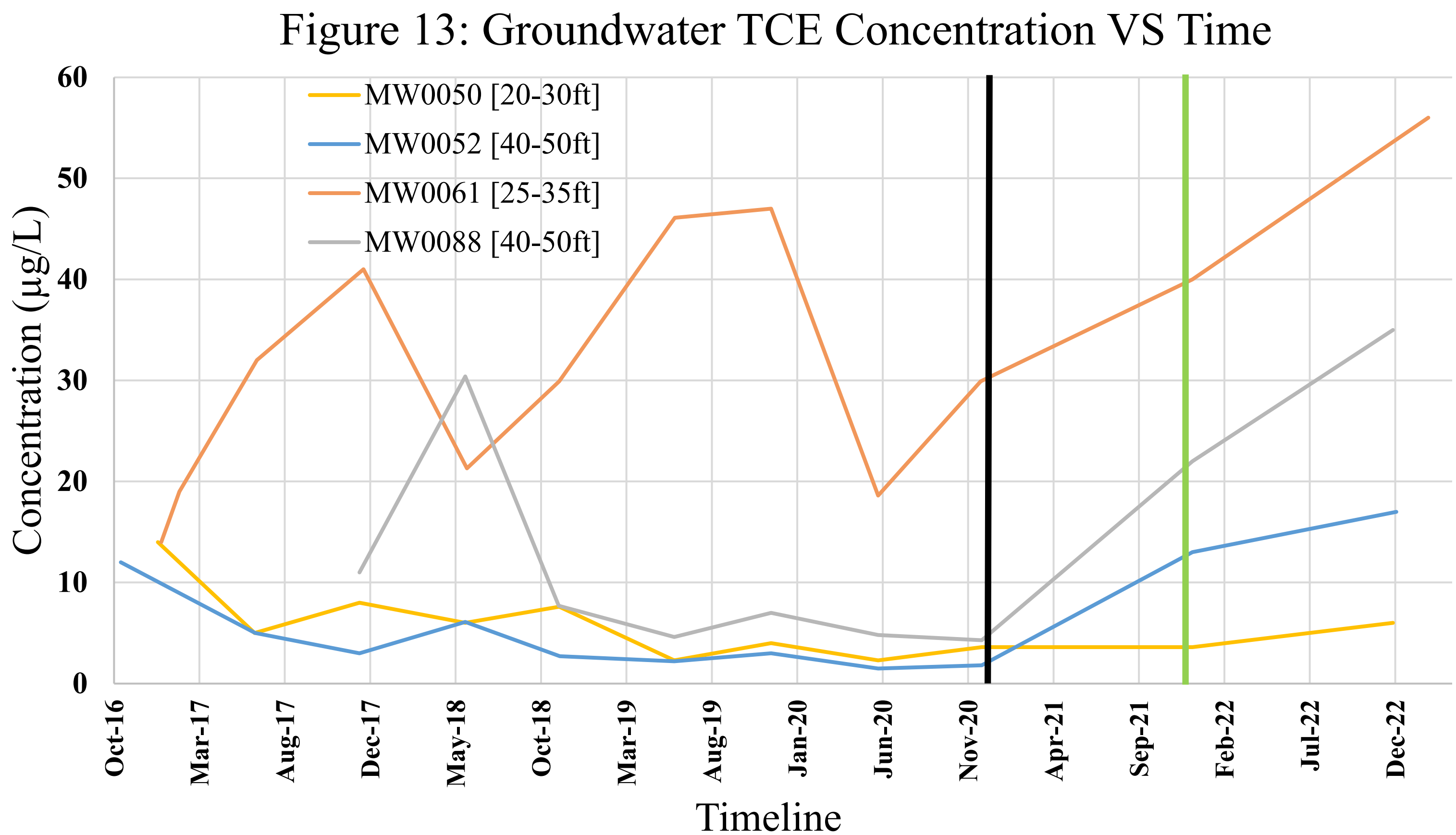


Notes:

- Wells shown have experienced a detection greater than GCTL at least once within the last four sampling events.
- Black vertical line indicates the date of the air sparge system shut down.
- October/December 2016 concentrations were used instead of baseline values for better visual representation post air sparge progress (AS IM startup in April 2014, with expansion in May 2016).

Section 2: CCB 2021 vs 2022 Annual wells, 2020 vs 2022 Biennial wells Concentration Result Graphs

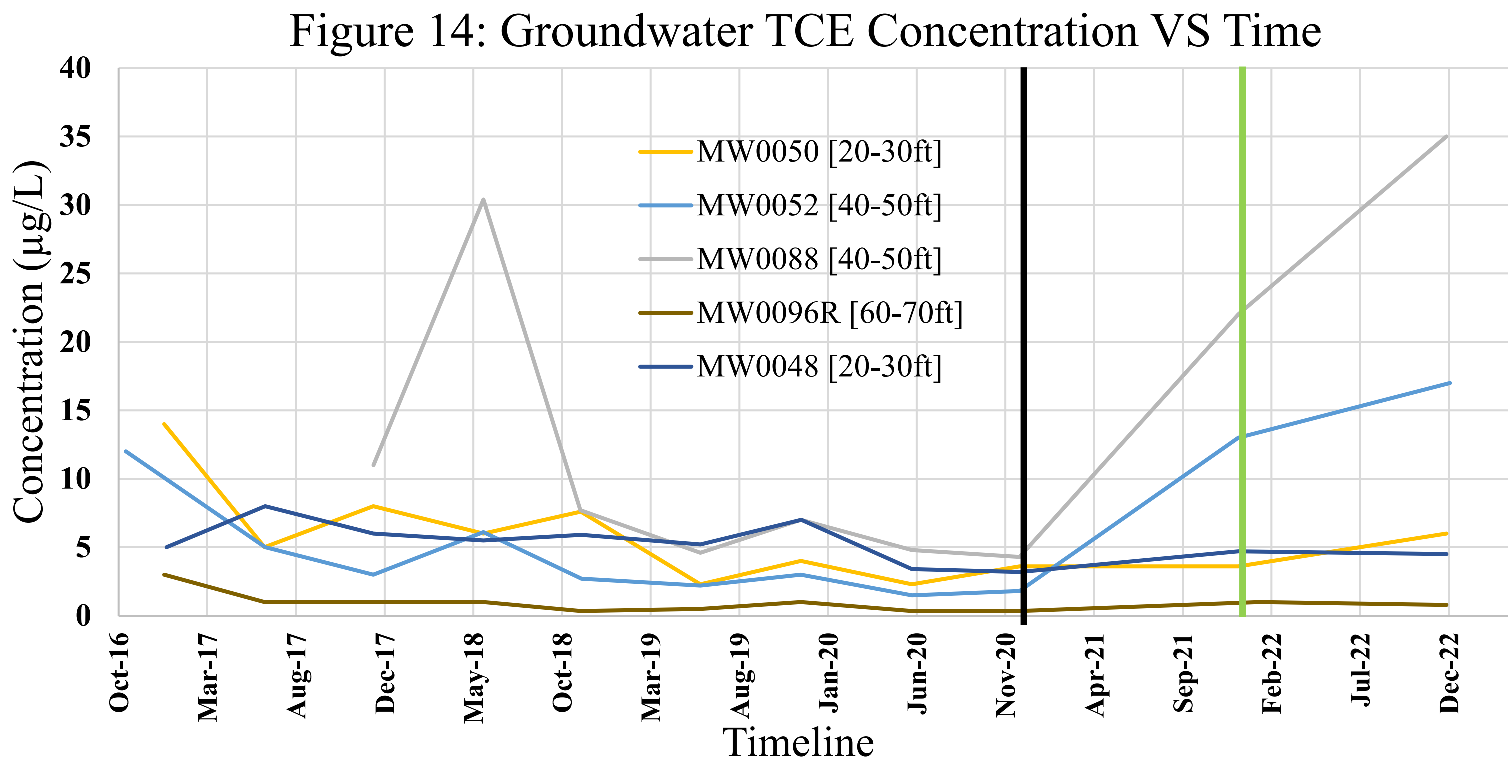
- The following graphs below represent wells that have had an increase in either TCE, cDCE or VC from 2021 to 2022 at annually sampled wells and 2020 compared to 2022 for biennally sampled wells.
- Graphs are listed by COC (TCE, cDCE, and VC), and grouped by sampling frequency (annual/biennial) and by location.
- Associated downgradient and vertical capture wells, if available, are also displayed with descriptions below the graphs.



Overview of annually sampled wells that have shown an increase in TCE concentration from December 2021 to December 2022. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

Wells MW0050, 52, 61, 88 experienced an increase of TCE concentrations comparing post air sparge performance monitoring Year 1 vs Year 2. MW0050, MW0052 and MW0088 are located in former HS 4 and MW0061 is located in Former HS 1.

Appendix D: CCB Groundwater Concentration Graphs

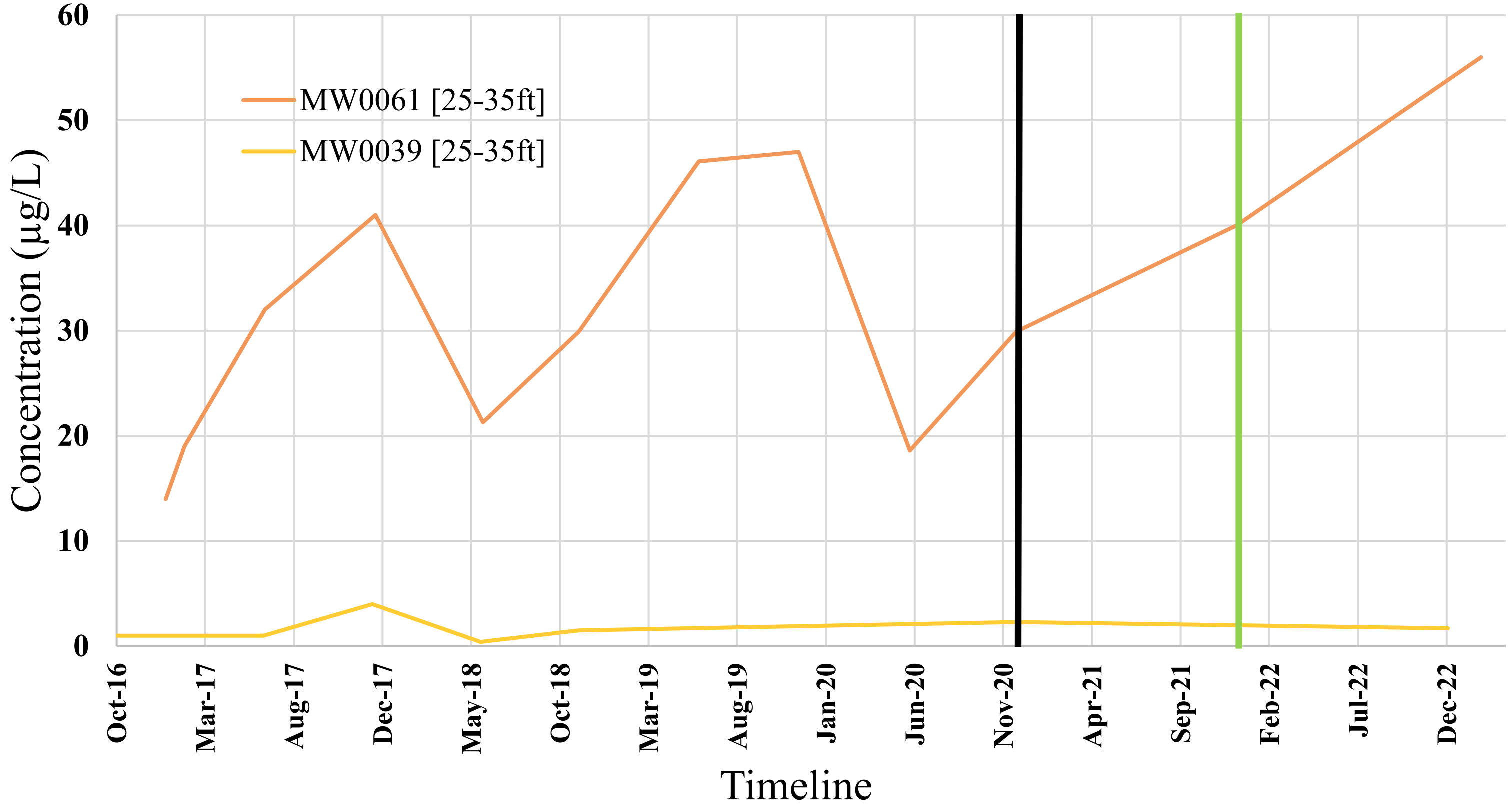


Annual wells shown MW0050, 52 and 88 are located in former HS 4 and have had an increase in TCE from December 2021 to December 2022. Also shown are associated downgradient (MW0048) and vertical (MW0096R) capture wells for reference. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

Wells MW0050, 52, 88 experienced an increase of TCE concentrations comparing post air sparge performance monitoring Year 1 vs Year 2. MW0096R has had no TCE detections since it was reinstalled in January 2022. MW0048 downgradient of MW0050 had a small increase of TCE since air sparge shut down in 2020 but remained stable from 2021 to 2022. In the 40-50 ft bls interval, biennial well MW0109 is downgradient, as shown on Figure 16.

Appendix D: CCB Groundwater Concentration Graphs

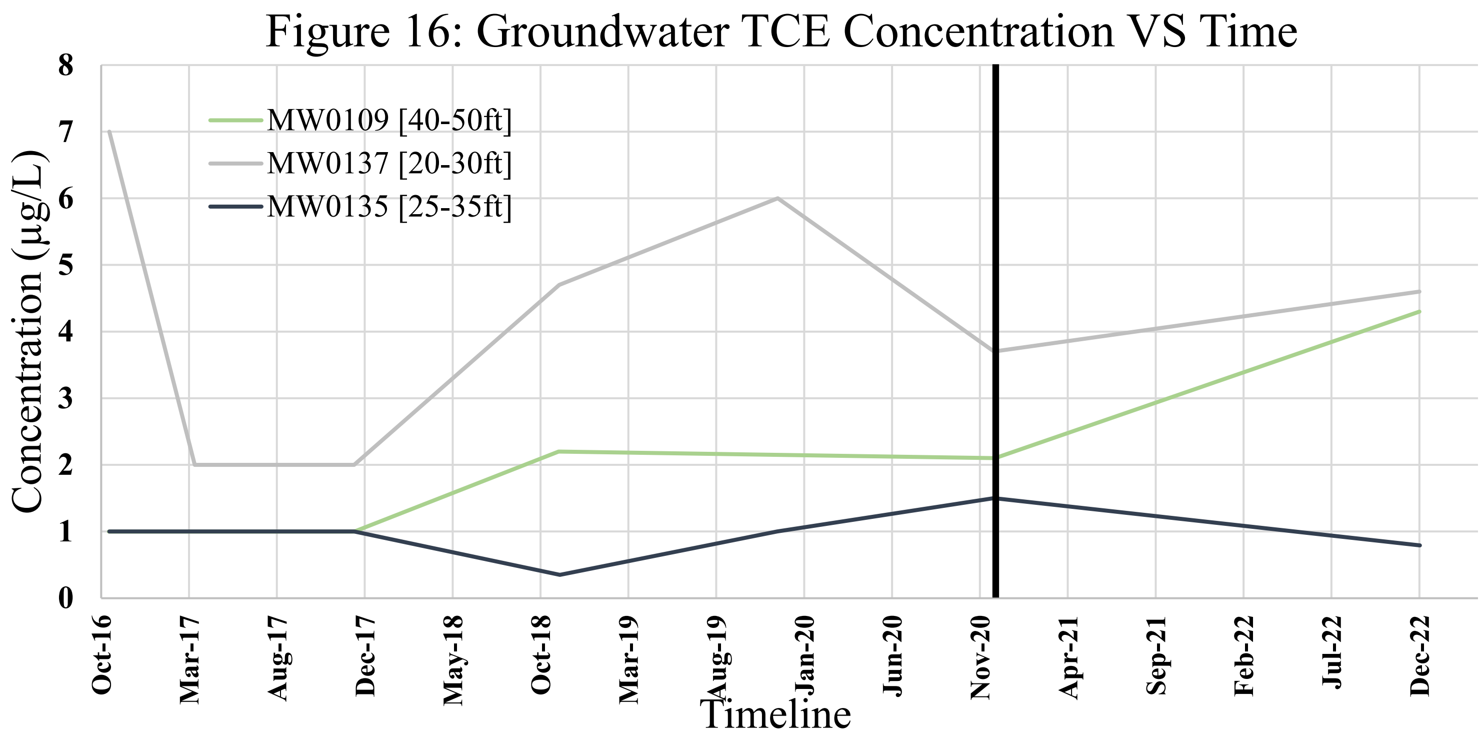
Figure 15: Groundwater TCE Concentration VS Time



Annual well shown MW0061 is located in former HS 1 and had an increase in TCE from December 2021 to December 2022. Also shown is an associated downgradient capture well, MW0039, for reference. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

MW0061 experienced an increase of TCE concentration comparing post air sparge performance monitoring Year 1 vs Year 2. In MW0039, downgradient to MW0061, results have remained below GCTL since the air sparge system was shut down.

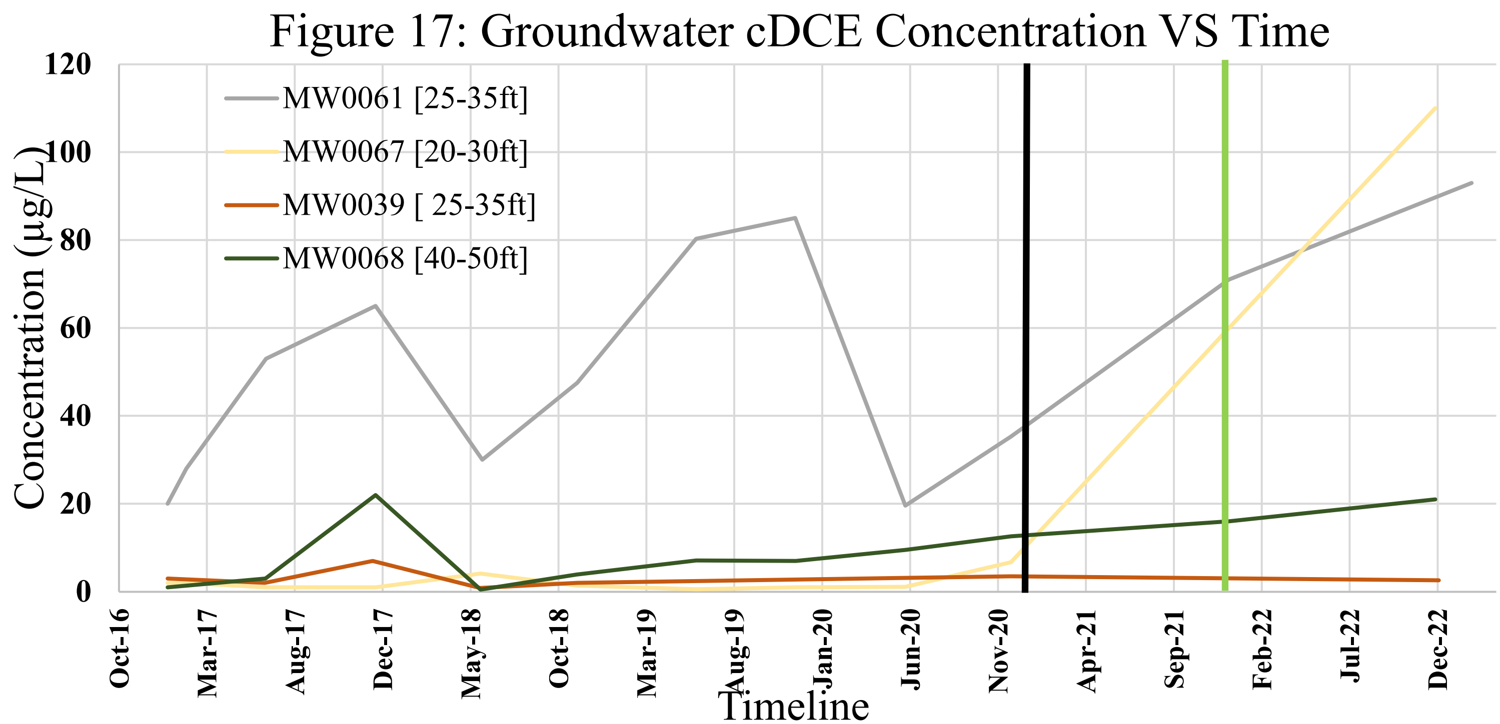
Appendix D: CCB Groundwater Concentration Graphs



Biennial wells shown MW0109 and MW0137 are located in Former HS 4 and had an increase in TCE from 2021 to 2022. Also shown is an associated downgradient capture well, MW0135, for reference. Black vertical line indicates AS shut down in December 2020.

MW0109 experienced an increase of TCE concentration comparing post air sparge shut down in 2020 performance monitoring vs Post air sparge performance monitoring Year 2. Both wells are located in former HS 4. MW0135, which is downgradient to MW0137 has remained below GCTL and decreased slightly from December 2020 to PM Year 2. MW0109 went from less than GCTL in 2020 to just above GCTL in December 2022.

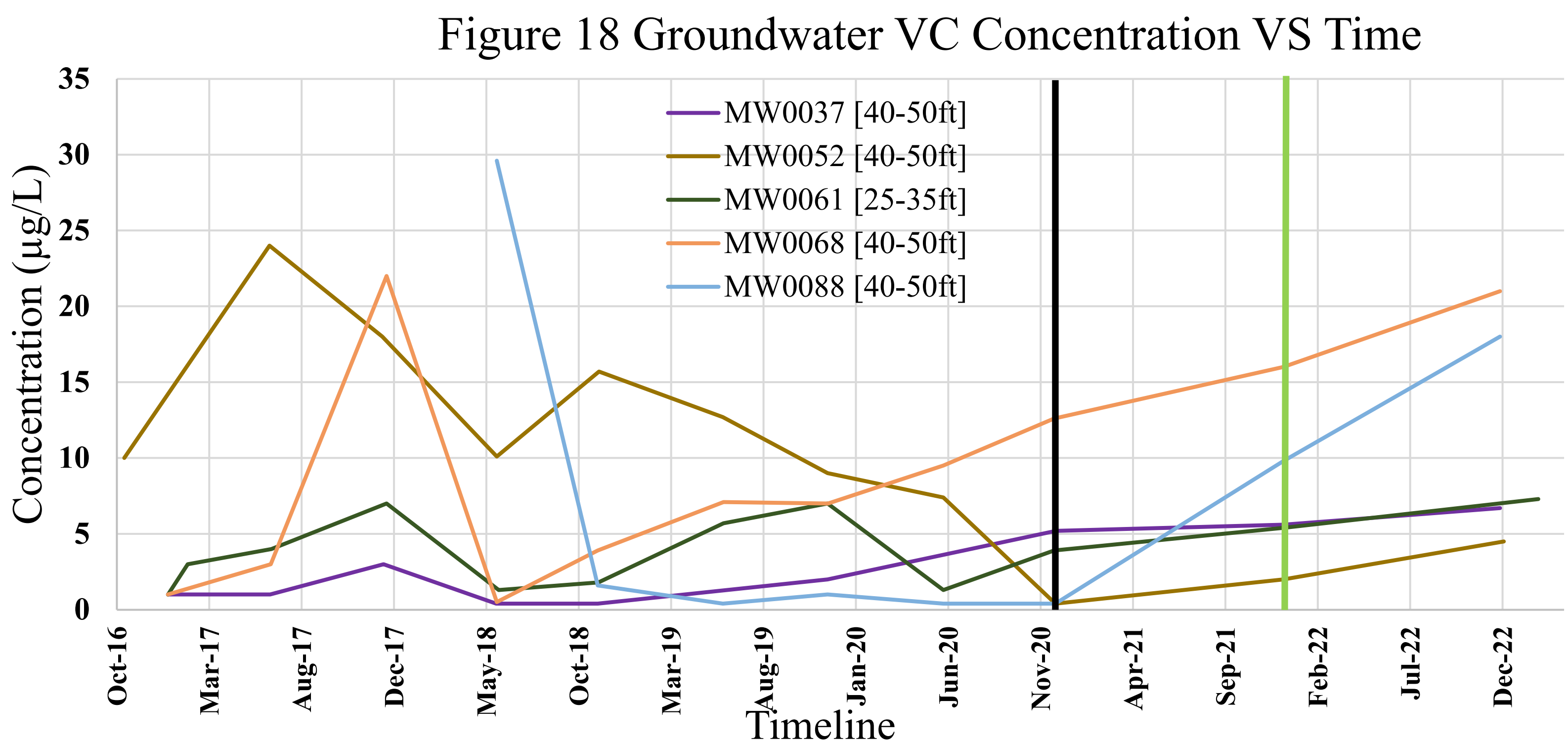
Appendix D: CCB Groundwater Concentration Graphs



Annually sampled wells pictured MW0061, located in former HS 1 and MW00067, located in former HS 2 have shown an increase in cDCE concentration from December 2021 to December 2022. Groundwater flows from HS 1 to HS 2. Also shown are vertical and downgradient capture wells for reference. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

MW0061 and MW0067 experienced an increase of cDCE concentrations comparing post air sparge performance monitoring Year 1 vs Year 2. Downgradient well MW0039 results have hovered around pre air sparge shutdown concentration levels from December 2021 to December 2022. Vertical capture well at MW0068 low level detections have hovered between 4.3 µg/L and 5.3 µg/L since December 2020.

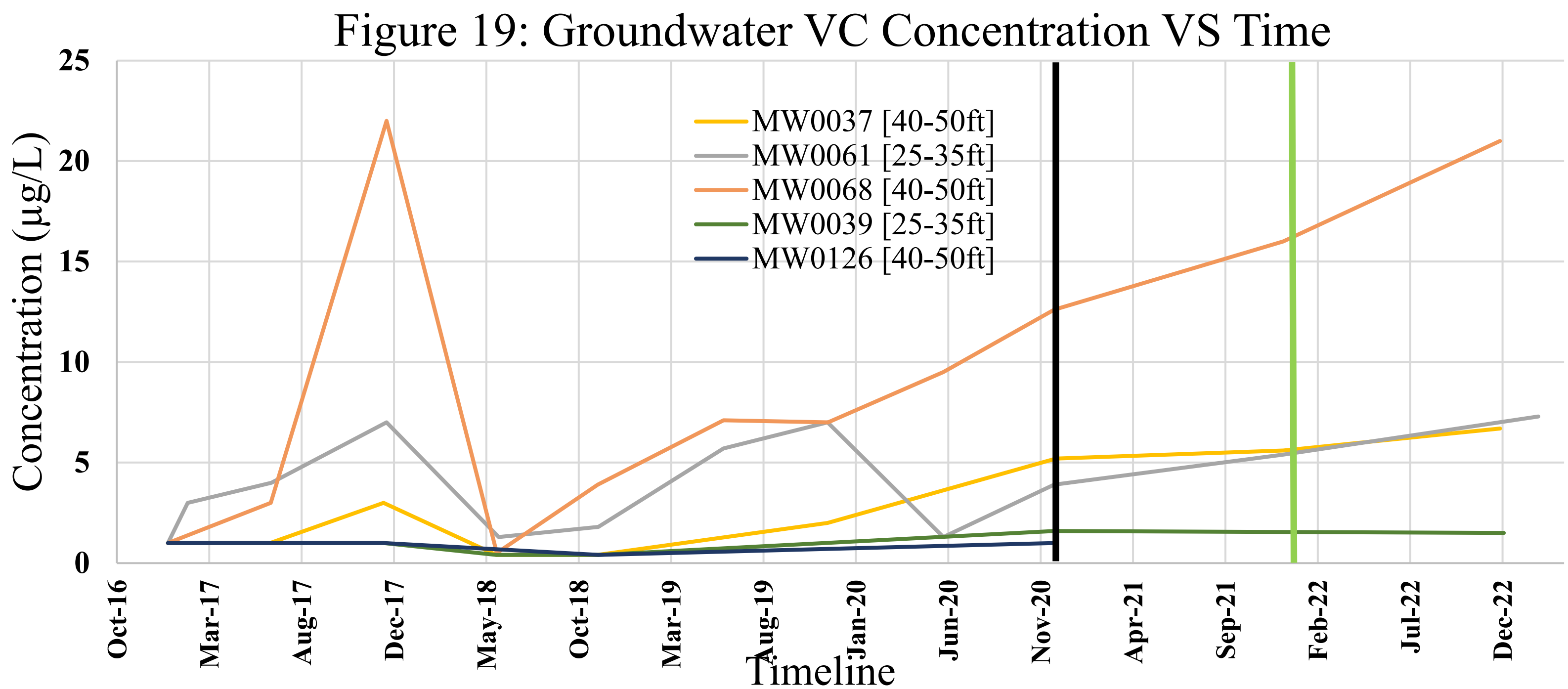
Appendix D: CCB Groundwater Concentration Graphs



Annually sampled wells pictured have shown an increase in VC concentration from December 2021 to December 2022. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

MW0037, 52, 61, 68, 88 experienced an increase of VC concentrations comparing post air sparge performance monitoring Year 1 vs Year 2. MW0061 is located in former HS 1, MW0037 and MW0068 are located in former HS 2, and MW0088 and MW0052 are located in former HS 4.

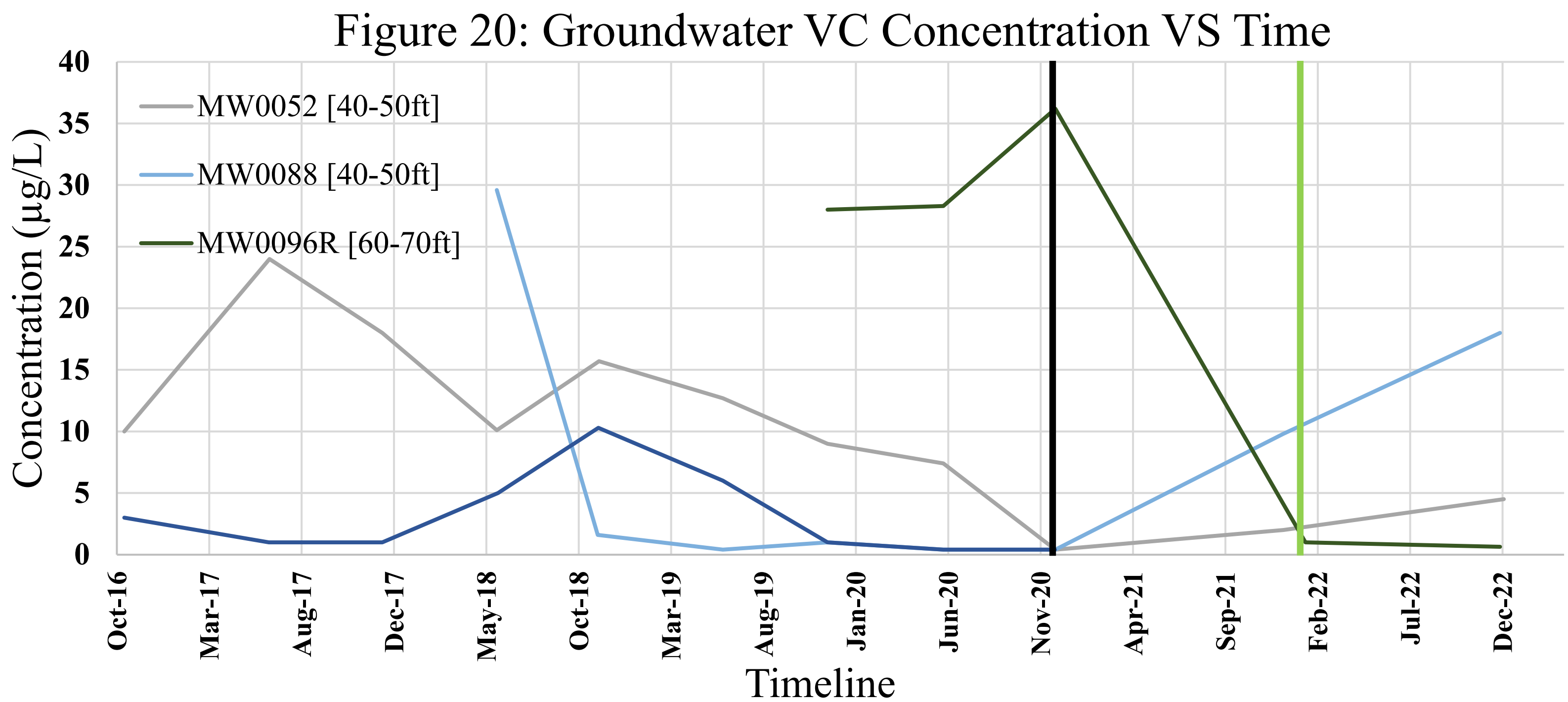
Appendix D: CCB Groundwater Concentration Graphs



Annual well MW0037 and MW0068 are located in former and 2 and MW0061 is located in former HS 1. These had an increase in VC from December 2021 to December 2022. Also shown are associated downgradient capture wells. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

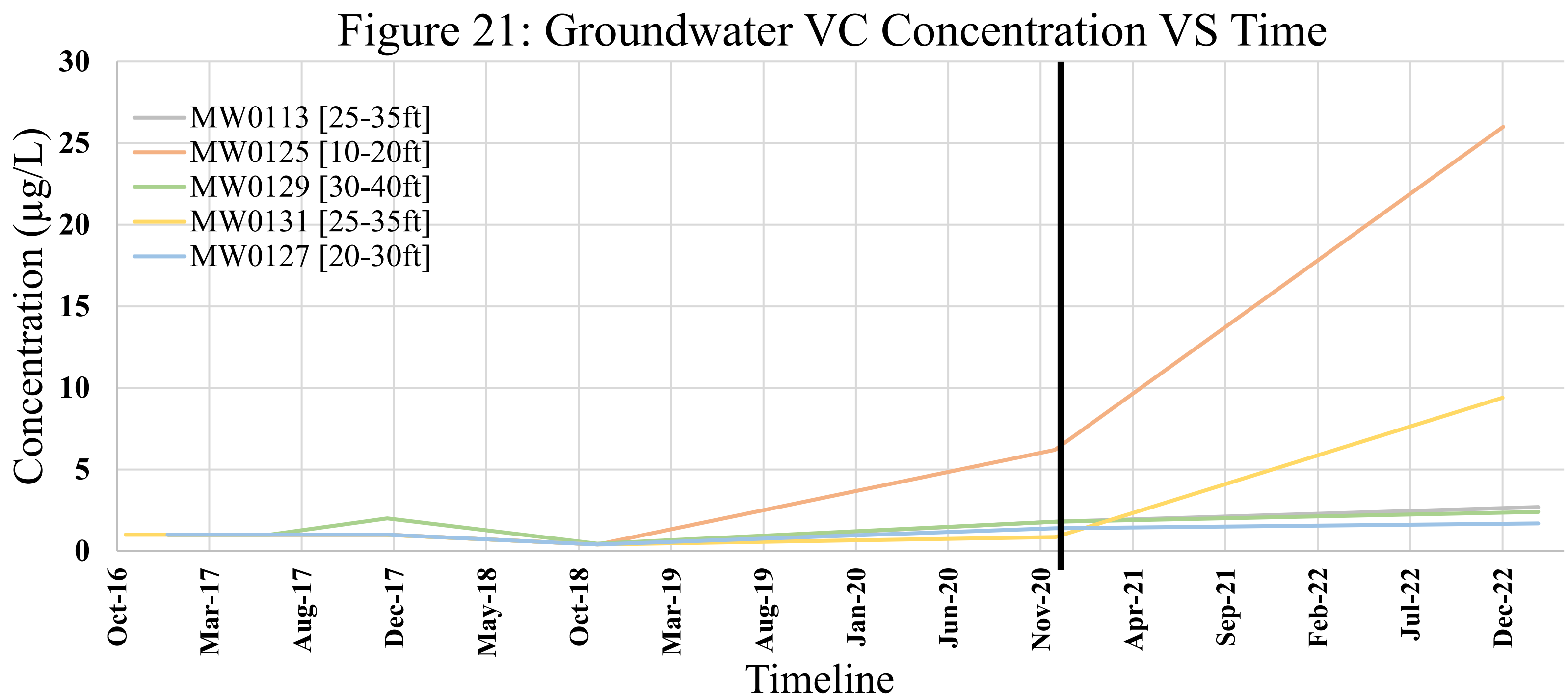
MW0037, and MW0068 are located within former HS 2 and MW0061 is located in former HS 1 and have experienced an increase in VC concentration comparing post air sparging performance monitoring Year 1 (2021) vs Year 2 (2022). MW0039, located downgradient has had stable VC concentrations since shut down. Well MW0126, downgradient of MW0037 and MW0068 was taken off the sampling plan after December 2020 because it had attained cleanup goals.

Appendix D: CCB Groundwater Concentration Graphs



Annual wells MW0052 and MW0088 are located in former HS 4 and have had had an increase in VC from December 2021 to December 2022. Also shown is the vertical delineation well MW0096 for reference. Black vertical line indicates AS shut down in December 2020 and the green vertical line indicates the first year of performance monitoring following AS shut down, December 2021.

MW0052 and MW0088 are located in former HS 4 and have experienced an increase in VC concentration comparing post air sparging performance monitoring Year 1 (2021) vs Year 2 (2022). MW088 has the highest VC concentration in the area. MW0096R, which captures vertical migration has had no VC detections since it was reinstalled in January 2021.



Biennial wells shown have had an increase in VC concentration from December 2020 to December 2022. Black vertical line indicates AS shut down in December 2020.

MW0113, 125, 127, 129 are located in former HS 2 and MW0113 is located in former HS 3. These wells experienced an increase of VC concentrations comparing AS shut down (2020) vs post air sparge performance monitoring Year 2 (2022). MW0131 which serves as a downgradient well in former HS 3 showed an increased detection from previously non-detect results in December 2022. MW0125, had non-detect results from January 2015 until November 2018 indicating an increase post-shut down.