WILSON CORNERS
SOLID WASTE MANAGEMENT UNIT (SWMU) 001
2021 ANNUAL LONG-TERM MONITORING REPORT
KENNEDY SPACE CENTER, FLORIDA

Prepared for:

Environmental Assurance Branch
National Aeronautics and Space Administration
Kennedy Space Center, Florida

A-E Contract 80KSC019D0010
Task Order 80KSC020F0028

December 2022
Revision: 0

Prepared by:
AECOM Technical Services, Inc.
150 North Orange Avenue, Suite 200
Orlando, Florida 32801
407-843-6552

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In accordance with the provisions of Florida Statutes, Chapter 471, this Long-Term Groundwater Monitoring Report for the Kennedy Space Center Wilson Corners site located in Merritt Island, Florida, has been prepared under the direct supervision of a Professional Engineer registered in the State of Florida. This work was performed in accordance with generally accepted professional engineering practices pursuant to Chapter 471 of the Florida Statutes. The data, findings, recommendations, specifications, or professional opinions were prepared solely for the use of the National Aeronautics and Space Administration and the Florida Department of Environmental Protection. AECOM Technical Services, Inc. makes no other warranty, either expressed or implied, and is not responsible for the interpretation by others of these data.

This item has been digitally signed and sealed by:

Jennifer Gootee, P.E. Date
Project Manager
Florida License No. 57964
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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

ABBREVIATIONS, ACRONYMS, AND SYMBOLS

%	percent
µg/L	micrograms per liter
ADP	Advance Data Package
AECOM	AECOM Technical Services, Inc.
AS	air sparge
bls	below land surface
cDCE	cis-1,2-dichloroethene
COC	contaminant of concern
CVOC	Chlorinated volatile organic compound
DPT	direct push technology
DO	dissolved oxygen
F.A.C.	Florida Administrative Code
FDEP	Florida Department of Environmental Protection
Freon 113	1,1,2-trichloro-1,2,2-trifluoroethane
ft/ft	feet elevation per foot distance
GCTL	Groundwater Cleanup Target Level
HCP	high concentration plume
IM	Interim Measures
IWP	Implementation Work Plan
KSC	Kennedy Space Center
KSCRT	KSC Remediation Team
LCP	low concentration plume
LDA	large diameter auger
LTM	long-term monitoring
NADC	Natural Attenuation Default Concentration
NASA	National Aeronautics and Space Administration
ORP	oxidation-reduction potential
pH	potential of hydrogen

RCRA	Resource Conservation and Recovery Act
RIS	Remediation Information System
SWMU	Solid Waste Management Unit
TCE	trichloroethene
VC	vinyl chloride
VOC	volatile organic compounds

EXECUTIVE SUMMARY

This report presents a summary of the long-term monitoring (LTM) activities that occurred in 2021 at Wilson Corners, Solid Waste Management Unit (SWMU) 001, at Kennedy Space Center (KSC), Florida. The site is monitored under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program. Adaptive site management is being utilized through ongoing assessment, design, and interim measures (IM). Annual LTM of the groundwater is also being conducted at the site. This approach also meets the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.).

The goal of LTM at this site is threefold: to determine groundwater flow characteristics, monitor the downgradient concentration trends, and monitor select locations internal to the groundwater plume. Every 5 years, upgradient and side-gradient monitoring wells are sampled to verify delineation. The last time this was performed was in 2015. The sampling of these wells in 2020 was replaced with the direct push technology (DPT) investigations completed in October 2020 and April 2021. This DPT groundwater data was presented in an Advance Data Package (ADP) in September 2021 and discussed in the Implementation Work Plan (IWP) dated November 2021 for installation of an air sparge (AS) system. Based on results from groundwater sampling activities performed during the previous reporting period, including the 2020 and 2021 DPT groundwater sampling, it was determined that the LTM sampling plan was no longer meeting the goal of LTM because delineation was not verified. The 2021 LTM sampling plan was modified to include the sampling of monitoring wells located around the perimeter of the low concentration plume (LCP); the area with concentrations of contaminants of concern [COCs] greater than Groundwater Cleanup Target Levels [GCTLs]), and sampling of 10 monitoring wells proposed for installation (April 2021 KSC Remediation Team (KSCRT) Meeting, Decision 2104-D32). The modified LTM plan received team consensus at the September 2021 KSCRT Meeting (Decision Number 2109-D03), and sampling of the existing monitoring wells was completed in December 2021. The proposed monitoring wells are planned for installation in late 2022, concurrent with ongoing IM construction activities. December 2021 LTM data was presented at the May 2022 KSCRT Meeting, and activities are summarized in this report.

The activities presented in this report include the December 2021 groundwater gauging of 42 monitoring wells and sampling of 44 monitoring wells. During the December 2021 event, the low flow sampling method was used, and samples were analyzed for a select list of volatile organic compounds (VOCs), including 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113).

The following conclusions can be made based on the 2021 LTM results:

- In December 2021, groundwater flow for the site was generally to the west at all intervals. This is generally consistent with historical observations at the site, with the exception of a southwest and southeast flow component observed at 34 to 48 feet below land surface (bls).

- The vertical extent of VOCs was historically delineated by monitoring wells screened greater than 48 feet bls. The results from the two vertical extent monitoring wells, WILC-MW0078 (screened 65 to 70 feet bls) and WILC-MW0130 (screened 56 to 66 feet bls) that were sampled during the 2021 LTM indicate that groundwater vinyl chloride (VC) concentrations in both wells were greater than the GCTL. The Remediation Team has previously agreed to delay deeper DPT investigations in this area to prevent the creation of additional pathways for vertical migration.

- The LCP continues to extend both horizontally, predominantly to the west, and vertically beyond the current monitoring well network, with some retraction observed to the southeast. Evaluation of this data combined with data from the 2020 and 2021 DPT sampling event indicate that the LCP encompasses an estimated 20.7 acres based on an expanded sampling area, as compared to the 2020 LCP footprint of 17.0 acres.

- Freon 113 was not detected above GCTLs during the 2021 LTM event.

Based on groundwater sampling activities performed in 2021, including April 2021 DPT groundwater sampling, the following recommendations are provided:

- Perform the next LTM sampling event, targeted to occur in 2023, concurrently with the IM baseline sampling prior to AS system installation;

- Include sampling from nine monitoring wells that are planned to be installed in late 2022, concurrent with upcoming IM construction activities. Installation of one deep vertical well, screened 70 to 80 feet bls, will be delayed to prevent the creation of an additional pathway for vertical migration;

- Continue to sample under the modified annual LTM plan as presented in **Table 4-1** concurrently with IM baseline sampling; and

- Once the AS system install and start-up is complete, select monitoring wells from the LTM program will transition into the performance monitoring plan, and LTM will be temporarily discontinued. Performance monitoring will be performed quarterly, and the monitoring well network will be evaluated following the first performance monitoring sampling event.

1. INTRODUCTION

1.1 OVERVIEW

The National Aeronautics and Space Administration (NASA), through its Environmental Assurance Branch, is managing cleanup of Wilson Corners, Solid Waste Management Unit (SWMU 001) at Kennedy Space Center (KSC), Florida. The site is monitored under KSC's Resource Conservation and Recovery Act (RCRA) Corrective Action Program. Adaptive site management is being utilized through ongoing assessment, design, and interim measures (IM). Annual long-term monitoring (LTM) of the groundwater is also being conducted at the site. This approach also meets the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.).

AECOM Technical Services, Inc. (AECOM) prepared this LTM Report and completed field activities at the Wilson Corners site for NASA under Contract 80KSC019D0010, Task Order 80KSC019F0028. An Advance Data Package (ADP) was presented to the KSC Remediation Team (KSCRT) in preparation for this report. The KSCRT approved the recommendations within the presentation during the May 4, 2022, meeting. The ADP and meeting minutes are provided as **Appendix A**. This report presents the activities and findings of the December 2021 gauging and sampling events. The evaluation of these data provides conclusions and recommendations for continued groundwater assessment and monitoring.

1.2 SITE LOCATION

Wilson Corners is located on Beach Road (State Road 402), northwest of the intersection of Kennedy Parkway (State Road 3) and Beach Road (State Road 402). The site location is depicted on **Figure 1-1**. The site is currently vacant and located within Section 22 of Township 21S, Range 36E, as shown on the United States Geological Survey 7.5-minute Wilson topographic Quadrangle Map, which is included as **Figure 1-2**.

The site operated as a general store prior to NASA acquisition in the early 1960s. From 1963 to 1974, it operated as a propellant systems components laboratory. During this time, trichloroethene (TCE) was stored onsite in aboveground storage tanks and was used in the laboratory and in an outside cleaning facility. TCE was the primary solvent for cleaning components and was discharged to the ground via drain fields and direct spillage. Eventually, TCE was phased out and replaced with 1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113). The facility ceased operations, and the buildings and structures at the site were abandoned and razed in 1974. The site is currently unoccupied. The Historical Site Layout is included as **Figure 1-3**.

Annual rainfall in 2021 within the immediate vicinity of the site ranged from 29.27 inches at the Shuttle Landing Facility (rain gauge 10) to 42.73 inches at Weather Equipment Building 415, northeast of the site (rain gauge 5). Precipitation levels were lower compared to the 2019 totals (58 and 41 inches, respectively) and 2020 totals (56 and 49 inches, respectively). Center-wide,

the precipitation levels were the lowest since 2016 (John F. Kennedy Space Center Spaceport Weather Archive, Rainfall Reports, https://kscweather.ksc.nasa.gov/wxarchive/Reports/Rainfall).

1.3 BACKGROUND

Site assessment and investigations began in the mid-1980s. During site investigations, four hot spots were delineated. A hot spot is an area where contaminants of concern (COCs) are 10 times the State of Florida Natural Attenuation Default Concentrations (NADCs). COCs for this site are chlorinated volatile organic compounds (VOCs) and primarily consist of TCE, cis-1,2-dichloroethene (cDCE), vinyl chloride (VC), and Freon 113. The hot spot locations are presented on **Figure 1-3**.

Chlorinated volatile organic compound (CVOC) impacts to soil and groundwater were identified, followed by installation of a pump and treat (P&T) remediation system in 1989. The P&T system operated until 1999, when it was turned off due to asymptotic groundwater contaminant concentrations. During the operational period, the P&T system treated over 100 million gallons of groundwater and provided hydraulic control of the dissolved plume.

A source area assessment was performed between 2000 and 2001, which included the completion of more than 170 soil borings and the collection of over 500 saturated zone soil samples, and direct push technology (DPT) groundwater samples. A large-scale shallow source area excavation IM was completed from 2003 to 2004; more than 16,000 tons of excavated soil with TCE concentrations of 1 milligram per kilogram (mg/kg) or greater were excavated, treated using low-temperature thermal desorption, and returned to the site as backfill. Excavation depth varied from 6.5 to 10.5 feet below land surface (bls). This excavation was located in the area that became known as Hot Spot 1, as identified on **Figure 1-3**.

In 2004, IM activities were completed that focused on the deep groundwater contamination present at the site in the area to the west of Hot Spot 1. Chemical oxidation (sodium permanganate) was utilized in a zone where TCE was calculated to be 100 mg/kg or greater in soils from 40 to 52 feet bls. Ethyl lactate biostimulation was employed in areas where TCE was greater than 1 mg/kg, but less than 100 mg/kg.

Groundwater data collected following the injection events indicated that dissolved contaminant concentrations had increased above solubility. Between January 2007 and May 2008, additional P&T efforts were conducted with approximately 3.5 million gallons of groundwater extracted and treated.

Supplemental assessment activities to delineate the overall dissolved plume were conducted from May 2005 through July 2010 and included collection of 600 groundwater samples using DPT drilling and installation of 66 monitoring wells. During monitoring well installation, membrane

interface probe borings with cone penetrometer testing was conducted at three locations, and soil cores to evaluate site lithology were collected at five locations.

High-resolution site characterization activities were conducted between April 2011 and December 2017, which included 15 DPT groundwater sampling events, to delineate areas with elevated COCs within the dissolved plume. The DPT events consisted of 4,175 groundwater samples, collected from 551 locations. Sampling was generally performed at 4-foot depth intervals at various depths from 6 to 80 feet below land surface (bls). DPT groundwater results delineated the boundaries to a 70 foot bls 25-acre low concentration plume (LCP); the area with COCs greater than Groundwater Cleanup Target Levels [GCTLs]), and a 66 foot bls 10-acre the high concentration plume (HCP), an area with concentrations of COCs greater than NADCs. The HCP extended to the south of Beach Road and north of the railroad tracks with a northwestward swath. During assessment activities, seven additional soil borings were advanced to depths ranging from 15 ft bls to 60 ft bls to further understand the subsurface composition and locate low permeability zones.

In 2017, the Hot Spot 2 Large Diameter Auger (LDA) with Steam and Zero Valent Iron IM Work Plan (NASA 2017c) was approved; however, prior to implementation, an air sparge (AS) pilot test was conducted to test air sparging effectiveness at different lithologies. The results of the pilot test demonstrated that air sparging is suitable to 50 feet bls. The lithologies tested were the organic hardpan at 10 to 15 feet bls, the Anastasia formation at approximately 22 to 32 feet bls, and the low permeability silty sand at approximately 35 to 50 feet bls. The AS Pilot Test Report (NASA 2017b) received Florida Department of Environmental Protection (FDEP) approval in March 2018. NASA still plans to implement the LDA with steam and zero valent iron in the Hot Spot 2 area following the implementation of the AS IM. Lithologic cross-sections are presented on **Figure 1-4** and **Figure 1-5**.

In August 2018, the AS IM Work Plan (NASA 2018) to remediate the entire NADC plume above 50 feet bls, received FDEP approval. The IM Work Plan includes installation of up to 366 AS wells. That IM Work Plan recommended DPT sampling prior to the installation of the system.

In October 2020 and April 2021, groundwater sampling using DPT was performed, which indicated changes in the HCP boundaries. NADC plume expansion was observed to the west, and degradation was observed in the east and in the northwesterly swath. This data was used to refine the AS treatment system layout (**Figure 1-6**) and to establish baseline conditions in the treatment area. Implementation of the AS treatment system to remediate the HCP is underway. This DPT groundwater data was presented the September 2021 IM Treatment Area Refinement and Proposed Implementation Work Plan and discussed in the associated IM Work Plan (NASA 2021).

Currently, there are no known soil or sediment impacts at the site. In 2018, the LCP extent was approximately 21.3-acres and the HCP was approximately 9.1-acres. Data from the October 2020 and April 2021 DPT sampling events, and December 2021 LTM event indicate that the LCP encompasses an estimated 20.7 acres and the HCP an estimated 7.1-acres, as discussed in Section 4.

The vertical extent of the State of Florida Groundwater Cleanup Target Level (GCTLs) plume extends to greater than 70 feet bls; however, vertical migration is limited by a fine-grained unit at approximately 50 feet bls. COCs have exceeded the GCTLs in two deep monitoring wells, which are located within the Hot Spot 2 area, and screened from 56 to 66 feet bls and 65 to 70 feet bls.

The LTM Work Plan was presented in the Supplemental Site Assessment Report (NASA 2006), and semi-annual groundwater LTM was initiated in December 2006. The sampling frequency was changed to annual in 2012, which was based on recommendations presented in the 2011 Annual Long-Term Monitoring Report (NASA 2012).

The goal of LTM at this site is threefold: to determine groundwater flow characteristics, monitor the downgradient concentration trends, and monitor select locations internal to the groundwater plume.

Every five years, upgradient and side-gradient monitoring wells are sampled to verify delineation. The last five-year sampling event was in 2015, and the 2020 sampling event was replaced with DPT investigations in October 2020 and April 2021 as part of the evaluation of the HCP prior to installation of the AS system.

The most recent LTM report submitted to FDEP was the 2019-2020 Annual LTM Report (NASA 2019b). Groundwater data from the 2020 sampling event indicated that the LCP plume was extending horizontally and vertically beyond the monitoring wells sampled as part of LTM, and a modified 2021 LTM plan was recommended to include existing LCP perimeter wells to capture LCP expansion, and install and sample 10 proposed monitoring wells. The modified LTM plan received team consensus at the April 2021 KSCRT, and sampling of the existing monitoring wells in the modified 2021 LTM plan was completed in December 2021. The proposed monitoring wells are planned for installation in the Fall/Winter of 2022, concurrent with upcoming AS IM construction activities. Groundwater analytical results from the modified 2021 LTM plan sampling are presented in the subsequent sections.

1.4 PURPOSE

The purpose of this report is to present the field activities and results of the 2021 LTM event. Additionally, this report provides recommendations for future assessment and monitoring activities.

1.5 REPORT ORGANIZATION

The remainder of this report is organized as follows:

Section 2: *Field Activities.* This section describes the methodology used for the 2021 LTM activities.

Section 3*: Sampling Results.* This section summarizes the results of the 2021 LTM activities.

Section 4: *Conclusions and Recommendations.* This section discusses conclusions based on recent and historical data and presents recommendations for future activities at the site.

Section 5: *References.* This section provides a listing of the documents used in developing this report.

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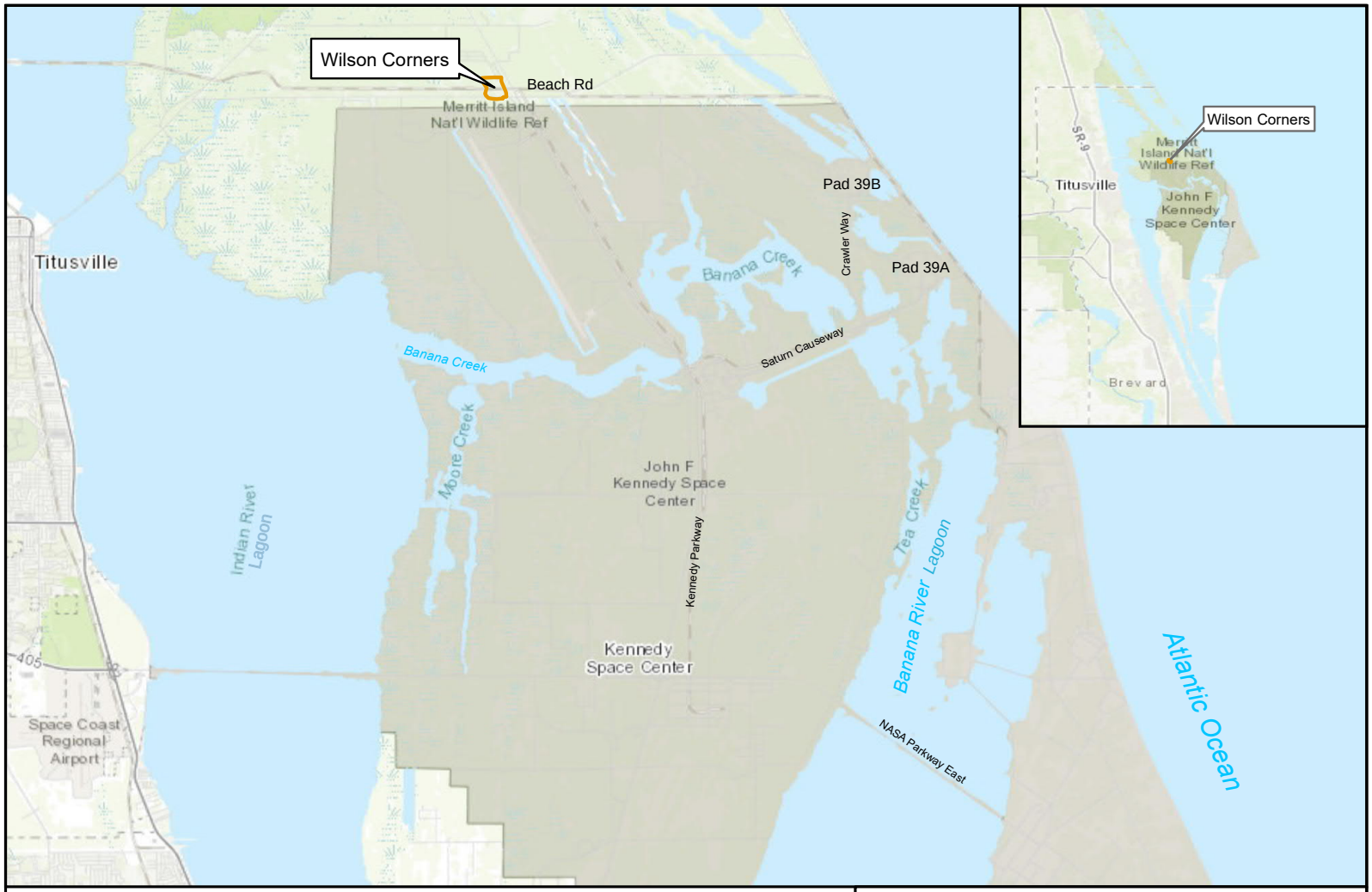
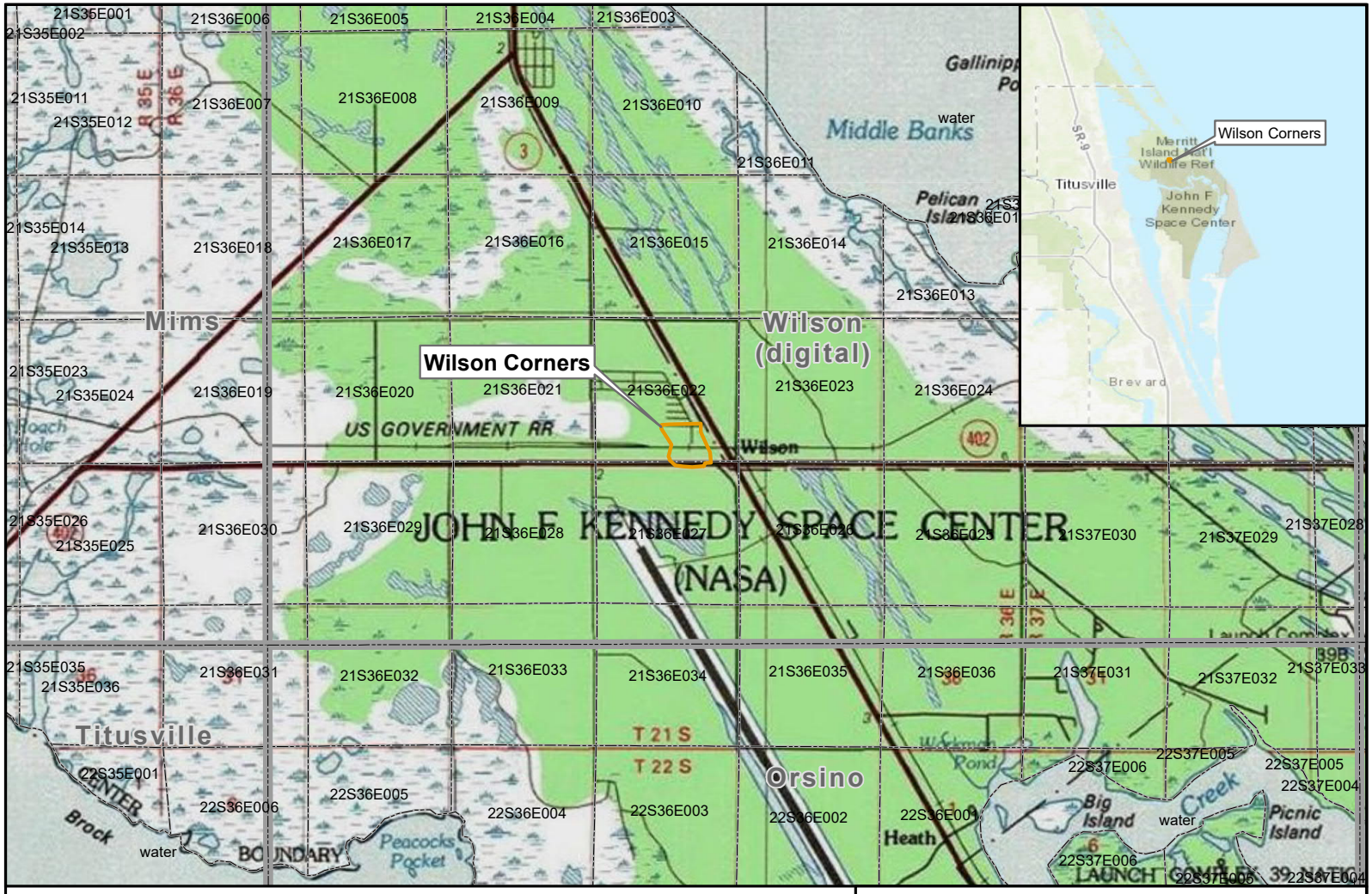


Notes:
1. SWMU = Solid Waste Management Unit
2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

FIGURE 1-1
Site Location Map

Wilson Corners, SWMU 001

NASA Kennedy Space Center, Florida



Notes:
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FIGURE 1-2
Topographic Quadrangle Map

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

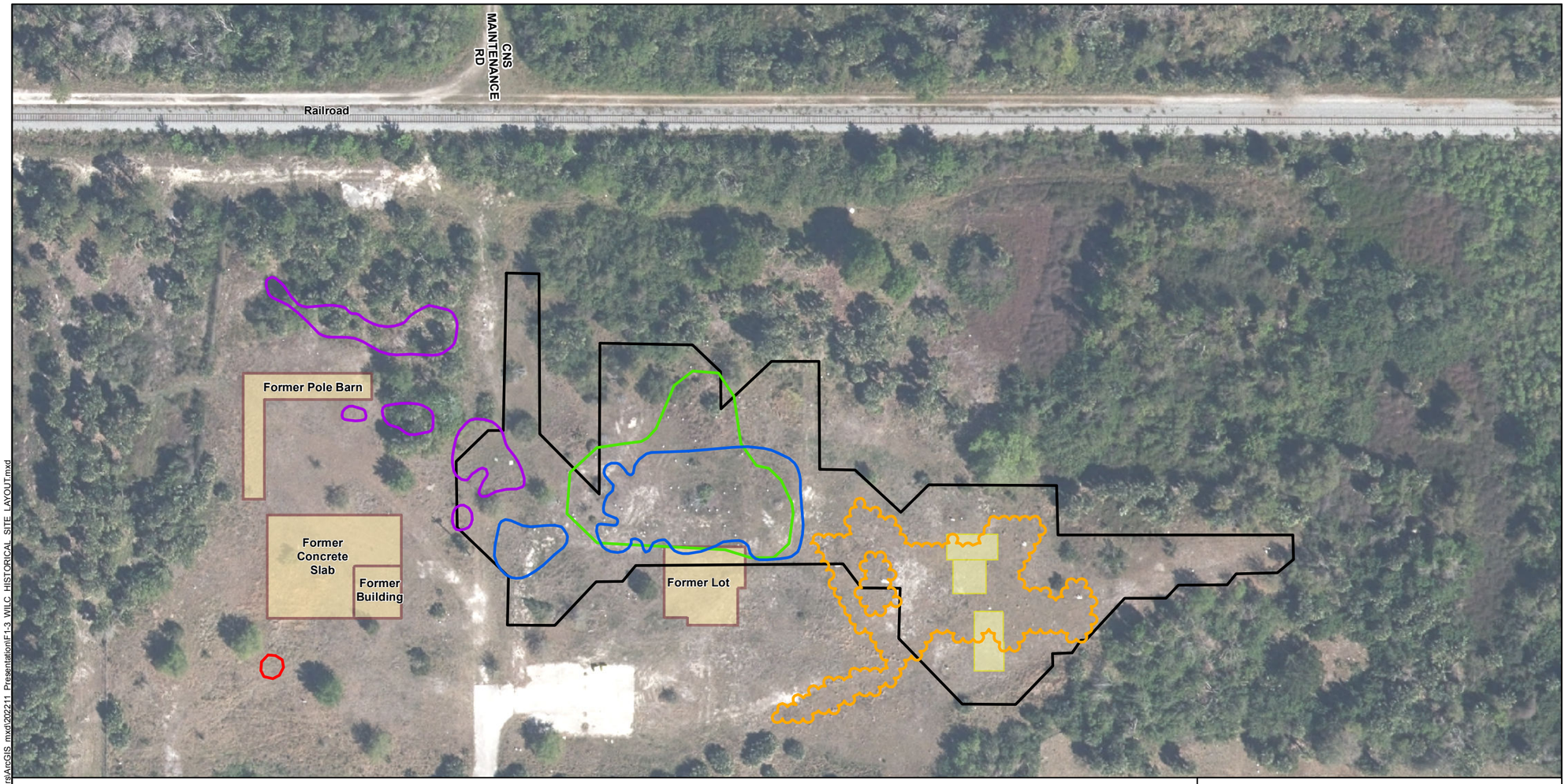
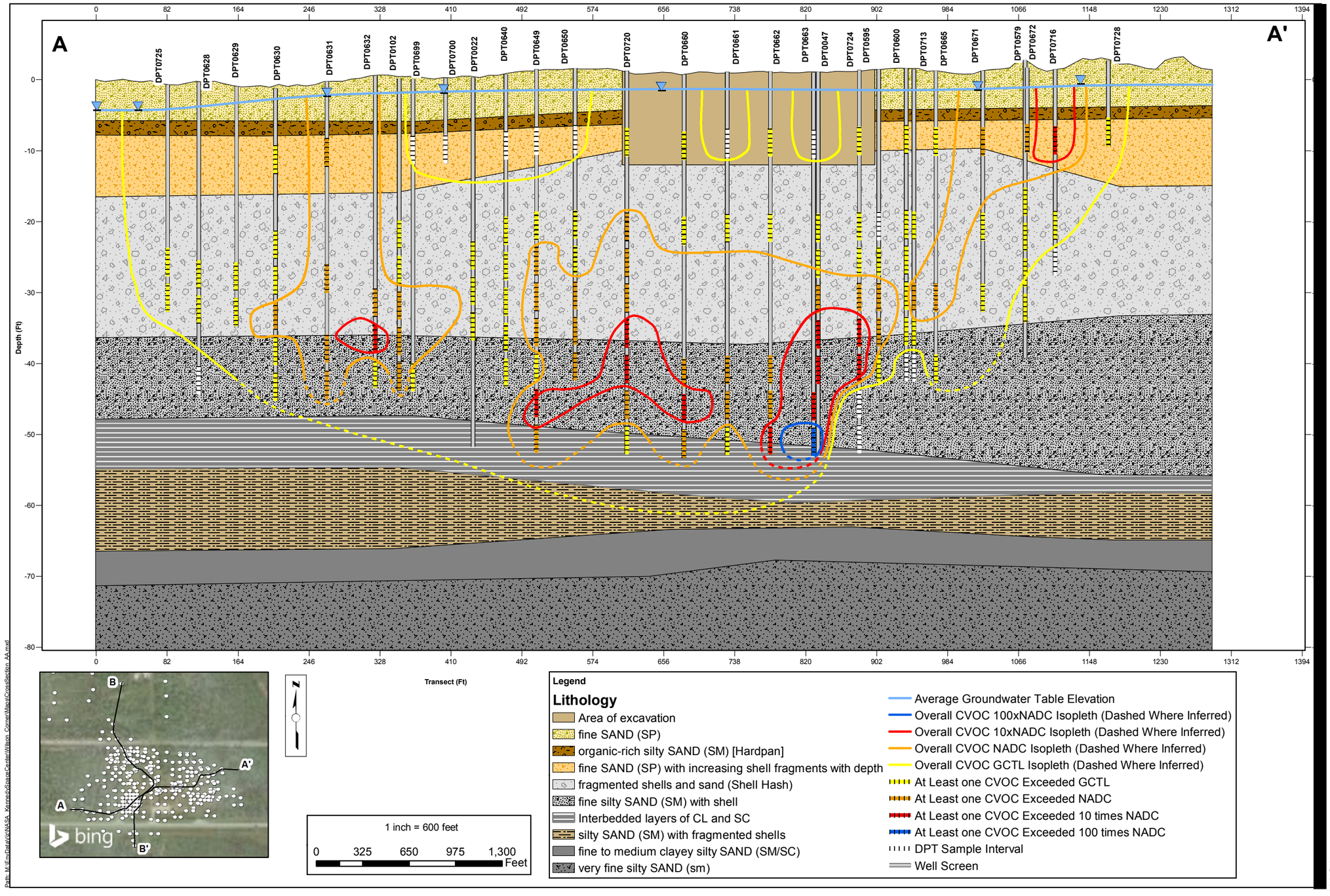
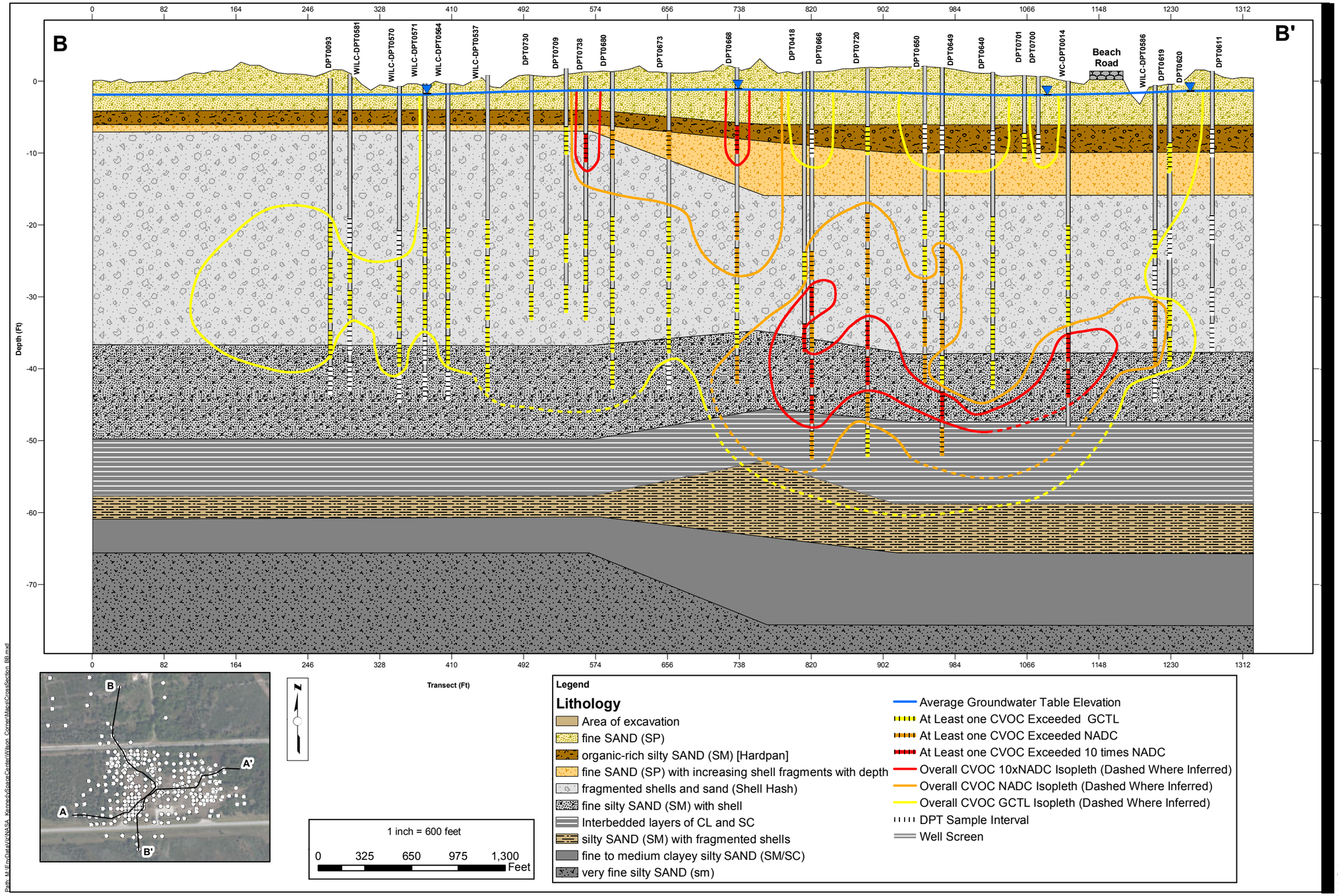


FIGURE 1-3
Historical Site Layout

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida


A
A'
DPT0725
DPT0628
DPT0629
DPT0630
DPT0631
DPT0632
DPT0102
DPT0699
DPT0700
DPT0022
DPT0640
DPT0649
DPT0650
DPT0720
DPT0660
DPT0661
DPT0662
DPT0663
DPT0047
DPT0724
DPT0595
DPT0600
DPT0713
DPT0665
DPT0671
DPT0579
DPT0672
DPT0716
DPT0728
Depth (Ft)
0
-10
-20
-30
-40
-50
-60
-70
-80
0
82
164
246
328
410
492
574
656
738
820
902
984
1066
1148
1230
1312
1394
B
A'
A
B'
bing
Transect (Ft)
N
1 inch = 600 feet
0 325 650 975 1,300
Feet
Legend
Lithology
Area of excavation
fine SAND (SP)
organic-rich silty SAND (SM) [Hardpan]
fine SAND (SP) with increasing shell fragments with depth
fragmented shells and sand (Shell Hash)
fine silty SAND (SM) with shell
Interbedded layers of CL and SC
silty SAND (SM) with fragmented shells
fine to medium clayey silty SAND (SM/SC)
very fine silty SAND (sm)
Average Groundwater Table Elevation
Overall CVOC 100xNADC Isopleth (Dashed Where Inferred)
Overall CVOC 10xNADC Isopleth (Dashed Where Inferred)
Overall CVOC NADC Isopleth (Dashed Where Inferred)
Overall CVOC GCTL Isopleth (Dashed Where Inferred)
At Least one CVOC Exceeded GCTL
At Least one CVOC Exceeded NADC
At Least one CVOC Exceeded 10 times NADC
At Least one CVOC Exceeded 100 times NADC
DPT Sample Interval
Well Screen
Path: M:\Env\Data\Vol\NASA_Kennedy\SpaceCenter\Wilson_Corner\Maps\CrossSection_AA.mxd
AECOM
Figure: 1-4
Cross-Section Transect
A-A' (West to East)
NASA
KSC
Merritt Island, FL 32953
Project No.: 12345678 Date 2021-07-08



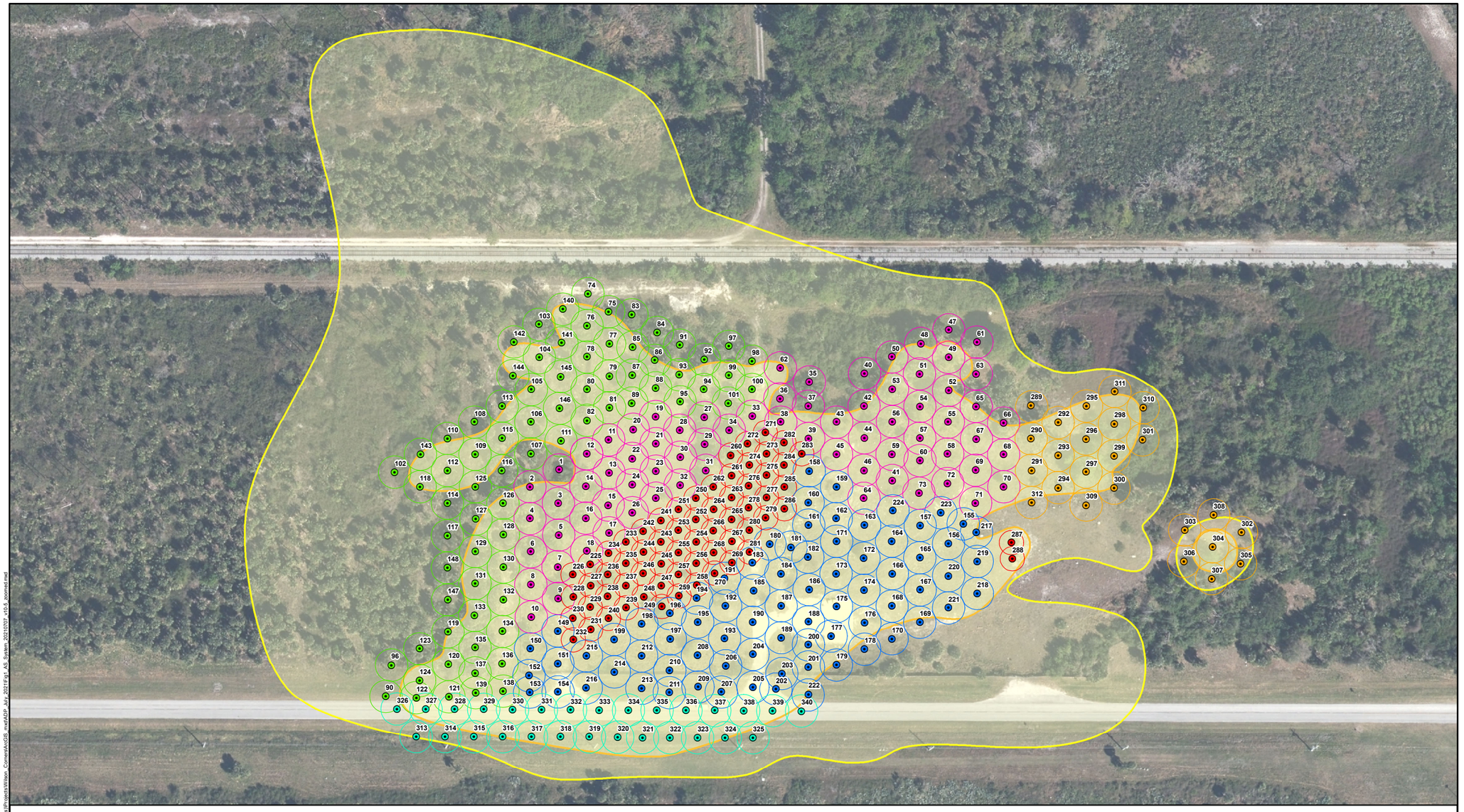
Path: M:\Env\Data\cp\NASA_Kennedy\Space Center\Wilson_Corner\Maps\CrossSection_BB.mxd

AECOM

Figure: 1-5

Cross-Section Transect
B-B' (North to South)

NASA
KSC
Merritt Island, FL 32953
Project No.: 12345678 Date 2021-07-08



Legend

- Air Sparge Well (Leg 1) (Screened 48-50 feet BLS)
- Air Sparge Well (Leg 2) (Screened 40-42 feet BLS)
- Air Sparge Well (Leg 3) (Screened 48-50 feet BLS)
- Air Sparge Well (Leg 4) (Screened 50-52 feet BLS)
- Air Sparge Well (Leg 5) (Screened 40-42 feet BLS)
- Air Sparge Well (Leg 6) (Screened 48-50 feet BLS)
- ROI (Color Indicates Leg)
- Overall CVOC Low Concentration Plume (LCP) (Area: 17.0 Acres
- Overall CVOC High Concentration Plume (HCP) (Area: 6.7 Acres)

Notes:
- Aerial Source: FDOT 2018
- AS = Air Sparge
- BLS = Below land surface
- CVOC = Chlorinated volatile organic compound
- SWMU = Solid Waste Management Unit

N

0 100 200 Feet

FIGURE 1-6
Refined Composite HCP and LCP
Air Sparge System Wells and ROIs

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Document Path: N:\900-CAD-GIS\920-923\GIS-Graphics\Projects\Wilson_Corners\ArcGIS_mxd\ASP_July_2021\Fig1_AS_System_20210707_v10-5_zoomed.mxd

2. FIELD ACTIVITIES

2.1 OVERVIEW

The annual LTM field event was conducted in December 2021 at the Wilson Corners site. Field activities were conducted in general accordance with FDEP Standard Operating Procedures (FDEP 2018), the KSC Sampling and Analysis Plan (NASA 2017a), and the KSC Decision Process Document for the RCRA Corrective Action Program (NASA 2019a). The 2021 LTM plan is presented as **Table 2-1**. The locations of all site-wide monitoring wells are presented on **Figure 2-1**, and the locations of the wells that were sampled during the 2021 LTM event are presented on **Figure 2-2**.

Investigation-derived waste from field activities was contained in properly labeled 55-gallon drums, which were stored on NASA-provided spill pallets, and secured with cargo straps to be properly disposed of by NASA. Field notes and field logs are provided in **Appendix B**.

2.2 DEPTH TO GROUNDWATER MEASUREMENTS

On December 13, 2021, water levels were measured in 42 monitoring wells. Prior to groundwater level measurements, monitoring well caps were removed to allow for the water table to equilibrate. Following equilibration, water levels were collected with an electronic water level meter from the south side of each top-of-casing and measured to the nearest 0.10 foot. A total of 7 monitoring wells were unable to be gauged for the following reasons: WILC-NPSH-MW0018 and WILC-NPSH-MW0023 noted as destroyed; WILC-MW0040, WILC-MW0079, and WILC-MW0156 could not be located at time of gauging; WILC-MW0047I had an active beehive under the stick-up cap, and WILC-MW0048S had roots obstructing the well. Measurements were recorded from the top of casing of each monitoring well using an electronic water level probe. Groundwater elevation at each monitoring well was calculated by subtracting the depth-to-groundwater from the top of casing elevation.

2.3 GROUNDWATER SAMPLING

On December 14 through 16, 2021, groundwater samples were collected from 44 monitoring wells using low-flow sampling methods and high density polyethylene tubing. Prior to sampling, monitoring wells were purged until geochemical parameter readings were stable, in accordance with the FDEP SOPs. Groundwater samples were collected after the peristaltic pump head into three lab-provided, unpreserved, 40 milliliter glass vials and submitted to a fixed-based laboratory, Environmental Conservation Laboratories, Inc., for analysis by the United States Environmental Protection Agency Method 8260B for a select list of VOCs (1,1-dichloroethene, cDCE, trans-1,2-dichloroethene, Freon 113, tetrachloroethene, TCE, and VC). A total of four monitoring wells (WILC-NPSH-MW0018, WILC-NPSH-MW0023, WILC-MW0040, and WILC-MW0156) could not be located at the time of sampling, and one monitoring well (WILC-MW0047I) could not be sampled due to an active beehive under the stick-up cap.

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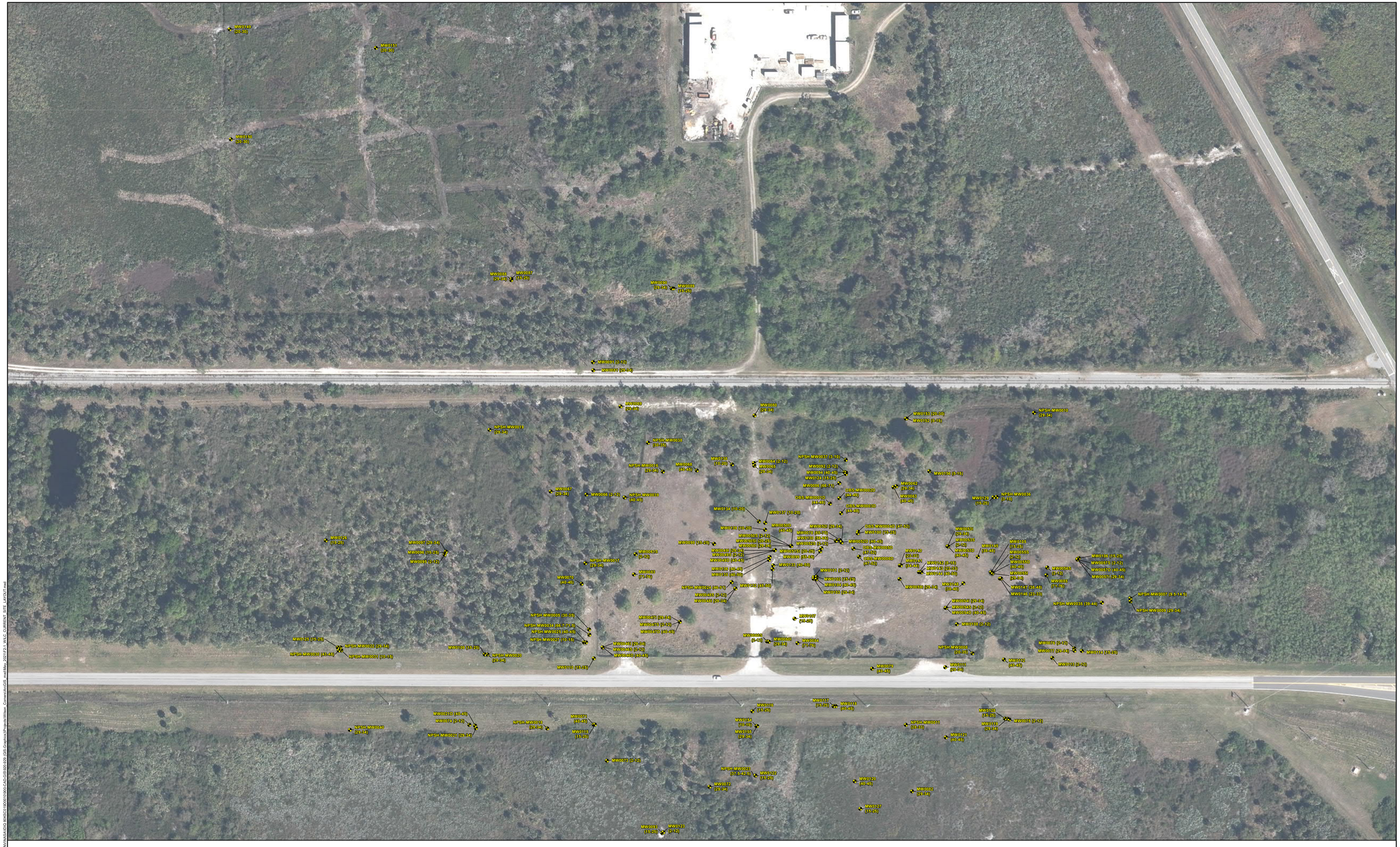
Table 2-1
2021 Long-Term Monitoring Plan
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	2021 LTM Plan	
			Water Levels	Sampled (Analytical Parameter)
2 to 15 feet bls				
WILC-NPSH-MW0027	10 to 15		X	Select VOCs
WILC-MW0048S	2 to 12		X	Select VOCs
WILC-MW0053S	2 to 12		X	Select VOCs
WILC-MW0057S	2 to 12		X	
WILC-MW0060S	2 to 12		X	Select VOCs
WILC-MW0061S	2 to 12		X	Select VOCs
WILC-MW0074	2 to 12		X	Select VOCs
WILC-MW0091	2 to 12		X	Select VOCs
WILC-MW0095	2 to 12		X	Select VOCs
WILC-MW0152	5 to 15		X	Select VOCs
WILC-MW0154	5 to 15		X	Select VOCs
WILC-MW0156*	5 to 15		X	Select VOCs
LTM1	2 to 12	X	X	Select VOCs
15 to 34 feet bls				
WILC-NPSH-MW0010	29 to 34		X	Select VOCs
WILC-NPSH-MW0011	28 to 33		X	Select VOCs
WILC-NPSH-MW0015	29 to 34		X	
WILC-NPSH-MW0018*	29 to 34		X	Select VOCs
WILC-NPSH-MW0019	29 to 34		X	Select VOCs
WILC-NPSH-MW0020	29 to 34		X	Select VOCs
WILC-NPSH-MW0040*	29 to 34		X	Select VOCs
WILC-MW0047I*	29 to 34		X	Select VOCs
WILC-MW0054I	29 to 34		X	Select VOCs
WILC-MW0060I	29 to 34		X	Select VOCs
WILC-MW0065	29 to 34		X	
WILC-MW0069	29 to 34		X	Select VOCs
WILC-MW0077	29 to 34		X	Select VOCs
WILC-MW0080	29 to 34		X	
WILC-MW0087	15 to 25		X	Select VOCs
WILC-MW0088	29 to 34		X	Select VOCs
WILC-MW0089	15 to 25		X	
WILC-MW0090	29 to 34		X	Select VOCs
WILC-MW0096	15 to 25		X	Select VOCs
WILC-MW0097	29 to 34		X	Select VOCs
WILC-MW0107	15 to 25		X	Select VOCs
WILC-MW0109	15 to 25		X	Select VOCs
WILC-MW0111	29 to 34		X	Select VOCs
WILC-MW0114	15 to 25		X	Select VOCs
WILC-MW0115	15 to 25		X	Select VOCs
WILC-MW0116	15 to 25		X	
WILC-MW0117	15 to 25		X	Select VOCs
WILC-MW0122	15 to 25		X	Select VOCs
WILC-MW0126	15 to 25		X	Select VOCs
WILC-MW0129	15 to 25		X	Select VOCs
WILC-MW0140	23 to 33		X	
WILC-MW0149	20 to 30		X	
WILC-MW0153	20 to 30		X	Select VOCs
LTM2	24 to 34	X	X	Select VOCs
LTM3	24 to 34	X	X	Select VOCs
LTM4	24 to 34	X	X	Select VOCs
LTM9	24 to 34	X	X	Select VOCs
LTM10	24 to 34	X	X	Select VOCs

Table 2-1
2021 Long-Term Monitoring Plan
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	2021 LTM Plan	
			Water Levels	Sampled (Analytical Parameter)
34 to 48 feet bls				
WILC-MW0021D	40 to 45		X	Select VOCs
WILC-NPSH-MW0023*	37.5 to 42.5		X	Select VOCs
WILC-NPSH-MW0030	43 to 48		X	Select VOCs
WILC-MW0046D	40 to 45		X	Select VOCs
WILC-MW0053D	40 to 45		X	Select VOCs
WILC-MW0054D	40 to 45		X	Select VOCs
WILC-MW0055D	40 to 45		X	Select VOCs
WILC-MW0057D	40 to 45		X	
WILC-MW0070	40 to 45		X	Select VOCs
WILC-MW0079	40 to 45		X	Select VOCs
WILC-MW0118	40 to 45		X	Select VOCs
WILC-MW0141	34 to 44		X	
WILC-MW0145	38 to 48		X	
WILC-MW0147	38 to 48		X	
LTM5	35 to 45	X	X	Select VOCs
LTM6	35 to 45	X	X	Select VOCs
LTM7	42 to 52	X	X	Select VOCs
Greater than 48 feet bls				
WILC-MW0078	65 to 70		X	Select VOCs
WILC-MW0130	56 to 66		X	Select VOCs
LTM8	70 to 80	X	X	Select VOCs

Notes:
bls = below land surface
ID = Identification
LTM = Long-term monitoring
MW = Monitoring Well
NASA = National Aeronautics and Space Administration
NPSH = National Park Service Headquarters
Select VOCs = 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, Freon 113, tetrachloroethene, trichloroethene, and vinyl chloride
SWMU = Solid Waste Management Unit
VOC = Volatile Organic Compound
WILC = Wilson Corners
* indicates that monitoring well could not be sampled in 2021
Blank cells indicate that the well is not included for that event or activity.
Proposed wells LTM1 through LTM10 were not installed at the time of sampling in 2021. Proposed wells will be installed in 2022/2023 to coincide with the AS System Installation activities



Legend

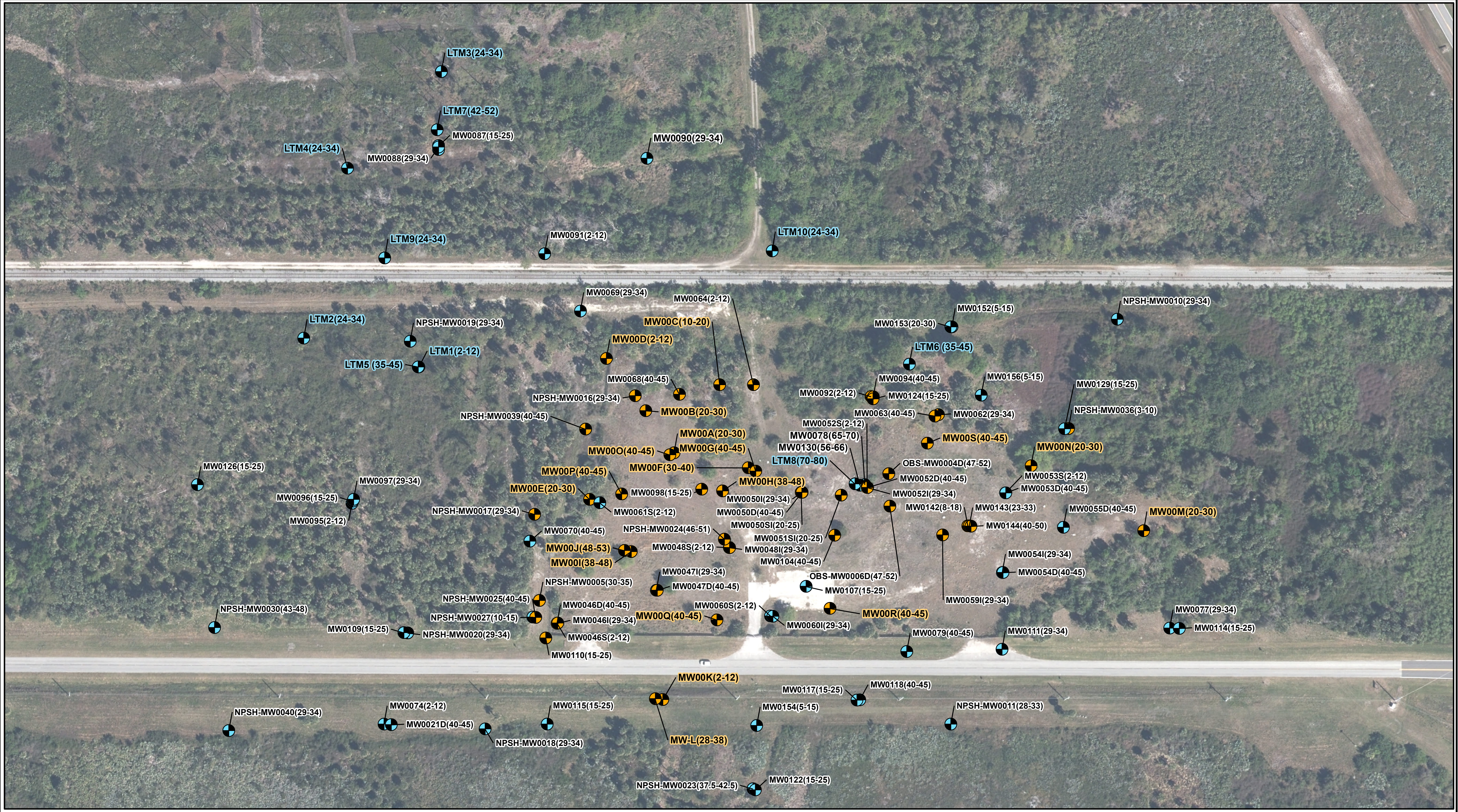
● Monitoring Well

Notes:
1. MW = Monitoring Well
2. NPSH = National Park Service Headquarters
3. SWMU = Solid Waste Management Unit
4. Aerial Source: Florida Department of Transportation (FDOT) 2018

Figure 2-1
Current Site Layout

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Document Path: P:\DCS\Projects\ENV\NASA\IDIQ 80KSC019D0010\900-CAD-GIS\920-929 (GIS-Graphics)\Projects\Wilson_Corners\ArcGIS_mxd\May_2021\F2-1_WILC_CURRENT_SITE_LAYOUT.mxd



Legend

- LTM Well Location
- Performance Monitoring Well Location

Proposed Long Term Monitoring Well Location 2022 (For installation)

Proposed Performance Monitoring Well Location 2022 (To include in Performance Monitoring Plan)

Notes:
1. MW = Monitoring Well
2. NPSH = National Park Service Headquarters
3. SWMU = Solid Waste Management Unit
4. Aerial Source: Florida Department of Transportation (FDOT) 2018

FIGURE 2-2
Sampling Plan Monitoring Well Network

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

3. SAMPLING RESULTS

3.1 OVERVIEW

This section presents the results of the 2021 LTM activities. The goals of the 2021 LTM activities were to determine groundwater flow characteristics, monitor the downgradient concentration trends, and monitor select locations internal to the groundwater plume.

3.2 SUMMARY OF SITE LITHOLOGY

A general summary of the site lithology is provided below:

- 2 to 15 feet bls: consists of fine sand and organic hardpan (where present);
- 15 to 34 feet bls: consists of fine sand with fragmented shells transitioning to shell hash;
- 34 to 48 feet bls: consists of shell hash transitioning to silty fine sand with interbedded layers of fine sandy clay and clayey fine sand; and
- Greater than 48 feet bls: consists of silty fine sand with interbedded layers of fine sandy clay and clayey sand transitioning to silty sand with fragmented shell.

These intervals are utilized for developing the groundwater flow maps and for presenting the groundwater VOC impacts at the site.

3.3 GROUNDWATER ELEVATIONS, FLOW DIRECTION, AND GRADIENT

In 2021, groundwater flow for the site was generally to the west, with the individual zones only varying by occasional northerly and southerly components. This is generally consistent with historical observations at the site. Groundwater level measurements were recorded from site wells prior to sampling and are summarized in **Table 3-1**. Groundwater contour maps for December 2021, representing the different zones for each event, are provided on **Figures 3-1** through **3-4**.

Groundwater flow direction for each zone in 2021 is listed below.

- 2 to 15 feet bls (**Figure 3-1**): Depth to water ranged from 1.38 to 6.30 feet bls with an average depth to groundwater of 4.22 feet bls. Groundwater elevations indicate a west flow direction and a horizontal gradient of 0.0008 feet elevation per foot distance (ft/ft) from monitoring well WILC- MW0060S to WILC-MW0095.
- 15 to 34 feet bls (**Figure 3-2**): Depth to water ranged from 1.38 to 8.22 feet bls with an average depth to groundwater of 5.03 feet bls. Groundwater elevations indicated a west-northwest flow direction and a horizontal gradient of 0.0003 ft/ft from monitoring well WILC-MW0153 to WILC-NPSH-MW0019.

- 34 to 48 feet bls (**Figure 3-3**): Depth to water ranged from 3.36 to 5.91 feet bls with an average depth to groundwater of 4.91 feet bls. Groundwater elevations indicate a southwest and southeast flow component radially around MW0070 and MW0046D, and a horizontal gradient of 0.0006 ft/ft from monitoring well WILC-MW0054D to WILC-MW0046D.

- Greater than 48 feet bls (**Figure 3-4**) – Only two wells were gauged. Depth to water ranged from 5.10 to 5.87 feet bls with an average depth to groundwater of 5.49 feet bls. Historical groundwater flow was to the northwest.

Vertical gradients were calculated at several well pairs across the site; WILC-MW0054I/ WILC-MW0054D, WILC-MW0095/ WILC-MW0097, and WILC-MW0074/ WILC-MW0021D. The vertical gradients ranged from 0.002 to 0.007 ft/ft downward. The low and variable vertical gradients do not indicate a strong vertical flow component at the site.

3.4 MONITORING WELL ANALYTICAL RESULTS

Groundwater sampling results for the December 2021 sampling event indicated that site COCs were detected above GCTLs in 23 monitoring wells and above NADCs in 2 monitoring wells. Groundwater analytical results are summarized in **Table 3-2**. Laboratory analytical reports are provided in **Appendix C**. Data were uploaded to the Remediation Information System (RIS) upon receipt. The RIS completion ticket is provided in **Appendix D**.

COC results, including the total TCE equivalents, dating from 2015 through 2021, were analyzed in select monitoring wells using the GSI Mann-Kendall Toolkit (Mann-Kendall 2003). The following criteria were used when choosing which monitoring wells to analyze: minimum of four data points, minimum of 50 percent (%) detection frequency, and concentrations historically greater than GCTLs.

There were 15 monitoring wells analyzed (WILC-NPSH-MW0019, WILC-NPSH-MW0020, WILC-NPSH-MW0027, WILC-MW0046D, WILC-MW0078, WILC-MW0088, WILC-MW0090, WILC-MW0096, WILC-MW0097, WILC-MW0109, WILC-MW011, WILC-MW0118, WILC-MW0129, WILC-MW0130, and WILC-NPSH-MW0152). Of the 15 wells, four wells showed a decreasing or probably decreasing trend, four wells showed a stable trend, six wells showed no trend, and one well showed a probably increasing trend. Trend charts showing cDCE, TCE, VC, and total TCE equivalent concentrations as a function of time and the GSI Mann-Kendall Toolkit Calculation Sheets are provided in **Appendix E**. Laboratory analytical results are further discussed by depth interval below.

3.4.1 2 to 15 Feet bls.

A summary of TCE, cDCE, and VC concentrations for groundwater in the 2 to 15 feet bls interval is presented on **Figure 3-5**. The overall VOC GCTL and NADC contours are also presented on **Figure 3-5**, which consider the results from the most recent and historical groundwater sampling, including the October 2020 and April 2021 DPT sampling results.

Under the 2021 LTM Plan, samples were collected from 10 monitoring wells in the 2 to 15 feet bls interval. Monitoring well WILC-MW0156 could not be located at the time of sampling.

Samples collected from all monitoring wells had VOC concentrations below the GCTL with the exception of the following:

- GCTL exceedances in monitoring wells WILC-MW0152 (TCE, cDCE, VC) and WILC-NPSH-MW0027 (cDCE, VC); and
- NADC exceedances in monitoring wells WILC-MW0152 (TCE and cDCE) and WILC-NPSH-MW0027 (VC).

Sampling results indicate that the 2021 concentrations of VC and cDCE in monitoring well WILC-NPSH-MW0027, located to the southwest of the LCP, are similar to previous sampling events. Results from the 2021 sampling event indicate an increase of TCE, cDCE, and VC in monitoring well WILC-MW0152, located to the northeast of the LCP, since the previous sampling events in 2019 and 2020. The overall LCP footprint remains consistent from the previous footprint in 2020, with the exception of a GCTL retraction located near southern monitoring well WILC-MW0048S.

The Mann-Kendall statistical analysis was used to analyze the data for two monitoring wells in the 2 to 15 feet bls depth interval. Monitoring wells WILC-NPSH-MW0027 and WILC-MW0152 exhibit no trend.

3.4.2 15 to 34 feet bls.

A summary of TCE, cDCE, and VC concentrations for groundwater in the 15 to 34 feet bls interval is presented on **Figure 3-6**. The overall VOC GCTL and NADC contours are also presented on **Figure 3-6**, which consider the results from the most recent sampling and historical groundwater sampling, including the October 2020 and April 2021 DPT sampling results. Under the 2021 LTM Plan, samples were collected from 23 monitoring wells in the 15 to 34 feet bls interval. Monitoring wells WILC-NPSH-MW0018 and WILC-MW0040 could not be located at the time of sampling, and WILC-MW0047I could not be sampled due to an active beehive located under the stick-up cap.

Samples collected from 8 monitoring wells screened within this interval had VOC sampling results below the GCTL. The remaining 15 monitoring wells had VOC concentrations greater than the GCTL, as summarized below:

- TCE exceedances in east monitoring wells WILC-MW0129 and WILC-MW0054I
- VC exceedances in WILC-NPSH-MW0019, WILC-MW0054I, WILC-MW0060I, WILC-MW0069, WILC-MW0087, WILC-MW0088, WILC-MW0090, WILC-MW0096, WILC-

MW0097, WILC-MW0107, WILC-MW0109, WILC-MW0111, WILC-MW0117, WILC-MW0126, WILC-MW0129

Sampling results indicate that the 2021 concentrations of VC remain consistent with previous sampling events. Monitoring well WILC-NPSH-MW0020, located to the southwest of the LCP, had the VC concentration decrease below the GCTL since the last sampling event in 2020. Monitoring well WILC-MW0129, located in the eastern footprint of the LCP, had cDCE decrease below the GCTL for the first time since 2010. The overall LCP footprint indicates a western migration, but remains consistent from the previous footprint in 2020 for the north, east and southern points.

The Mann-Kendall statistical analysis was used to analyze data for nine monitoring wells in the 15 to 34 feet bls depth interval. Monitoring well WILC-NPSH-MW0019, located west of the LCP, exhibits an increasing trend. Eastern monitoring well WILC-MW0129 and southwest monitoring wells WILC-MW0096 and WILC-MW0109 exhibit a stable trend. One well, northern monitoring well WILC-MW0090, exhibits a decreasing trend. The remaining four monitoring wells, WILC-NPSH-MW0020, WILC-MW0088, WILC-MW0097, and WILC-MW0111, exhibit no trend.

3.4.3 34 to 48 feet bls.

A summary of TCE, cDCE, and VC concentrations for groundwater in the 34 to 48 feet bls interval is presented on **Figure 3-7**. The overall VOC GCTL and NADC contours are also presented on **Figure 3-7**, which consider the results from the most recent sampling historical groundwater sampling, including the October 2020 and April 2021 DPT sampling results. Under the 2021 LTM Plan, samples were collected from 9 monitoring wells in the 34 to 48 feet bls interval. One monitoring well, WILC-NPSH-MW0023, could not be located at the time of sampling.

Samples collected from all monitoring wells screened within this interval had VOC sampling results below the GCTL, with the exception of VC concentrations in southwest monitoring well WILC-MW0046D and east monitoring wells WILC-MW0053D, WILC-MW0054D, and WILC-MW0055D.

Sampling results indicate that the 2021 concentrations of VC remain consistent with previous sampling events. Monitoring well WILC-MW0046D, located towards the southwest of the LCP, had a slight rebound of VC, exceeding the GCTL since the last sampling event in 2020, but a lower concentration than the pre-2020 sampling results. Monitoring well WILC-MW0118, located in the southern footprint of the LCP, had VC decrease to just below the GCTL for the first time since 2018. The overall LCP footprint remains consistent from the previous footprint in 2020, with the exception of a southeast retraction near monitoring wells WILC-MW0079 and WILC-MW0118.

The Mann-Kendall statistical analysis was used to analyze data for two monitoring wells in the 34 to 48 feet bls depth interval. The analyses indicate that equivalent TCE concentrations were

decreasing in southwest monitoring well WILC-MW0046D and stable in southeast monitoring well WILC-MW0118.

3.4.4 Greater than 48 feet bls.

A summary of TCE, cDCE, and VC concentrations for groundwater in the greater than 48 feet bls interval is presented on **Figure 3-8**. The overall VOC GCTL contours are also presented on **Figure 3-8**, which consider the results from the most recent and historical groundwater sampling, including the October 2020 and April 2021 DPT sampling results. Samples were collected from 2 monitoring wells under the 2021 LTM Plan.

Samples collected from both monitoring wells screened within this interval, WILC-MW0078, and WILC-MW0130, had VC concentrations above the GCTL. Both monitoring wells are centrally located in the LCP footprint.

Sampling results indicate that the 2021 concentrations of VC had a slight increase in monitoring well WILC-MW0130 since the last sampling events in 2019 and 2020, but remained below the historical NADC exceedances pre-2019. Monitoring well WILC-MW0078 indicates the VC concentration is decreasing in this well since previous sampling events. The overall LCP footprint remains consistent from the previous footprint in 2020.

The Mann-Kendall statistical analysis was used to analyze the data for two monitoring wells in the greater than 48 feet bls depth interval. The analyses indicate that equivalent TCE concentrations were probably decreasing and decreasing in monitoring wells WILC-MW0078 and WILC-MW0130, respectively.

3.4.5 Freon 113

Freon 113 is also known as 1,1,2-trichlorotrifluoroethane, and concentrations were historically highest in the Former Hot Spot 1 Area of the Site. Of the 44 monitoring wells analyzed for Freon 113, concentrations were below the GCTL of 210,000 micrograms per liter (µg/L) in all monitoring wells. Two monitoring wells (WILC-MW0129 and WILC-MW0055D) had detections of Freon 113 above the laboratory method detection limits. The highest detection was in monitoring well WILC-MW0129, located north of the Hot Spot 1 area, at 290 µg/L.

3.5 NATURAL ATTENUATION EVALUATION

The current remediation strategy for the overall dissolved plume at the site is natural attenuation with LTM, while supplemental assessment and remedial actions (as IMs) are being completed for the Hot Spot areas. During previous LTM events, an evaluation of site geochemical data has been performed in order to evaluate natural attenuation at the site. The historical field geochemical data (potential of hydrogen [pH], conductivity, temperature, dissolved oxygen [DO], oxidation-reduction potential [ORP], and turbidity) and laboratory measured geochemical

parameters (methane, ethane, and ethene) have consistently supported natural attenuation at the site since 2005. Geochemical data from 2015 through 2021 are summarized in **Table 3-3**.

The pH values observed at the site have generally been neutral and remain within the desired range of 6 to 8.5 standard units for reductive dechlorination of chlorinated solvents. ORP values of most monitoring wells sampled are consistently negative, with most of the readings falling below -100 millivolts which is typically indicative of a reducing environment suitable for reductive dechlorination of chlorinated solvents. Lastly, dissolved oxygen (DO) values are consistently below 0.5 milligrams per liter, indicating an anaerobic environment suitable for reductive dechlorination.

Table 3-1
Groundwater Elevation Data
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	TOC Elevation (feet msl)	September 21, 2018		December 15, 2019		December 2, 2020		December 13, 2021	
			Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)
2 to 15 feet bls										
WILC-NPSH-MW0027	10 to 15	4.93	3.66	1.27	2.31	2.62	2.31	2.62	2.82	2.11
WILC-NPSH-MW0036	3 to 10	7.48	5.51	1.97	-	-	3.10	4.38	-	-
WILC-MW0048S	2 to 12	8.44	-	-	-	-	-	-	-	-
WILC-MW0053S	2 to 12	8.46	-	-	-	-	-	-	5.78	2.68
WILC-MW0060S	2 to 12	8.76	-	-	-	-	-	-	6.07	2.69
WILC-MW0061S	2 to 12	7.77	-	-	-	-	-	-	6.30	1.47
WILC-MW0064	2 to 12	7.04	5.43	1.61	3.70	3.34	3.58	3.46	-	-
WILC-MW0074	2 to 12	6.48	5.21	1.27	3.85	2.63	5.77	0.71	4.36	2.12
WILC-MW0091	2 to 12	7.09	5.78	1.31	3.75	3.34	4.30	2.79	4.84	2.25
WILC-MW0095	2 to 12	6.22	5.03	1.19	3.56	2.66	5.52	0.70	4.12	2.10
WILC-MW0152	5 to 15	3.87	2.46	1.41	-	-	0.33	3.54	1.38	2.49
WILC-MW0154	10 to 15	4.58	3.10	1.48	1.52	3.06	1.47	3.11	2.28	2.30
WILC-MW0156	5 to 15	5.18	-	-	-	-	1.59	3.59	-	-
15 to 34 feet bls										
WILC-NPSH-MW0010	29 to 34	8.39	6.74	1.65	-	-	4.53	3.86	5.70	2.69
WILC-NPSH-MW0011	28 to 33	8.54	-	-	-	-	-	-	5.94	2.60
WILC-NPSH-MW0017	29 to 34	5.18	3.92	1.26	2.48	2.70	2.41	2.77	-	-
WILC-NPSH-MW0018	29 to 34	NA	-	-	-	-	-	-	-	-
WILC-NPSH-MW0019	29 to 34	5.81	4.57	1.24	3.20	2.61	2.97	2.84	3.52	2.29
WILC-NPSH-MW0020	29 to 34	6.88	5.62	1.26	4.32	2.56	4.30	2.58	4.82	2.06
WILC-NPSH-MW0022	29 to 34	5.29	4.20	1.09	2.89	2.40	2.68	2.61	-	-
WILC-MW0040	29 to 34	NA	-	-	-	-	-	-	-	-
WILC-MW0047I	29 to 34	NA	-	-	-	-	-	-	-	-
WILC-MW0054I	29 to 34	8.61	-	-	-	-	-	-	5.98	2.63
WILC-MW0060I	29 to 34	8.36	-	-	-	-	-	-	5.95	2.41
WILC-MW0062	29 to 34	7.04	5.51	1.53	3.71	3.33	3.57	3.47	-	-
WILC-MW0065	29 to 34	7.39	5.95	1.44	4.21	3.18	4.09	3.30	-	-
WILC-MW0069	29 to 34	7.18	-	-	-	-	-	-	2.41	4.77
WILC-MW0077	29 to 34	8.39	-	-	-	-	-	-	5.62	2.77
WILC-MW0080	29 to 34	4.86	3.43	1.43	1.59	3.27	1.51	3.35	-	-
WILC-MW0087	15 to 25	8.24	7.12	1.12	-	-	5.41	2.83	6.15	2.09
WILC-MW0088	29 to 34	8.29	7.18	1.11	-	-	5.47	2.82	6.21	2.08
WILC-MW0089	15 to 25	8.26	6.91	1.35	5.11	3.15	5.01	3.25	-	-
WILC-MW0090	29 to 34	8.01	6.69	1.32	4.89	3.12	4.78	3.23	5.60	2.41
WILC-MW0096	15 to 25	6.32	5.14	1.18	3.72	2.60	5.66	0.66	4.28	2.04
WILC-MW0097	29 to 34	6.33	5.14	1.19	3.71	2.62	5.66	0.67	4.27	2.06

Table 3-1
Groundwater Elevation Data
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	TOC Elevation (feet msl)	September 21, 2018		December 15, 2019		December 2, 2020		December 13, 2021	
			Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)
WILC-MW0106	15 to 25	8.79	7.12	1.67	5.45	3.34	5.22	3.57	-	-
WILC-MW0107	15 to 25	5.91	-	-	-	-	-	-	3.42	2.49
WILC-MW0109	15 to 25	7.12	5.85	1.27	4.55	2.57	4.49	2.63	5.02	2.10
WILC-MW0111	29 to 34	5.67	3.91	1.76	2.28	3.39	2.08	3.59	3.00	2.67
WILC-MW0114	15 to 25	9.58	-	-	-	-	-	-	6.86	2.72
WILC-MW0115	15 to 25	7.17	-	-	-	-	-	-	4.98	2.19
WILC-MW0116	15 to 25	7.73	6.22	1.51	4.65	3.08	4.52	3.21	-	-
WILC-MW0117	15 to 25	8.31	-	-	-	-	-	-	5.82	2.49
WILC-MW0122	15 to 25	7.00	-	-	-	-	-	-	4.62	2.38
WILC-MW0125	15 to 25	7.06	5.93	1.13	4.61	2.45	4.51	2.55	-	-
WILC-MW0126	15 to 25	7.99	-	-	-	-	-	-	6.03	1.96
WILC-MW0129	15 to 25	10.90	9.20	1.70	-	-	7.22	3.68	8.22	2.68
WILC-MW0140	23 to 33	9.27	7.69	1.58	6.03	3.24	5.86	3.41	-	-
WILC-MW0142	8 to 18	9.56	7.87	1.69	6.31	3.25	6.11	3.45	-	-
WILC-MW0143	23 to 33	9.44	7.75	1.69	6.21	3.23	5.99	3.45	-	-
WILC-MW0146	23 to 33	9.24	7.55	1.69	5.83	3.41	6.02	3.22	-	-
WILC-MW0149	20 to 30	4.36	3.61	0.75	-	-	2.00	2.36	-	-
WILC-MW0150	20 to 30	4.18	3.35	0.83	-	-	2.78	1.40	-	-
WILC-MW0151	20 to 30	4.50	3.35	1.15	-	-	1.88	2.62	-	-
WILC-MW0153	20 to 30	3.88	2.46	1.42	-	-	0.34	3.54	1.38	2.50
WILC-MW0155	29 to 34	4.57	3.09	1.48	1.52	3.05	1.41	3.16	-	-
34 to 48 feet bls										
WILC-NPSH-MW0023	37.5 to 42.5	NA	-	-	-	-	-	-	-	-
WILC-NPSH-MW0030	43 to 48	6.48	-	-	-	-	-	-	3.36	3.12
WILC-NPSH-MW0039	40 to 45	4.77	3.43	1.34	2.85	1.92	1.81	2.96	-	-
WILC-MW0021D	40 to 45	5.89	-	-	-	-	-	-	3.87	2.02
WILC-MW0046D	40 to 45	7.15	5.82	1.33	4.44	2.71	4.50	2.65	4.95	2.20
WILC-MW0053D	40 to 45	8.37	-	-	-	-	-	-	5.88	2.49
WILC-MW0054D	40 to 45	8.17	-	-	-	-	-	-	5.60	2.57
WILC-MW0055D	40 to 45	7.76	-	-	-	-	-	-	5.00	2.76
WILC-MW0068	40 to 45	7.38	5.97	1.41	3.29	4.09	4.27	3.11	-	-
WILC-MW0070	40 to 45	6.86	-	-	-	-	-	-	4.71	2.15
WILC-MW0079	40 to 45	5.48	-	-	-	-	-	-	-	-
WILC-MW0118	40 to 45	8.43	6.84	1.59	5.17	3.26	5.19	3.24	5.91	2.52
WILC-MW0141	34 to 44	9.43	7.83	1.60	6.13	3.30	6.20	3.23	-	-
WILC-MW0144	40 to 50	9.49	7.81	1.68	6.23	3.26	6.04	3.45	-	-
WILC-MW0145	38 to 48	9.04	7.33	1.71	5.67	3.37	5.59	3.45	-	-
WILC-MW0147	38 to 48	9.22	7.55	1.67	5.84	3.38	5.65	3.57	-	-
WILC-MW0148	38 to 48	9.01	7.29	1.72	5.73	3.28	5.51	3.50	-	-

Table 3-1
Groundwater Elevation Data
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	TOC Elevation (feet msl)	September 21, 2018		December 15, 2019		December 2, 2020		December 13, 2021	
			Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)	Water Level (feet BTOC)	Water Elevation (feet msl)
Greater than 48 feet bls										
WILC-MW0078	65 to 70	8.48	6.75	1.73	5.40	3.08	5.06	3.42	5.87	2.61
WILC-MW0130	56 to 66	7.66	5.98	1.68	4.58	3.08	4.35	3.31	5.10	2.56

Notes:
bls = below land surface
BTOC = below top of casing
feet msl = feet above mean sea level
ID = Identification
msl = mean sea level
MW = Monitoring Well
NASA = National Aeronautics and Space Administration
NPSH = National Park Service Headquarters
SWMU = Solid Waste Management Unit
TOC = Top of Casing
WILC = Wilson Corners
Blank cells indicate that the well is not included for that event or activity.

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Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-OBS-MW0001D	44 to 49	7/25/2005	0 U	0 U	0 U		0 U	3700	
		7/14/2014	15 U	240	15 U	12 U	11 U	2100	50 U
WILC-OBS-MW0002D	44 to 49	7/25/2005	0 U	4400	0 U		0 U	2400	
		7/14/2014	0.3 U	1.7	5.7	0.23 U	0.19 U	83.3	1 U
WILC-OBS-MW0004D	47 to 52	5/18/2005	10000 U	16600	10000 U		1310000	10000 U	
		12/18/2006	20000 U	13500 I	20000 U	20000 U	800000	20000 U	
		6/12/2007	1000 U	30500	1000 U	1000 U	664000	11800	
		7/22/2008	2700 U	48000	3300 U	3600 U	390000	8500 I	
		7/20/2009	240 I	43000	240 I	500 U	96000	6800	
		12/7/2009	1340	191000	647	44 U	294000	18800	
		9/8/2010	664 I	77600	468 I	110 U	175000	28300	
		9/8/2010	623 I	148000	347 I	110 U	141000	21200	
		3/16/2011	725	164000	375 I	110 U	221000	17500	
		9/19/2011	800 U	200000	950 U	1100 U	309000	17300	
		9/6/2012	160 U	54400	470 I	220 U	156000	6610	
		3/4/2016	2400	350000	800 I	440 U	230000	75000	280 U
WILC-OBS-MW0005D	47 to 52	7/25/2005	0 U	53600	0 U		310000	0 U	
		9/30/2014	260 I	54000	460 I	180 U	62000	22000	38000
		2/29/2016	270 I	89000	410 I	220 U	50000	30000	9400
WILC-NPSH-MW0005	30 to 35	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		9/17/2009	15 I	720	13 I	20 U	50	2100	
		9/13/2010	16 QU	1960 Q	12 QU	11 QU	60 IQ	3300 Q	
		3/17/2011	10.4	4050	19.8	0.22 U	115	4570	
		9/19/2011	16 U	3720	19 U	22 U	66 I	4990	
		9/6/2012	8 U	2140	13.5 I	11 U	18 U	6090	
		10/20/2020	1 U	40	7		1 U	170	1 U
WILC-NPSH-MW0007	9.5 to 14.5	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0008	20 to 35	5/19/2005	1.51	631	8.62		716	618	
		7/25/2005	0 U	1000	0 U		870	810	
		12/19/2006	20 U	1350	14.3 I	20 U	20 U	1390	
		6/12/2007	20 U	76	20 U	20 U	55.9	549	
		7/23/2008	1 U	1 U	2.6	1 U	1 U	5.3	
		7/22/2009	2 U	1.3 I	2.3	2 U	1.4 I	2.2	
		12/8/2009	0.54 U	0.2 U	3.4	0.22 U	0.32 U	0.67 I	
WILC-NPSH-MW0009	29 to 34	10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0010	29 to 34	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0011	28 to 33	5/18/2005	1 U	4.94	1 U		1 U	1 U	
		12/19/2006	1 U	0.75 I	1 U	1 U	1 U	56.6	
		8/1/2008	0.39 U	0.32 I	0.32 U	0.16 U	0.23 U	0.96	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0013	29 to 34	7/28/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0015	29 to 34	5/18/2005	4.65	346	5.67		120	64.9	
		7/23/2009	5 U	160	5 U	5 U	13	130	
		12/16/2015	0.16 U	2.5 V	1.1	0.22 U	0.36 U	3.6	
WILC-NPSH-MW0016	29 to 34	7/27/2005	0 U	560	0 U		13	160	
		8/12/2009	1.6 I	530	9	5 U	10	1200	
		9/8/2010	1.6 U	325	2.76 I	1.1 U	2.48 I	821	
		3/16/2011	0.16 U	175	6.25	0.22 U	3	1050	
		9/20/2011	1.6 U	278	3.5 I	2.2 U	3.6 U	1130	
		9/6/2012	3.31	712	11.9	0.22 U	2.93	3660	
		12/23/2013	1.6 U	110	5.1 I	2.2 U	3.6 U	790	
		12/18/2014	3.7 I	550	16	1.1 U	2.3 I	5100	
		12/15/2015	1.6 U	98	5.7 I	2.2 U	3.6 U	800	
		12/21/2016	0.18 U	120	8.2	0.36 U	0.29 U	570	2.2 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-NPSH-MW0017	29 to 34	7/27/2005	0 U	**4**	0 U		**1**	0 U	
		8/12/2009	1 U	**5.1**	**6.5**	1 U	**1.3**	**36.6**	
		12/23/2013	8 U	**72**	**14 I**	11 U	18 U	**4500**	
		12/18/2014	8 U	**110**	9.5 U	11 U	18 U	**6000**	
		12/15/2015	8 U	**320**	**15 I**	11 U	18 U	**4000**	
		12/21/2016	**39**	**45**	**11**	0.36 U	**1.5**	**320**	2.2 U
		12/26/2017	1.8 U	**9.2 I**	2 U	3.6 U	2.9 U	**99**	22 U
		10/9/2018	1.8 U	**7.7 I**	**4.9 I**	3.6 U	2.9 U	**44**	22 U
		12/19/2019	0.32 U	**16.4**	**6.9**	0.22 U	**1.2**	**53.1**	0.48 U
		12/8/2020	0.32 U	**12.9**	**3.3**	0.22 U	**2.3**	**52**	0.48 U
WILC-NPSH-MW0018	29 to 34	5/19/2005	1 U	1 U	1 U		1 U	1 U	
		7/23/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0019	29 to 34	6/12/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.39 U	0.14 U	0.32 U	0.16 U	0.23 U	0.21 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	**0.759 I**	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	**0.30 I**	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	**0.91 I**	**0.68 I**	0.22 U	0.36 U	**8.7**	
		12/15/2015	0.16 U	0.36 U	**0.66 I**	0.22 U	0.36 U	**0.96 I**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**0.86 I**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	**0.63 I**	**1.5**	0.22 U	0.35 U	**2.2**	0.48 U
		12/4/2020	0.27 U	**1.0**	**1.6**	0.30 U	0.31 U	**3.0**	0.35 U
		12/17/2021	0.94 U	**1.5**	**2.9**	0.76 U	0.89 U	**3.4**	0.73 U
WILC-NPSH-MW0020	29 to 34	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	**0.88 I**	
		8/1/2008	0.39 U	**0.61 I**	0.32 U	0.16 U	0.23 U	**1.1**	
		7/22/2009	1 U	**8.7**	1 U	1 U	1 U	**2.4**	
		9/15/2010	0.16 U	**89.5**	**0.66 I**	0.11 U	0.16 U	**79.7**	
		9/19/2011	0.32 U	**24.3**	**0.70 I**	0.44 U	0.72 U	**180**	
		9/5/2012	0.16 U	**4.8**	**0.21 I**	0.22 U	0.36 U	**45.1**	
		12/23/2013	0.16 U	**2**	**1.1**	0.22 U	0.36 U	**28**	
		12/18/2014	0.16 U	**0.63 I**	**1**	0.22 U	0.36 U	**2**	
		12/15/2015	0.16 U	**2.1**	**2**	0.22 U	0.36 U	**7.6**	
		12/21/2016	0.18 U	**1.3**	0.2 U	0.36 U	0.29 U	**3.5**	2.2 U
		12/26/2017	0.18 U	**11**	**3.3**	0.36 U	0.29 U	**39**	2.2 U
		10/8/2018	0.18 U	**6**	**0.89 I**	0.36 U	0.29 U	**6.5**	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.29 I**	0.22 U	0.35 U	**0.53 I**	0.48 U
		12/4/2020	0.27 U	**1.7**	**1.6**	0.30 U	0.31 U	**3.1**	0.35 U
		12/14/2021	0.94 U	**0.65 I**	0.73 U	0.76 U	0.89 U	**0.82 I**	0.73 U
WILC-MW0021D	40 to 45	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0021	29 to 34	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0022	29 to 34	8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.64 U	1.44 U	0.48 U	0.44 U	0.64 U	0.88 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/26/2017	0.18 U	**1.1**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
WILC-NPSH-MW0023	37.5 to 42.5	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		8/1/2008	0.54 U	**3**	0.45 U	0.22 U	0.32 U	**0.70 I**	
		7/21/2009	1 U	**3.8**	1 U	1 U	1 U	**1.3**	
		9/15/2010	0.16 U	**0.49 I**	0.12 U	0.11 U	0.16 U	**0.78 I**	
		9/19/2011	0.16 U	**1.63**	0.19 U	0.22 U	0.36 U	**3.37**	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-NPSH-MW0024	46 to 51	7/25/2005	0 U	2800	0 U		0 U	0 U	
		12/20/2006	2 U	76.7	1 I	2 U	2 U	189	
		7/21/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	80 U	200 I	1490	55 U	80 U	884	
WILC-NPSH-MW0025	40 to 45	12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	1.84	0.19 U	0.22 U	0.36 U	4.02	
		9/5/2012	0.16 U	1.51	0.19 U	0.22 U	0.36 U	3.16	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/19/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.37 I	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	1.1	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-NPSH-MW0027	10 to 15	7/27/2005	0 U	600	0 U		26	390	
		12/20/2006	100 U	4090	100 U	100 U	100 U	932	
		6/13/2007	50 U	2290	50 U	50 U	50 U	498	
		7/31/2008	5.4 U	2290	10	2.2 U	6.3 I	741	
		7/22/2009	5 U	140	12	5 U	13	490	
		12/8/2009	1.1 U	90.8	13.2	0.44 U	3.4	940	
		9/13/2010	16 U	4350	35.7 I	11 U	74.4 I	5070	
		3/17/2011	0.8 U	284	13.9	1.1 U	211	3400	
		9/20/2011	3.2 U	992	8.2 I	4.4 U	7.2 U	3730	
		9/6/2012	3.2 U	1840	13.2 I	4.4 U	7.2 U	3820	
		12/23/2013	0.64 U	46	3 I	0.88 U	1.5 U	480	
		12/18/2014	3.2 U	880	13 I	4.4 U	7.2 U	3000	
		12/15/2015	1.6 U	62	2.9 I	2.2 U	3.6 U	810	
		12/21/2016	0.18 U	38	5.3	0.36 U	0.29 U	240	2.2 U
		12/26/2017	0.54 U	20	2.8 I	1.1 U,J4	0.87 U	120 J4	6.4 U
		10/9/2018	0.54 U	38	2.6 I	1.1 U	0.87 U	150	6.4 U
		12/19/2019	1.6 U	351	3.2 I	1.1 U	1.7 U	696 Q	2.4 U
		12/8/2020	1.6 U	356	3.4 I	1.1 U	1.7 U	824	2.4 U
		12/14/2021	9.4 U	480	7.3 U	7.6 U	8.9 U	580	7.3 U
WILC-NPSH-MW0030	43 to 48	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0031	10 to 15	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-NPSH-	66.5 to 71.5	7/27/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0035	39 to 44	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0036	3 to 10	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		8/12/2009	5 U	5 U	5 U	5 U	5 U	5 U	
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	4.5 I
WILC-NPSH-	3 to 10	7/27/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0038	30 to 35	7/27/2005	0 U	160	0 U		0 U	700	
		8/12/2009	1 U	31.8	3	1 U	1.1	110	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-NPSH-MW0039	40 to 45	12/19/2006	1 U	1 U	1 U	1 U	1 U	**1.2**	
		6/12/2007	1 U	1 U	**0.52 I**	1 U	1 U	**0.82 I**	
		7/31/2008	0.54 U	**0.58 I**	**0.73 I**	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	**0.45 I**	**1**	0.22 U	0.32 U	**1**	
		9/15/2010	0.16 U	**14.4**	**1.28**	0.11 U	0.16 U	**20.5**	
		3/16/2011	0.16 U	**1.55**	**2.76**	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	**1.33**	**3.42**	0.22 U	0.36 U	**1.86**	
		9/5/2012	0.16 U	**0.89 I**	**2.15**	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	**0.75 I**	**0.82 I**	0.22 U	0.36 U	**0.58 I**	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.74 I**	
		12/15/2015	0.16 U	**0.80 I**	**1.1**	0.22 U	0.36 U	**15**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	**1.1**	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**0.26 I**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/3/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
WILC-NPSH-MW0040	29 to 34	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-MW0046D	40 to 45	7/27/2005	0 U	0 U	0 U		0 U	**41**	
		12/26/2017	0.54 U	0.72 U	0.6 U	1.1 U	0.87 U	**27**	6.4 U
		10/8/2018	0.54 U	**9.9**	**0.78 I**	1.1 U	0.87 U	**11**	6.4 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**3.5**	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**0.89 I**	0.48 U
		12/15/2021	0.94 U	**0.61 I**	0.73 U	0.76 U	0.89 U	**1.6**	0.73 U
WILC-MW0046I	29 to 34	5/20/2005	1 U	**1570**	**7.9**		**98.7**	**295**	
		8/12/2009	**33 I**	**2900**	100 U	100 U	**230**	**2600**	
WILC-MW0046S	2 to 12	5/20/2005	1 U	**542**	**2.5**		**17**	**56.3**	
WILC-MW0047D	40 to 45	7/25/2005	0 U	**20900**	0 U		0 U	**1700**	
		7/25/2005	0 U	**22400**	0 U		0 U	**1800**	
		12/21/2006	500 U	**26400**	500 U	500 U	500 U	**1500**	
		6/12/2007	200 U	**30400**	**129 I**	200 U	200 U	**2090**	
		7/31/2008	27 U	**6350**	23 U	11 U	**20.2 I**	**3270**	
		7/21/2009	100 U	**9700**	100 U	100 U	**470**	**1500**	
		12/8/2009	110 U	**15500**	90 U	44 U	64 U	**2940**	
		9/13/2010	160 U	**25200**	120 U	110 U	160 U	**5690**	
		3/17/2011	**28.9**	**14800**	**31**	0.22 U	**22.4**	**5400**	
		9/20/2011	16 U	**14300**	19 U	22 U	36 U	**6690**	
		9/6/2012	**29 I**	**16000**	**24 I**	22 U	**161**	**6570**	
WILC-MW0047I	29 to 34	7/25/2005	0 U	**3600**	0 U		0 U	**1200**	
		12/20/2006	50 U	**2290**	50 U	50 U	**711**	**2030**	
		6/12/2007	200 U	**1490**	200 U	200 U	**650**	**1830**	
		7/31/2008	11 U	**2390**	**16.1 I**	4.4 U	**557**	**1650**	
		7/22/2009	500 U	**6400**	500 U	500 U	**2100**	**1300**	
		12/8/2009	11 U	**1190**	9 U	4.4 U	**169**	**1740**	
WILC-MW0047S	2 to 12	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
WILC-MW0048I	29 to 34	7/28/2005	0 U	**500**	0 U		**700**	**550**	
		12/20/2006	5 U	**143**	**2.6 I**	5 U	**117**	**1230**	
		6/12/2007	20 U	**1520**	20 U	20 U	**125**	**1840**	
		7/31/2008	**10.4**	**669**	**4.7 I**	2.2 U	**30.9**	**2330**	
		7/22/2009	100 U	**1800**	100 U	100 U	**150**	**890**	
		12/8/2009	54 U	**5590**	45 U	22 U	**33.7 I**	**3650**	
		9/13/2010	8 U	**157**	**12.7 I**	5.5 U	8 U	**5550**	
		3/16/2011	**2.58**	**161**	**13.5**	**0.42 I**	**4.91**	**2360**	
		9/20/2011	3.2 U	**134**	**6.6 I**	4.4 U	7.2 U	**2120**	
		9/5/2012	**0.48 I**	**60.6**	**4.15**	0.22 U	**1.41**	**260**	
WILC-MW0048S	2 to 12	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/15/2021	0.94 U	**2.0**	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0049D	40 to 45	12/21/2006	50 U	1650	50 U	50 U	29.4 I	4170	
		6/12/2007	100 U	1310	100 U	100 U	92 I	2850	
		7/23/2008	22	740	9.2 I	7.2 U	110	2300 L	
		7/20/2009	100 U	310	100 U	100 U	80 I	1600	
		12/8/2009	5.4 U	379	7.5 I	2.2 U	64.9	2380	
		9/8/2010	8 U	711	6 U	5.5 U	76.5	3100	
		9/8/2010	8 U	758	6 U	5.5 U	50.1	2920	
		3/17/2011	1.64	912	8.97	0.22 U	30.4	2590	
		9/20/2011	3.2 U	801	7 I	4.4 U	26.8	3170	
		9/5/2012	4.8 I	1470	11.4 I	4.4 U	493	2700	
		10/27/2016	1.8 U	420	2 U	3.6 U	38	1300	22 U
		3/20/2017	0.18 U	510 I	8.9	0.36 U	820 I	200 U	69000
		5/11/2017	0.18 U	120 U	9.2	0.36 U	560	1600	72000
WILC-MW0049I	29 to 34	12/21/2006	1 U	80.1	0.91 I	1 U	22.3	102	
		7/18/2008	27 U	290	33 U	36 U	100	430	
		7/20/2009	6.1	990	12	5 U	20	1200 L	
		10/27/2016	0.97 I	390	8.4	0.36 U	0.29 U	1900	2.2 U
		3/20/2017	0.18 U	530	7.3	0.36 U	280	190	12000
		5/11/2017	0.18 U	770	9.6	0.36 U	480 I	960	37000
WILC-MW0049S	2 to 12	7/28/2005	0 U	23	0 U		8	190	
		12/20/2006	1 U	14.1	1 U	1 U	7	26.8	
		7/23/2008	1 U	13.5	1 U	1 U	2.3	12.4	
		7/20/2009	1 U	28.8	1 U	1 U	11.9	5.7	
		9/13/2010	0.16 U	8.27	0.727 I	0.11 U	7.68	54.2	
		9/20/2011	0.16 U	28	1.1	0.22 U	9.33	25.2	
		10/27/2016	0.18 U	16	0.2 U	0.36 U	10	0.96 I	2.2 U
		3/20/2017	0.18 U	42	1.6	0.36 U	46	31	2400
		5/11/2017	0.18 U	41	0.2 U	0.36 U	42	29	3200
WILC-MW0050D	40 to 45	7/28/2005	0 U	5	0 U		7	0 U	
		8/12/2009	100 U	4500	100 U	100 U	4600	270	
		9/30/2014	7 U	2800	16 I	7.2 U	770	190	20 U
WILC-MW0050S	2 to 12	7/28/2005	0 U	41	24		8	110	
WILC-MW0052D	40 to 45	9/17/2009	100 U	4100	27 I	100 U	43 I	6900	
		9/8/2010	41.1	32500	29.4	1.1 U	41100	1090	
		3/4/2016	13 U	220	30 I	11 U	17 I	3200	7 U
WILC-MW0052DD	55 to 65	7/22/2008	6	1100	10.4	1 U	420	510	
		9/19/2011	16 U	8800	19 U	22 U	6550	651	
		9/5/2012	41 I	10000	36 I	22 U	4700	983	
		12/19/2014	84	26000	80	11 U	19000	5900	
		12/19/2014	59	21000	51	11 U	15000	3600	
WILC-MW0052I	29 to 34	7/28/2005	0 U	1	0 U		3	0 U	
WILC-MW0052S	2 to 12	7/27/2005	0 U	350	0 U		0 U	590	
		12/21/2006	2000 U	122000	2000 U	2000 U	11000	46100	
		1/15/2007	2000 U	71700	2000 U	2000 U	22200	21300	
		6/13/2007	500 U	46200	500 U	500 U	5650	9580	
		8/1/2008	190 U	15600	160 U	79 U	30200	2000	
		7/22/2009	100 U	2300	100 U	100 U	840	390	
		12/7/2009	11 U	3200	14.4 I	4.4 U	1420	532	
		9/8/2010	30.7 I	6360	12 U	11 U	6500	587	
		9/8/2010	25 I	4460	12 U	11 U	3770	476	
		3/17/2011	6.84	2360	13.1	0.24 I	170	187	
		9/19/2011	8 U	9100	18 I	11 U	126	1310	
		9/5/2012	0.76 I	383	3.96 I	0.88 U	43.1	24.7	
WILC-MW0053D	40 to 45	12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/18/2008	1 U	1 U	1 U	1 U	1 U	2.1	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	0.95 I	0.73 U	0.76 U	0.89 U	7.8	0.73 U
WILC-MW0053I	29 to 34	12/18/2006	1 U	1 U	2.1	1 U	1 U	2.4	
		10/5/2007	1 U	3.7	1.2	1 U	1 U	4.3	
		7/17/2008	1 U	3.3	1 U	1 U	2.6	1.2	
		7/16/2009	1 U	1.8	1 U	1 U	1 U	1.2	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0053S	2 to 12	5/19/2005	1 U	**43.4**	**2.78**		1 U	**39.4**	
		12/21/2006	1 U	**3.2**	**3.8**	1 U	**0.93 I**	**12.4**	
		6/13/2007	1 U	**31.4**	**3.1**	1 U	1 U	**51.1**	
		7/18/2008	1 U	**4.3**	**1**	1 U	1 U	**170**	
		7/16/2009	1 U	**6.9**	1 U	1 U	1 U	**3.1**	
		12/8/2009	0.54 U	**10.8**	**1.1**	0.22 U	**0.42 I**	**8.2**	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0054D	40 to 45	10/5/2007	1 U	**40.2**	1 U	1 U	1 U	**27.3**	
		7/21/2008	1 U	**1.2**	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	**8.1**	**0.74 I**	0.76 U	**1.1**	**10**	0.73 U
WILC-MW0054I	29 to 34	10/4/2007	200 U	**18000**	200 U	200 U	**44000**	**2500**	
		7/21/2008	1 U	**96.2**	1 U	1 U	**19.5**	**21.9**	
		9/15/2010	16 U	**9720**	12 U	11 U	16 U	**2080**	
		12/15/2021	0.94 U	**4.8**	**1.1**	0.76 U	**5.7**	**17**	0.73 U
WILC-MW0054S	2 to 12	5/20/2005	1 U	**52.4**	**23**		1 U	**545**	
		10/4/2007	1 U	**13.6**	1 U	1 U	**7.1**	**1.3**	
		7/21/2008	1 U	**1.2**	**1.4**	1 U	**2.7**	1 U	
WILC-MW0055D	40 to 45	7/28/2005	0 U	**7**	0 U		0 U	**200**	
		12/19/2006	1 U	**13.6**	**1.2**	1 U	**2.2**	**58.2**	
		7/17/2008	1 U	**35.8**	**1.1**	1 U	**4.6**	**51.3**	
		7/17/2009	1 U	**35.3**	**1.1**	1 U	**6.8**	**34.8**	
		9/20/2011	0.16 U	**83.4**	**0.82 I**	0.22 U	0.36 U	**71.3**	
		12/15/2021	0.94 U	**20**	0.73 U	0.76 U	**1.6**	**64**	**12**
WILC-MW0055I	29 to 34	10/4/2007	100 U	**2600**	100 U	100 U	**240**	**1000**	
		9/15/2010	1.6 U	**155**	**10.2**	1.1 U	**5.6 I**	**59.4**	
WILC-MW0055S	2 to 12	5/19/2005	1 U	**3.3**	**0.56 J**		1 U	**1.25**	
		10/4/2007	1 U	**1.8**	1 U	1 U	1 U	**1.7**	
		9/7/2012	0.16 U	**4.21**	0.19 U	0.22 U	**1.1**	0.36 U	
WILC-MW0056S	2 to 12	5/19/2005	1 U	**4280**	**63.7**		1 U	**1410**	
		12/19/2006	10 U	**316**	**12.4**	10 U	10 U	**463**	
		6/13/2007	100 U	**11000**	**128**	100 U	100 U	**6800**	
		10/8/2007	1 U	**1.3**	1 U	1 U	1 U	**6.1**	
		7/31/2008	0.39 U	**29.6**	**1.1**	0.16 U	0.23 U	**62.2**	
		7/22/2009	1 U	**3.5**	**7.8**	1 U	1 U	**95.6**	
		12/8/2009	0.54 U	**7.2**	**13.5**	0.22 U	0.32 U	**101**	
		9/8/2010	0.16 U	**1.16**	0.12 U	0.11 U	0.16 U	**3.12**	
		9/8/2010	3.2 U	**54.6**	**12.3 I**	2.2 U	3.2 U	**630**	
		3/16/2011	**6.23**	**1920**	**73.6**	0.22 U	0.36 U	**1110**	
		9/20/2011	8 U	**6890**	**140**	11 U	**29.5 I**	**760**	
WILC-MW0057D	40 to 45	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		10/8/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/6/2012	**0.37 I**	**77.8**	**0.96 I**	0.22 U	**465**	**5.46**	
		10/25/2012	1 U	1 U	1 U	1 U	1 U	1 U	1 U
		12/15/2015	0.16 U	**0.58 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0057I	29 to 34	7/27/2005	0 U	0 U	0 U	0 U	0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.55 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0057S	2 to 12	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	**1.1**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		3/16/2011	0.16 U	**0.74 I**	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	**0.41 I**	0.19 U	0.22 U	0.36 U	0.36 U	
		9/10/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**1.2 V**	0.19 U	0.22 U	0.36 U	0.36 U	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0059I	29 to 34	12/20/2006	100 U	394	100 U	100 U	375	124	
		6/13/2007	95 I	5990	100 U	100 U	4050	833	
		10/4/2007	200 U	16000	200 U	200 U	5400	1500	
		7/31/2008	270 U	29400	230 U	110 U	8810	3730	
		7/22/2009	500 U	22000	500 U	500 U	9100	1800	
		12/7/2009	270 U	34400	230 U	110 U	6390	3790	
		9/8/2010	64 U	34200	48 U	44 U	4780	5660	
		9/8/2010	64 U	35200	48 U	44 U	4800	5510	
		3/17/2011	39.9	29800	31.2	0.22 U	2810	5420	
		9/20/2011	32 U	30800	38 U	44 U	2850	72 U	
		9/6/2012	32 U	21600	38 U	44 U	2740	7430	
WILC-MW0060I	29 to 34	7/28/2005	0 U	1300	0 U		330	890	
		12/21/2006	2 U	123	2 U	2 U	10	303	
		7/23/2008	27 U	5200	33 U	36 U	190	2400	
		7/22/2009	100 U	6700	100 U	100 U	260	2900	
		9/15/2010	16 U	2820	12 U	11 U	16 U	4620	
		3/17/2011	9.37	1880	25.2	0.39 I	14.1	6230	
		9/20/2011	4 U	74.3	21 I	5.5 U	9 U	4210	
		9/5/2012	1.6 U	188	11.1	2.2 U	3.6 U	1610	
		12/16/2015	8 U	130	9.5 U	11 U	18 U	1100	
		12/15/2021	0.94 U	9.8	4.2	0.76 U	0.89 U	29	0.73 U
WILC-MW0060S	2 to 12	7/28/2005	0 U	3	0 U		0 U	7	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0061S	2 to 12	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0062	29 to 34	2/1/2006	0.5 U	1.5	1.8	0.5 U	0.5 U	5	
		12/18/2006	1 U	1 U	3.9	1 U	1 U	2	
		7/31/2008	0.39 U	0.14 U	2	0.16 U	0.23 U	0.21 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	0.246 I	0.11 U	0.16 U	0.556 I	
		3/16/2011	0.16 U	0.36 U	0.22 I	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.42 I	2.71	0.22 U	0.36 U	1.89	
		9/5/2012	0.16 U	0.52 I	1.71	0.22 U	0.36 U	0.36 U	
		12/15/2015	14 I	22000	23 I	11 U	1300	2000	
		3/2/2016	52 U	25000	54 U	44 U	1700	2600	6000
		10/27/2016	90 U	19000	100 U	180 U	140 U	4100	1100 U
		12/26/2017	3.6 U	2700	49	7.2 U	67	2700	250
		10/8/2018	3.6 U	560	4 U	7.2 U	5.8 U	660	43 U
		12/19/2019	0.32 U	75.4	3.7	0.22 U	1.6	381 Q	0.48 U
		12/10/2020	0.32 U	11.1	2.4	0.22 U	0.60 I	49.2	0.48 U
WILC-MW0063	40 to 45	2/1/2006	0.5 U	3.2	0.5 U	0.5 U	0.5 U	5	
		12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/24/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-MW0064	2 to 12	2/1/2006	0.5 U	1.3	2	0.5 U	0.5 U	2	
		12/19/2006	1 U	6.4	5.2	1 U	1 U	12.8	
		7/23/2008	1 U	14.4	3.3	1 U	1 U	23.1	
		7/20/2009	1 U	7.8	1.4	1 U	1 U	10.3	
		12/19/2014	0.16 U	26	1.2	0.22 U	4.5	23	
		12/15/2015	0.16 U	64	2.4	0.22 U	0.96 I	37	
		10/27/2016	0.18 U	13	0.2 U	0.36 U	0.29 U	17	2.2 U
		12/21/2016	0.18 U	17	2.5	0.36 U	0.29 U	18	2.2 U
		3/20/2017	0.18 U	39	3.3	0.36 U	12	5.1	190
		5/11/2017	0.18 U	24	2.1	0.36 U	7.7	23	45
		12/26/2017	0.18 U	31	2.1	0.36 U	1.6	8.2	2.2 U
		10/8/2018	0.18 U	31	3.5	0.36 U	2.5	45	2.2 U
		12/19/2019	0.32 U	0.93 I	0.76 I	0.22 U	0.35 U	1.6	0.48 U
		12/3/2020	0.27 U	0.78 I	1.3	0.30 U	0.31 U	0.83 I	0.35 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0065	29 to 34	2/1/2006	5 U	5 U	5 U	5 U	5 U	283	
		12/19/2006	2 U	141	4.5	2 U	4.3	1070	
		6/13/2007	50 U	123	50 U	50 U	50 U	1670	
		7/23/2008	1 U	14.3	8	1 U	4.6	450	
		7/20/2009	1 U	4	6.2	1 U	1 U	16.1	
		12/7/2009	3.6	20.6	12.3	0.22 U	4.4	296	
		9/8/2010	0.64 U	146	3.45 I	0.44 U	0.64 U	337	
		9/20/2011	3.2 U	77.4	9.4 I	4.4 U	7.2 U	1540	
		9/5/2012	1.6 U	196	6.3 I	2.2 U	3.6 U	1090	
		3/14/2014	4 U	160	10 I	5.5 U	15 I	2100	
		12/18/2014	3.2 U	78	14 I	4.8 I	7.2 U	1700	
		12/15/2015	0.49 U	86 U	10	0.22 U	0.68 U	520	
		12/21/2016	0.18 U	46	15	0.36 U	0.29 U	190	2.2 U
		12/26/2017	1.8 U	20	12	3.6 U	2.9 U	120	22 U
		10/8/2018	1.8 U	16	4.7 I	3.6 U	2.9 U	52	22 U
		12/19/2019	0.32 U	11	10.0	0.22 U	0.37 I	38.6	0.48 U
		12/3/2020	0.27 U	10.8	9.2	0.30 U	0.36 I	64.1	0.35 U
WILC-MW0066	2 to 12	2/1/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0067	29 to 34	2/1/2006	0.5 U	0.95 I	0.5 U	0.5 U	0.5 U	1.4	
		12/19/2006	1 U	1.7	1 U	1 U	0.79 I	3.2	
		7/31/2008	0.39 U	0.14 U	0.92	0.16 U	0.23 U	0.55 I	
		7/21/2009	2 U	12	1.8 I	2 U	18	1.8 I	
		8/12/2009	1 U	1 U	2	1 U	1 U	3.1	
WILC-MW0068	40 to 45	2/1/2006	0.5 U	9.6	0.5 U	0.5 U	0.5 U	33.8	
		12/19/2006	1 U	0.70 I	1.6	1 U	1.3	74.3	
		6/12/2007	1 U	1 U	1.6	1 U	0.59 I	0.88 I	
		8/1/2008	0.54 U	31.1	2.7	0.22 U	1.3	102	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		9/8/2010	0.16 U	0.36 U	0.22 I	0.11 U	0.16 U	0.343 I	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	2.2	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.75 I	0.22 U	0.22 U	0.35 U	3.4	0.48 U
		12/3/2020	0.27 U	0.73 I	0.26 U	0.30 U	0.31 U	2.8	0.35 U
WILC-MW0069	29 to 34	2/1/2006	0.5 U	20.8	0.5 U	0.5 U	0.5 U	22.4	
		12/19/2006	1 U	2.5	1 U	1 U	1 U	48.4	
		7/31/2008	0.39 U	4.9	0.45 I	0.16 U	0.23 U	61	
		7/20/2009	1 U	11.9	1.9	1 U	1.2	28.6	
		10/16/2017	1 U	43	8	1 U	1 U	270	1 U
		12/17/2021	0.94 U	1.4	3.6	0.76 U	0.89 U	3.9	0.73 U
WILC-MW0070	40 to 45	2/1/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	23.7	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	0.79 I	
		6/12/2007	1 U	1 U	0.74 I	1 U	1 U	1 U	
		7/31/2008	0.39 U	0.87	0.48 I	0.16 U	0.57 I	2	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	0.47 I	0.22 U	0.32 U	0.31 I	
		12/14/2021	0.94 U	0.53 U	0.99 I	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0071	40 to 45	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
WILC-MW0072	29 to 34	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		8/1/2008	0.39 U	0.79	0.32 U	0.16 U	0.23 U	0.21 U	
		7/17/2009	1 U	4.1	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.93 I	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	1.14	0.19 U	0.22 U	0.36 U	3.07	
		9/6/2012	0.16 U	1.43	0.19 U	0.22 U	0.36 U	2.97	
		12/23/2013	0.16 U	0.37 I	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.39 I	0.19 U	0.22 U	0.36 U	0.62 I	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0073	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0074	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	**0.97 IV**	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/3/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0075	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	**0.88 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0076	2 to 12	1/31/2006	0.5 U	**0.58 I**	0.5 U	0.5 U	0.5 U	0.5 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/23/2008	1 U	**1**	1 U	1 U	1 U	**1.2**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	**0.44 I**	0.12 U	0.11 U	0.16 U	**0.57 I**	
WILC-MW0077	29 to 34	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/23/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0078	65 to 70	2/1/2006	0.5 U	**8**	0.5 U	0.5 U	**18.5**	**1.8**	
		12/21/2006	1 U	1 U	1 U	1 U	**1.1**	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/20/2009	1 U	1 U	1 U	1 U	**1.8**	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	**0.443 I**	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	**0.96 I**	**238**	0.19 U	0.22 U	**16.9**	**31.8**	
		10/25/2012	1 U	**29.8**	1 U	1 U	**3.1**	**1.7**	**110**
		12/23/2013	**9.3**	**1500**	**12**	0.22 U	**28**	**100**	
		1/22/2014	16 U	**3800**	19 U	22 U	36 U	**310**	
		7/14/2014	**6.2 I**	**2200**	**19 I**	4.6 U	**17 I**	**200**	20 U
		12/18/2014	**6.9**	**2300**	**19**	0.22 U	**3.3**	**260**	
		12/15/2015	4 U	**1100**	4.8 U	5.5 U	9 U	**82**	
		12/21/2016	0.18 U	**180**	**15**	0.36 U	**1.2**	**18**	2.2 U
		12/26/2017	0.9 U	**100**	1 U	1.8 U	1.4 U	1 U	11 U
		10/9/2018	0.9 U	**97**	1 U	1.8 U	1.4 U	**76**	11 U
		12/19/2019	0.64 U	**146**	0.44 U	0.43 U	**0.83 I**	**104**	0.96 U
		12/7/2020	0.32 U	**10.3**	0.22 U	0.22 U	**2.7**	**19.9**	0.48 U
		12/15/2021	0.94 U	**3.8**	0.73 U	0.76 U	**1.8**	**11**	0.73 U
WILC-MW0079	40 to 45	2/1/2006	0.5 U	**33.6**	0.5 U	0.5 U	**3.2**	**32.6**	
		12/20/2006	1 U	**0.62 I**	1 U	1 U	1 U	**2.8**	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.39 U	**3.4**	0.32 U	0.16 U	**0.37 I**	**1.6**	
		7/20/2009	1 U	**1.1**	1 U	1 U	1 U	1 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0080	29 to 34	12/21/2006	1 U	**27.7**	**2.7**	1 U	**1.3**	**564**	
		6/12/2007	1 U	**21.3**	**3.2**	1 U	**1.8**	**463**	
		7/31/2008	0.39 U	**0.84**	0.32 U	0.16 U	0.23 U	**16.4**	
		7/20/2009	1 U	1 U	**1.2**	1 U	1 U	1 U	
		12/7/2009	0.54 U	0.2 U	**4.5**	0.22 U	0.32 U	0.3 U	
		3/14/2014	4 U	**64**	**13 I**	5.5 U	9 U	**2000**	
		12/19/2014	**0.96 I**	**190**	**13**	0.22 U	**0.40 I**	**2500**	
		12/15/2015	0.8 U	**130**	**18**	1.1 U	1.8 U	**1500**	
		12/21/2016	0.18 U	**21**	**19**	0.36 U	0.29 U	**150**	2.2 U
		12/26/2017	0.18 U	**1.4**	**12**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**18**	0.36 U	0.29 U	0.2 UJ	2.2 U
		12/19/2019	0.32 U	0.28 U	**4.0**	0.22 U	0.35 U	**4.4**	0.48 U
		12/3/2020	0.27 U	**4.1**	**10.2**	0.30 U	0.31 U	**20.2**	0.35 U
WILC-MW0081	29 to 34	12/21/2006	1 U	**2.4**	1 U	1 U	1 U	**4.6**	
		6/12/2007	1 U	**4.7**	1 U	1 U	1 U	**7.3**	
		7/24/2008	1 U	**3.2**	1 U	1 U	1 U	**30.6**	
		7/17/2009	1 U	**5.8**	1 U	1 U	1 U	**35.2**	
		12/8/2009	0.54 U	**10.6**	**1.2**	0.22 U	**1.1**	**83.2**	
		12/23/2013	0.16 U	**1.5**	**3.5**	0.22 U	0.36 U	**7.2**	
		12/18/2014	0.16 U	**0.88 I**	**0.38 I**	0.22 U	0.36 U	**12**	
WILC-MW0082	29 to 34	10/12/2007	0.23 U	0.28 U	0.2 U	0.25 U	0.38 U	0.34 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
WILC-MW0083	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0084	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0085	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0086	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0087	15 to 25	4/7/2010	0.29 U	**0.38 I**	0.34 U	0.44 U	0.24 U	**1.3**	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	**1.5**	**0.21 I**	0.22 U	0.36 U	**20**	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/16/2021	0.94 U	**3.4**	**1.5**	0.76 U	0.89 U	**9.0**	0.73 U
WILC-MW0088	29 to 34	4/7/2010	0.29 U	**0.93 I**	0.34 U	0.44 U	0.24 U	**2.1**	
		9/19/2011	0.16 U	**1.5**	0.19 U	0.22 U	0.36 U	**6.62**	
		9/5/2012	0.16 U	**1.67**	0.19 U	0.22 U	0.36 U	**9.04**	
		12/23/2013	0.16 U	**1.7**	**0.20 I**	0.22 U	0.36 U	**7.6**	
		12/18/2014	0.16 U	**5.5**	**2.6**	0.22 U	0.36 U	**130**	
		12/15/2015	0.16 U	**0.44 I**	0.19 U	0.22 U	0.36 U	**3.8**	
		12/21/2016	0.18 U	**2.3**	0.2 U	0.36 U	0.29 U	**12**	2.2 U
		12/27/2017	0.18 U	**6.5**	**2.7**	0.36 U	0.29 U	**50**	2.2 U
		10/9/2018	0.18 U	**57**	**3.5**	0.36 U	0.29 U	**91**	2.2 U
		5/8/2020	0.32 U	**0.77 I**	**0.29 I**	0.22 U	0.35 U	**4.8**	0.48 UJ
		12/7/2020	0.32 U	**16.8**	**3.9**	0.22 U	0.35 U	**84.0**	0.48 U
		12/16/2021	0.94 U	**12**	**3.3**	0.76 U	0.89 U	**53**	0.73 U
WILC-MW0089	15 to 25	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	**0.79 I**	
		12/19/2014	0.16 U	**0.38 I**	0.19 U	0.22 U	0.36 U	**28 I**	
		12/15/2015	0.16 U	**1.6**	0.19 U	0.22 U	0.36 U	**0.99 I**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/7/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0090	29 to 34	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	9.5	
		9/19/2011	0.16 U	**4.4**	**1.33**	0.22 U	**0.85 I**	27.5	
		9/5/2012	0.16 U	**5.35**	**0.84 I**	0.22 U	0.36 U	32.8	
		12/23/2013	0.16 U	2200	**8.7**	0.22 U	57	600	
		1/22/2014	8 U	1200	9.5 U	11 U	24 I	370	
		12/18/2014	0.16 U	**4.7**	**0.68 I**	0.22 U	0.36 U	42	
		12/15/2015	0.16 U	**6.2**	**1**	0.22 U	0.36 U	34	
		12/21/2016	0.18 U	**5.2**	0.2 U	0.36 U	0.29 U	24	2.2 U
		12/27/2017	0.18 U	**2.3**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**1.3**	0.36 U	0.29 U	13	2.2 U
		12/19/2019	0.32 U	**1.5**	**2.1**	0.22 U	0.35 U	6.0	0.48 U
		12/7/2020	0.32 U	**1.8**	**3.3**	0.22 U	0.35 U	9.2	0.48 U
		12/16/2021	0.94 U	**1.2**	**3.5**	0.76 U	0.89 U	4.2	0.73 U
WILC-MW0091	2 to 12	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.81 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/7/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0092	2 to 12	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.41 I**	
		9/20/2011	0.16 U	**0.75 I**	**1.62**	0.22 U	0.36 U	2.45	
		9/5/2012	0.16 U	**0.95 I**	0.19 U	0.22 U	0.36 U	3.26	
WILC-MW0093	15 to 25	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0094	40 to 45	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.68 I**	
		12/15/2015	0.16 U	**0.50 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0095	2 to 12	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	2.5	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**1.1 V**	0.19 U	0.22 U	0.36 U	1.7	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/14/2021	0.94 U	**0.85 I**	0.73 U	0.76 U	0.89 U	**1.0**	0.73 U
WILC-MW0096	15 to 25	3/25/2010	0.29 U	**16.1**	**1.2**	0.44 U	0.24 U	113	
		9/15/2010	0.64 U	**7.68**	0.48 U	0.44 U	0.64 U	84.6	
		9/20/2011	0.32 U	**41.6**	**1.12 I**	0.44 U	0.72 U	247	
		12/21/2016	0.18 U	**24**	**4.2**	0.36 U	0.29 U	98	2.2 U
		12/26/2017	0.18 U	**20**	**5**	0.36 U	0.29 U	170	2.2 U
		10/8/2018	0.18 U	87	**6.8**	0.36 U	0.29 U	150	2.2 U
		12/19/2019	0.32 U	**6.2**	**1.7**	0.22 U	0.35 U	20.8	0.48 U
		12/10/2020	0.32 U	**5.4**	**2.2**	0.22 U	0.35 U	27.6	0.48 U
		12/14/2021	0.94 U	**4.7**	**2.6**	0.76 U	0.89 U	13	0.73 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0097	29 to 34	3/25/2010	0.29 U	**8.2**	0.34 U	0.44 U	**0.25 I**	15.7	
		3/17/2011	0.16 U	**3.35**	0.19 U	0.22 U	19.3	1.17	
		9/20/2011	0.32 U	**51.8**	**0.80 I**	0.44 U	0.72 U	181	
		9/5/2012	0.32 U	**21**	**1.02 I**	0.44 U	0.72 U	282	
		12/23/2013	0.32 U	**6.1**	**1.3 I**	0.44 U	0.72 U	160	
		12/18/2014	0.32 U	**4.8**	**1.8 I**	0.44 U	0.72 U	21	
		12/15/2015	0.16 U	**0.52 I**	**0.68 I**	0.22 U	0.36 U	1.8	
		12/21/2016	0.18 U	**6**	**3.3**	0.36 U	0.29 U	28	2.2 U
		12/27/2017	0.18 U	**9.1**	**4.2**	0.36 U	0.29 U	32	2.2 U
		10/8/2018	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	5.2	2.2 U
		12/19/2019	0.32 U	**10.8**	**5.7**	0.22 U	0.35 U	46.0	0.48 U
		12/10/2020	0.32 U	**7.3**	**7.9**	0.22 U	0.35 U	19.5	0.48 U
		12/14/2021	0.94 U	**4.6**	**7.2**	0.76 U	0.89 U	8.6	0.73 U
WILC-MW0098	15 to 25	3/25/2010	58 U	12200	68 U	88 U	4270	6500	
		9/8/2010	8 U	4500	**11.3 I**	5.5 U	917	5410	
		3/17/2011	49	27300	**26.4**	**1.3**	49900	8440	
		9/20/2011	32 U	17700	38 U	44 U	4070	7670	
		9/5/2012	16 U	7500	19 U	22 U	1870	1390	
		2/29/2016	65 U	2400	68 U	55 U	810	490	**21000**
WILC-MW0099	55 to 65	4/7/2010	2.9 U	88.1	3.4 U	4.4 U	56.9	66.4	
		9/8/2010	**0.522 I**	73.6	**0.395 I**	0.11 U	47.3	58.6	
		9/19/2011	1.6 U	128	1.9 U	2.2 U	36	166	
		9/5/2012	**0.54 I**	**44.1**	0.38 U	0.44 U	16.1	154	
WILC-MW0100	15 to 25	4/7/2010	101 I	13800	85 U	110 U	21100	5500	
		3/16/2011	79.7	9630	106	0.22 U	3840	9290	
		9/19/2011	160 I	31900	146 I	44 U	27200	12500	
		9/5/2012	118 I	15800	124 I	44 U	6990	7760	
		2/29/2016	**5.4 I**	930	**35**	4.4 U	19 I	1800	**24**
WILC-MW0101	2 to 12	3/25/2010	0.29 U	**9.8**	**0.40 I**	0.44 U	0.24 U	10.9	
WILC-MW0102	15 to 25	3/25/2010	**2.2**	176	**7.7**	0.44 U	**3.3**	708	
WILC-MW0103	29 to 34	3/25/2010	29 U	6500	34 U	44 U	24 U	2470	
WILC-MW0104	40 to 45	3/25/2010	0.29 U	1160	**9.5**	0.44 U	30.2	3280	
		9/20/2011	3.2 U	147	3.8 U	4.4 U	7.2 U	1870	
WILC-MW0105	15 to 25	3/25/2010	15 U	1500	17 U	22 U	862	1140	
		9/20/2011	0.16 U	**1.13**	0.19 U	0.22 U	0.36 U	**0.81 I**	
		9/5/2012	0.16 U	**1.08**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0106	15 to 25	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.98 I**	0.19 U	0.22 U	0.36 U	**0.40 I**	
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0107	15 to 25	4/8/2010	**0.32 I**	81	**10.9**	0.44 U	4.4	348	
		9/19/2011	0.16 U	**9.95**	**3.17**	0.22 U	3.8	71.8	
		12/15/2021	0.94 U	**3.6**	**1.8**	0.76 U	0.89 U	5.7	0.73 U
WILC-MW0108	2 to 12	4/8/2010	2.9 U	896	**5.9 I**	4.4 U	209	168	
		9/19/2011	3.2 U	2360	**19.6 I**	4.4 U	113	331	
WILC-MW0109	15 to 25	3/26/2010	0.29 U	**39.8**	**0.51 I**	0.44 U	0.24 U	21.8	
		9/19/2011	0.64 U	93.2	**2.16 I**	0.88 U	1.44 U	514	
		9/5/2012	0.16 U	**23.9**	**1.45**	0.22 U	0.36 U	896	
		12/23/2013	0.64 U	**51**	**2.4 I**	0.88 U	1.5 U	830	
		12/18/2014	0.64 U	**4.6**	**2.6 I**	0.88 U	1.5 U	28	
		12/15/2015	0.16 U	**2.5**	**1.6**	0.22 U	0.36 U	11	
		12/21/2016	0.18 U	**1.8**	**1.8**	0.36 U	0.29 U	4	2.2 U
		12/26/2017	0.18 U	**3.4**	**2.6**	0.36 U	0.29 U	13	2.2 U
		10/8/2018	0.18 U	**6.9**	**0.65 I**	48	0.29 U	16	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.39 I**	0.22 U	0.35 U	**1.3**	0.48 U
		12/4/2020	0.27 U	**2.6**	**1.1**	0.30 U	0.31 U	7.8	0.35 U
		12/14/2021	0.94 U	**2.2**	**1.5**	0.76 U	0.89 U	5.6	0.73 U
WILC-MW0110	15 to 25	4/7/2010	15 U	3690	**17.5 I**	22 U	167	3630	
		3/17/2011	7.83	6200	**18.6**	0.22 U	164	2930	
		9/20/2011	32 U	3130	38 U	44 U	112 I	2610	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0111	29 to 34	3/25/2010	0.29 U	**0.35 I**	**3.4**	0.44 U	0.24 U	3	
		12/21/2016	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	**1.1**	2.2 U
		12/27/2017	0.18 U	0.24 U	**1.1**	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**1.3**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.82 I**	0.22 U	0.35 U	**0.95 I**	0.48 U
		12/10/2020	0.32 U	**0.61 I**	**0.78 I**	0.22 U	0.35 U	2.8	0.48 U
		12/14/2021	0.94 U	**1.3**	**1.2**	0.76 U	0.89 U	3.4	0.73 U
WILC-MW0112	40 to 45	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0113	2 to 12	3/25/2010	0.29 U	**4.6**	**0.34 I**	0.44 U	0.24 U	8.4	
WILC-MW0114	15 to 25	3/25/2010	0.29 U	**0.41 I**	0.34 U	0.44 U	0.24 U	0.28 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0115	15 to 25	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/17/2011	0.16 U	**24.3**	0.19 U	0.22 U	**2.65**	36.1	
		9/19/2011	0.32 U	85.9	0.38 U	0.44 U	**2.66**	112	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0116	15 to 25	3/26/2010	**1.8 I**	105	**13.4**	0.88 U	**1.4 I**	1860	
		9/19/2011	8 U	1110	**29 I**	11 U	18 U	3260	
		9/6/2012	6.4 U	1090	**21.6 I**	8.8 U	14.4 U	2870	
		12/23/2013	0.16 U	**9.9**	**5.6**	0.22 U	0.36 U	64	
		12/18/2014	0.16 U	**6.1**	**3**	0.22 U	0.36 U	100	
		12/16/2015	0.16 U	**31**	**2.4**	0.22 U	**0.43 I**	140	
		12/21/2016	0.18 U	**45**	**6.7**	0.36 U	0.29 U	440	2.2 U
		12/26/2017	1.8 U	**19**	2 U	3.6 U	2.9 U	150	22 U
		10/8/2018	0.36 U	0.48 U	**4.7**	0.72 U	0.58 U	11	4.3 U
		12/19/2019	0.32 U	**3.4**	**4.2**	0.22 U	**0.52 I**	12.0	0.48 U
		12/3/2020	0.27 U	**1.4**	**3.6**	0.30 U	0.31 U	5.0	0.35 U
WILC-MW0117	15 to 25	3/25/2010	58 U	11200	68 U	88 U	362	2770	
		3/17/2011	14.6	10600	**20.5**	0.22 U	598	3650	
		9/19/2011	0.16 U	**4.45**	**0.36 I**	0.22 U	0.36 U	6.3	
		9/6/2012	**0.42 I**	**60.8**	**3.89**	0.22 U	0.36 U	130	
		12/16/2021	0.94 U	**5.6**	**4.6**	0.76 U	**1.4**	17	0.73 U
WILC-MW0118	40 to 45	3/25/2010	0.29 U	82.6	**0.66 I**	0.44 U	3.6	210	
		9/19/2011	0.16 U	**6.11**	**0.34 I**	0.22 U	0.36 U	62.1	
		9/6/2012	0.16 U	**2.63**	**0.38 I**	0.22 U	**0.38 I**	26.7	
		12/23/2013	0.16 U	**0.74 I**	0.19 U	0.22 U	0.36 U	8	
		12/18/2014	0.16 U	**1.4**	**0.50 I**	0.22 U	0.36 U	9.3	
		12/16/2015	0.16 U	**0.48 I**	0.19 U	0.22 U	0.36 U	2.4	
		12/26/2017	0.18 U	**1.4**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 UJ	**0.27 I**	0.36 U	**0.39 I**	0.2 U	2.2 U
		12/19/2019	0.32 U	**1.5**	0.22 U	0.22 U	0.35 U	2.8	0.48 U
		12/3/2020	0.27 U	**1.0**	0.26 U	0.30 U	0.31 U	1.7	0.35 U
		12/16/2021	0.94 U	**0.88 I**	0.73 U	0.76 U	0.89 U	**1.1**	0.73 U
WILC-MW0119	29 to 34	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0120	40 to 45	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0121	40 to 45	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0122	15 to 25	3/26/2010	0.29 U	**4.7**	0.34 U	0.44 U	0.24 U	11.5	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	6.89	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.66 I**	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.37 I**	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0123	2 to 12	5/4/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0124	15 to 25	5/4/2010	0.29 U	0.32 U	**3.4**	0.44 U	0.24 U	1.5	

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0125	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		3/17/2011	0.16 U	**1.51**	0.19 U	0.22 U	0.36 U	**0.40 I**	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/19/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.54 I**	
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	**0.41 I**	0.35 U
WILC-MW0126	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/14/2021	0.94 U	**2.3**	**1.2**	0.76 U	0.89 U	**5.7**	0.73 U
WILC-MW0127	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
WILC-MW0128	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0129	15 to 25	9/13/2010	0.16 U	**2.3**	**0.228 I**	0.11 U	0.16 U	**1.51**	
		3/16/2011	0.16 U	**0.55 I**	**0.20 I**	0.22 U	0.36 U	**0.68 I**	
		9/20/2011	0.16 U	**30.6**	**1.22**	0.22 U	**2.71**	**7.15**	
		12/26/2017	3.6 U	**410**	4 U	7.2 U	**320**	4 U	**1700**
		10/8/2018	3.6 U	**170**	4 U	7.2 U	**110**	4 U	**410**
		5/8/2020	3.2 U	**539**	2.2 U	2.2 U	**161**	**17.5**	**615 J**
		12/7/2020	**0.71 I**	**83.9**	**3.6**	0.22 U	**46.7**	**6.6**	**200**
		12/15/2021	4.7 U	**63**	3.6 U	3.8 U	**21**	**8.1**	**290**
WILC-MW0130	56 to 66	10/26/2012	20 U	**9 I**	20 U	20 U	6.6 UI	**12 I**	**340**
		8/13/2014	3 U	**88**	2.9 U	2.3 U	**11**	**320**	10 U
		12/19/2014	0.16 U	**11**	0.19 U	0.22 U	**6.7**	**150**	
		12/15/2015	**2.1 I**	**780**	0.95 U	1.1 U	**8.4**	**180**	
		12/21/2016	**2**	**480**	**38**	0.36 U	**5.9**	**160**	2.2 U
		12/27/2017	1.8 U	**400**	**7.8 I**	3.6 U	2.9 U	**150**	22 U
		10/9/2018	1.8 U	**300**	2 U	3.6 U	2.9 U	**160**	22 U
		12/19/2019	0.32 U	**4.9**	0.22 U	0.22 U	0.35 U	**20.0**	0.48 U
		12/10/2020	0.32 U	**4.6**	0.22 U	0.22 U	0.35 U	**21.7**	0.48 U
		12/15/2021	0.94 U	**26**	0.73 U	0.76 U	0.89 U	**39**	0.73 U
WILC-MW0131	58 to 68	10/26/2012	50 U	**1300**	50 U	50 U	**6300**	16 UI	50 U
		12/10/2012	100 U	**4400**	100 U	100 U	**1500**	**85 I**	**910**
		7/16/2013	**86 I**	**16000**	**30 I**	22 U	**20000**	**88 I**	
		12/23/2013	0.16 U	**8.3**	0.19 U	0.22 U	**0.79 I**	**28**	
		1/22/2014	**0.87 I**	**250**	**1.2**	0.22 U	**5.9**	**78**	
WILC-MW0132	45 to 50	10/24/2016	0.18 U	**4000**	**51**	0.36 U	**2100**	**600**	**130000**
		3/20/2017	0.18 U	**300**	**4.6**	0.36 U	**410**	**12**	**20000**
		5/11/2017	0.18 U	**410**	**17**	0.36 U	**520**	**11**	**19000**
WILC-MW0133	40 to 50	10/24/2016	0.18 U	**4900**	**39**	0.36 U	**290**	**3300**	**24000**
		3/20/2017	0.18 U	**1100**	**14**	0.36 U	**730**	**94**	**97000**
		5/11/2017	0.18 U	**1100**	**37**	0.36 U	**600**	**81**	**82000**
WILC-MW0134	10 to 20	10/27/2016	0.36 U	**25**	**10**	0.72 U	**7.7**	**14**	**270**
		3/20/2017	0.18 U	**86**	**2.9**	0.36 U	**37**	**73**	**9500**
		5/11/2017	0.18 U	24 U	**3.3**	0.36 U	29 U	**53**	**5600**
WILC-MW0135	40 to 50	10/24/2016	0.18 U	**2500**	**18**	0.36 U	**3400**	**240**	**140000**
		3/20/2017	0.18 U	**1700**	**20**	0.36 U	**5200**	**23**	**35000**
		5/11/2017	0.18 U	**1700**	**48**	0.36 U	**8100**	**20**	**60000**
WILC-MW0136	40 to 45	10/27/2016	36 U	**2600**	40 U	72 U	**2600**	**380**	**88000**
		3/20/2017	0.18 U	**410**	**4.5**	0.36 U	**1400**	**4.9**	**39000**
		5/11/2017	0.18 U	120 U	**8.2**	0.36 U	**1800**	**7.6**	**59000**
WILC-MW0137	10 to 20	10/27/2016	0.18 U	**40**	**2.6**	0.36 U	**3.7**	**14**	2.2 U
		3/20/2017	0.18 U	**31**	0.2 U	0.36 U	**160**	**51**	**7300**
		5/11/2017	0.18 U	12 U	0.2 U	0.36 U	**22**	**25**	**1800**
WILC-MW0138	10 to 20	10/27/2016	18 U	**18000**	20 U	36 U	**18000**	**1400**	**26000**
		3/20/2017	0.18 U	**690**	**4.8**	0.36 U	**88**	**6**	**100**
		5/11/2017	0.18 U	**1400**	**13**	0.36 U	**70**	**15**	110 U

Table 3-2
Groundwater Analytical Results
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0139	10 to 20	10/27/2016	18 U	1500	20 U	36 U	2200	120	11000
		3/20/2017	0.18 U	85	3.8	0.36 U	28	15	1000
		5/11/2017	4.1	1500	7.7	0.36 U	230	27	850
WILC-MW0140	23 to 33	12/29/2016	4.7 U	33	3.6 U	3.8 U	4.4 U	400	3.6 U
		12/26/2017	0.54 U	8.3	0.6 U	1.1 U	0.87 U	250	6.4 U
		10/9/2018	0.54 U	30	0.96 I	1.1 U	1.9 I	300	6.4 U
		12/18/2019	0.32 U	8.6	0.78 I	0.22 U	0.35 U	94.8	0.48 U
		12/3/2020	0.27 U	4.1	0.65 I	0.30 U	0.31 U	55.4	0.35 U
WILC-MW0141	34 to 44	12/29/2016	4.7 U	58	3.6 U	3.8 U	5	280	3.6 U
		12/26/2017	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	8.4	4.3 U
		10/9/2018	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	3.3	4.3 U
		12/18/2019	0.32 U	0.83 I	0.22 U	0.22 U	0.35 U	9.3	0.48 U
		12/3/2020	0.27 U	9.7	0.42 I	0.30 U	0.31 U	75.6	0.35 U
WILC-MW0142	8 to 18	12/29/2016	4.7 U	430	3.6 U	3.8 U	81	3.6 U	3.6 U
		12/27/2017	0.9 U	340	9.1	1.8 U	20	9.2	11 U
		10/8/2018	0.9 U	240	3.1 I	1.8 U	15	24	11 U
		12/18/2019	0.32 U	78.1 Q	3.5	0.22 U	6.9	25.0	0.48 U
		12/18/2019	0.32 U	79.4	3.2	0.22 U	5.3	43.7	0.48 U
		12/3/2020	0.27 U	9.8	6.3	0.30 U	1.0	10.4	0.35 U
WILC-MW0143	23 to 33	12/29/2016	9.4 U	580	7.3 U	7.6 U	190	22	51
		12/27/2017	0.36 U	29	0.4 U	0.72 U	1.5 I	170	4.3 U
		10/8/2018	0.36 U	26	0.4 U	0.72 U	0.58 U	98	4.3 U
		12/18/2019	0.32 U	43.3	0.22 U	0.22 U	2.9	40.9	0.48 U
		12/18/2019	0.32 U	41.8	0.22 U	0.22 U	2.8	34.9	0.48 U
		12/3/2020	0.27 U	14.0	0.26 U	0.30 U	1.0	15.6	0.35 U
WILC-MW0144	40 to 50	12/29/2016	19 U	1000	15 U	15 U	210	1100	15 U
		12/27/2017	1.8 U	1100	20	3.6 U	83	720	22 U
		10/8/2018	1.8 U	2000	5.6 I	3.6 U	110	1000	22 U
		12/18/2019	1.6 U	3780 Q	3.6 I	1.1 U	337	622 Q	2.4 U
		12/18/2019	1.6 U	3100 Q	7.4	1.1 U	266	555 Q	2.4 U
		12/3/2020	3.3 I	2390	5.2	1.5 U	197	719	16.5
WILC-MW0145	38 to 48	12/30/2016	0.94 U	14	0.73 U	0.76 U	44	0.71 U	260
		12/27/2017	0.54 U	9.5	0.6 U	1.1 U	0.87 U	15	6.4 U
		10/8/2018	0.54 U	11	0.6 U	1.1 U	0.87 U	17	6.4 U
		12/18/2019	0.32 U	2.7	0.22 U	0.22 U	0.35 UQ	12.9	0.48 U
		12/18/2019	0.32 U	3.4	0.22 U	0.22 U	0.35 U	14.6	3.5
		12/10/2020	0.32 U	2.6	0.22 U	0.22 U	0.35 U	8.4	7.2
WILC-MW0146	23 to 33	12/30/2016	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
WILC-MW0147	38 to 48	12/30/2016	0.94 U	13	0.73 U	0.76 U	9	2.5	1.7
		12/26/2017	0.54 U	4.2	0.6 U	1.1 U	0.87 U	0.6 U	6.4 U
		10/8/2018	0.54 U	6.8	0.6 U	1.1 U	1.4 I	0.6 U	6.4 U
		12/19/2019	0.32 U	4.9	0.41 I	0.22 U	1.5	8.6	0.48 U
		12/10/2020	0.32 U	2.1	0.22 U	0.22 U	1.1	5.7	0.48 U
WILC-MW0148	38 to 48	12/30/2016	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
		12/27/2017	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	0.4 U	4.3 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0149	20 to 30	12/27/2017	0.18 U	2.4	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	49	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	0.44 I	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/7/2020	0.32 U	0.98 I	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
WILC-MW0150	20 to 30	12/27/2017	0.18 U	1.2	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0151	20 to 30	12/27/2017	0.18 U	1.4	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0152	5 to 15	12/27/2017	1.8 U	500	19	3.6 U	530	23	22 U
		10/8/2018	0.36 U	0.48 U	0.4 U	0.72 U	2.6	0.4 U	4.3 U
		5/8/2020	0.32 U	16.9	0.22 U	0.22 U	3.3	0.41 U	0.48 UJ
		12/4/2020	1.5	447 L	10.2	0.30 U	236 L	18.2	0.35 U
		12/17/2021	9.4 U	980	23	7.6 U	730	27	7.3 U

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Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Category			*Volatile Organic Compound (VOC)*						*Freon 113*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTL (µg/L)			7	70	100	3	3	1	210000
NADC (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (feet bls)**	**Sample Date**							
WILC-MW0153	20 to 30	12/27/2017	0.18 U	**0.94 I**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/4/2020	0.27 U	**0.38 I**	**0.38 I**	0.30 U	0.31 U	**0.50 I**	0.35 U
		12/17/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0154	5 to 15	12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**0.83 I**	0.48 U
		12/3/2020	0.27 U	**0.72 I**	0.26 U	0.30 U	0.31 U	**0.56 I**	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0155	29 to 34	12/26/2017	0.18 U	0.24 U	**1.6**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**1.9**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.74 I**	0.22 U	0.35 U	**0.74 I**	0.48 U
		12/3/2020	0.27 U	0.34 U	**0.32 I**	0.30 U	0.31 U	**0.41 I**	0.35 U
WILC-MW0156	5 to 15	5/8/2020	0.32 U	**73.3**	**8.6**	0.22 U	**85.3**	**9.8**	**79.6**
		12/8/2020	0.32 U	**63.3**	**9.8**	0.22 U	**89.9**	**24.7**	**46.9**
WILC-PW-MW1515	10 to 15	5/19/2005	1 U	1 U	1 U		1 U	1 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	**3.2**	
		8/1/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	**3.5**	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	**1.2**	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	**1.02**	

Notes:
Bolded results indicate the presence of an analyte at the specified concentration
Red font indicates an exceedance of FDEP GCTLs
Yellow Highlighted cell indicates an exceedance of FDEP NADCs
Blank cells indicate the analyte was not analyzed for that specific well
µg/L = micrograms per liter
1,1,2-Trichloro-1,2,2-trifluoroethane is also known as Freon 113 or CFC-113
bls = below land surface
State of Florida GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
I = the analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit
J = an estimated value
V = the analyte was detected in both the sample and the associated method blank
L = value exceeds calibration range
MW = Monitoring Well
NADC = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (2005)
NASA = National Aeronautics and Space Administration
NPSH = National Park Service Headquarters
OBS = Observation
Q = the sample was analyzed beyond hold time
SWMU = Solid Waste Management Unit
U = the analyte was not detected
VOC = Volatile Organic Compound
WILC = Wilson Corners

Table 3-3
Natural Attenuation Field Sampling Parameters
2015 - 2021
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Location ID	Screened Interval (feet bls)	Sample Date	pH	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
WILC-OBS-MW0004D	47 to 52	3/4/2016	7.45	24.0	3,110	0.33	-10	13.4
WILC-OBS-MW0005D	47 to 52	2/29/2016	8.45	24.8	4,336	0.23	-44	15.8
WILC-NPSH-MW0010	29 to 34	12/4/2020	7.00	23.0	1,205	0.12	-198	4.77
		12/16/2021	6.88	23.1	1,375	0.54	-63	3.18
WILC-NPSH-MW0011	28 to 33	12/16/2021	6.84	23.2	1,145	0.18	2	1.55
WILC-NPSH-MW0017	29 to 34	12/8/2020	7.18	16.9	1,121	0.28	-125	0.57
WILC-NPSH-MW0019	29 to 34	12/4/2020	7.05	21.8	1,671	0.33	-120	0.98
		12/17/2021	6.83	21.5	1,387	0.15	-6	1.77
WILC-NPSH-MW0020	29 to 34	12/4/2020	6.89	22.1	3,421	0.29	-69	
		12/14/2021	8.32	23.6	958	0.14	123	2.04
WILC-NPSH-MW0022	29 to 34	12/4/2020	7.02	23.5	7,664	0.37	-56	8.16
WILC-NPSH-MW0027	10 to 15	12/8/2020	6.96	23.7	1,042	0.21	-107	1.22
		12/14/2021	6.76	23.9	1,114	0.10	15	0.51
WILC-NPSH-MW0030	43 to 48	12/14/2021	6.91	23.7	4,314	0.10	17	17.38
WILC-NPSH-MW0039	40 to 45	12/3/2020	7.02	24.1	4,005	0.17	-50	7.36
WILC-MW0021D	40 to 45	12/16/2021	6.90	23.5	2,461	0.07	34	3.94
WILC-MW0046D	40 to 45	12/10/2020	6.81	21.3	3,875	0.25	-132	9.85
		12/15/2021	6.96	23.3	3,928	0.10	-1	16.85
WILC-MW0048S	2 to 12	12/15/2021	6.55	23.5	435	0.10	-56	1.64
WILC-MW0049D	40 to 45	10/27/2016	7.01	26.1	5,711	0.22	-84	201
		3/20/2017	7.12	26.3	3,756	0.25	100	32.9
		5/11/2017	6.88	25.8	6,339	0.11	-49	14.4
WILC-MW0049I	29 to 34	10/27/2016	6.61	26.0	1,058	0.30	-70	3.38
		3/20/2017	7.30	26.4	1,076	6.20	86	8.26
		5/11/2017	6.86	25.3	1,141	0.16	-62	3.80
WILC-MW0049S	2 to 12	10/27/2016	6.64	27.4	614	0.21	-40	18.4
		3/20/2017	6.68	26.3	888	0.31	133	5.15
		5/11/2017	6.65	25.5	1,138	0.11	-47	7.90
WILC-MW0053D	40 to 45	12/15/2021	6.64	56.2	3,013	0.04	50	14.88
WILC-MW0053S	2 to 12	12/15/2021	6.57	25.2	746	0.07	57	0.73
WILC-MW0054D	40 to 45	12/15/2021	6.83	26.6	1,415	0.06	-40	15.4
WILC-MW0054I	29 to 34	12/15/2021	6.73	25.7	1,420	0.08	-75	13.61
WILC-MW0055D	40 to 45	12/15/2021	6.86	26.1	2,843	0.08	42	17.89
WILC-MW0060I	29 to 34	12/15/2021	6.72	24.2	1,625	0.10	-97	7.68
WILC-MW0060S	2 to 12	12/15/2021	6.08	23.2	375	1.04	61	2.84
WILC-MW0061S	2 to 12	12/15/2021	6.52	22.1	468	0.08	-33	1.40
WILC-MW0062	29 to 34	3/2/2016	8.70	22.1	1,869	0.39	-80	2.53
		10/27/2016	6.62	25.4	1,790	0.56	-62	3.86
		12/10/2020	6.51	22.2	1,417	0.20	-194	0.62

Table 3-3
Natural Attenuation Field Sampling Parameters
2015 - 2021
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Location ID	Screened Interval (feet bls)	Sample Date	pH	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
WILC-MW0064	2 to 12	10/27/2016	6.44	26.3	564	0.12	-70	3.84
		3/20/2017	6.81	25.1	481	0.56	25	11.9
		5/11/2017	6.26	26.5	566	0.19	35	9.30
		12/3/2020	6.51	23.6	915	0.14	-84	1.70
WILC-MW0065	29 to 34	12/3/2020	6.63	23.9	2,560	0.20	-143	1.22
WILC-MW0068	40 to 45	12/3/2020	6.97	24.0	9,869	0.18	-80	1.09
WILC-MW0069	29 to 34	10/16/2017	6.49	24.9	1,685	0.70	-115	12.4
		12/17/2021	6.74	23.4	1,127	0.06	-87	2.21
WILC-MW0070	40 to 45	12/14/2021	7.39	23.6	1,411	0.16	-31	4.45
WILC-MW0074	2 to 12	12/3/2020	7.19	22.9	580	0.31	-82	3.27
		12/16/2021	6.77	23.6	449	0.09	19	1.56
WILC-MW0077	29 to 34	12/14/2021	6.76	25.6	1,241	0.12	-13	0.75
WILC-MW0078	65 to 70	12/7/2020	7.50	21.2	2,573	0.21	-202	7.10
		12/15/2021	7.71	24.5	3,888	0.08	-172	2.13
WILC-MW0079	40 to 45	12/14/2021	6.92	25.7	477	0.14	-71	1.93
WILC-MW0080	29 to 34	12/3/2020	6.57	23.2	2,905	0.62	-121	2.10
WILC-MW0087	15 to 25	12/16/2021	7.02	22.7	1,100	0.20	-46	8.50
WILC-MW0088	29 to 34	12/7/2020	7.52	21.5	1,343	0.60	-54	3.79
		12/16/2021	7.06	22.8	1,972	0.19	17	17.89
WILC-MW0089	15 to 25	12/7/2020	7.22	18.3	660	0.39	-187	3.62
WILC-MW0090	29 to 34	12/7/2020	7.13	17.1	983	0.28	-97	9.21
		12/16/2021	7.08	22.7	1,013	0.07	1	8.74
WILC-MW0091	2 to 12	12/7/2020	6.05	21.1	134	0.27	-97	3.34
		12/16/2021	6.25	23.8	354	0.09	83	7.93
WILC-MW0095	2 to 12	12/10/2020	5.15	19.1	218	0.35	85	1.13
		12/14/2021	5.76	23.7	339	0.09	72	0.40
WILC-MW0096	15 to 25	12/10/2020	6.68	18.6	991	0.25	-29	1.05
		12/14/2021	6.76	23.7	1,027	0.09	19	1.67
WILC-MW0097	29 to 34	12/10/2020	6.68	18.0	2,171	0.32	-33	1.02
		12/14/2021	6.74	23.6	2,137	0.08	8	1.57
WILC-MW0098	15 to 25	2/29/2016	8.89	23.0	1,047	0.34	-4	6.12
WILC-MW0100	15 to 25	2/29/2016	8.24	25.1	1,233	0.23	-147	5.96
WILC-MW0107	15 to 25	12/15/2021	6.77	25.2	787	0.12	-95	1.84
WILC-MW0109	15 to 25	12/4/2020	7.01	22.9	1,593	0.66	-66	13.7
		12/14/2021	6.90	24.6	871	0.11	27	4.17
WILC-MW0111	29 to 34	12/10/2020	6.63	24.2	1,122	0.31	-182	6.13
		12/14/2021	6.78	26.0	1,125	0.11	-78	1.24
WILC-MW0114	15 to 25	12/14/2021	6.67	25.0	1,023	0.07	-11	2.20
WILC-MW0115	15 to 25	12/16/2021	6.86	23.6	824	0.08	54	2.52
WILC-MW0116	15 to 25	12/3/2020	6.92	24.0	1,156	0.28	-161	3.83
WILC-MW0117	15 to 25	12/16/2021	6.69	23.6	1,103	0.08	-94	1.64
WILC-MW0118	40 to 45	12/3/2020	7.08	23.6	2,029	0.28	-105	10.1
		12/16/2021	6.89	23.4	2,185	0.12	-25	5.22
WILC-MW0122	15 to 25	12/16/2021	6.81	24.1	946	0.08	-23	2.76
WILC-MW0125	15 to 25	12/4/2020	7.16	23.1	1,843	0.21	-26	15.3
WILC-MW0126	15 to 25	12/14/2021	6.83	22.5	1,108	0.20	46	1.43

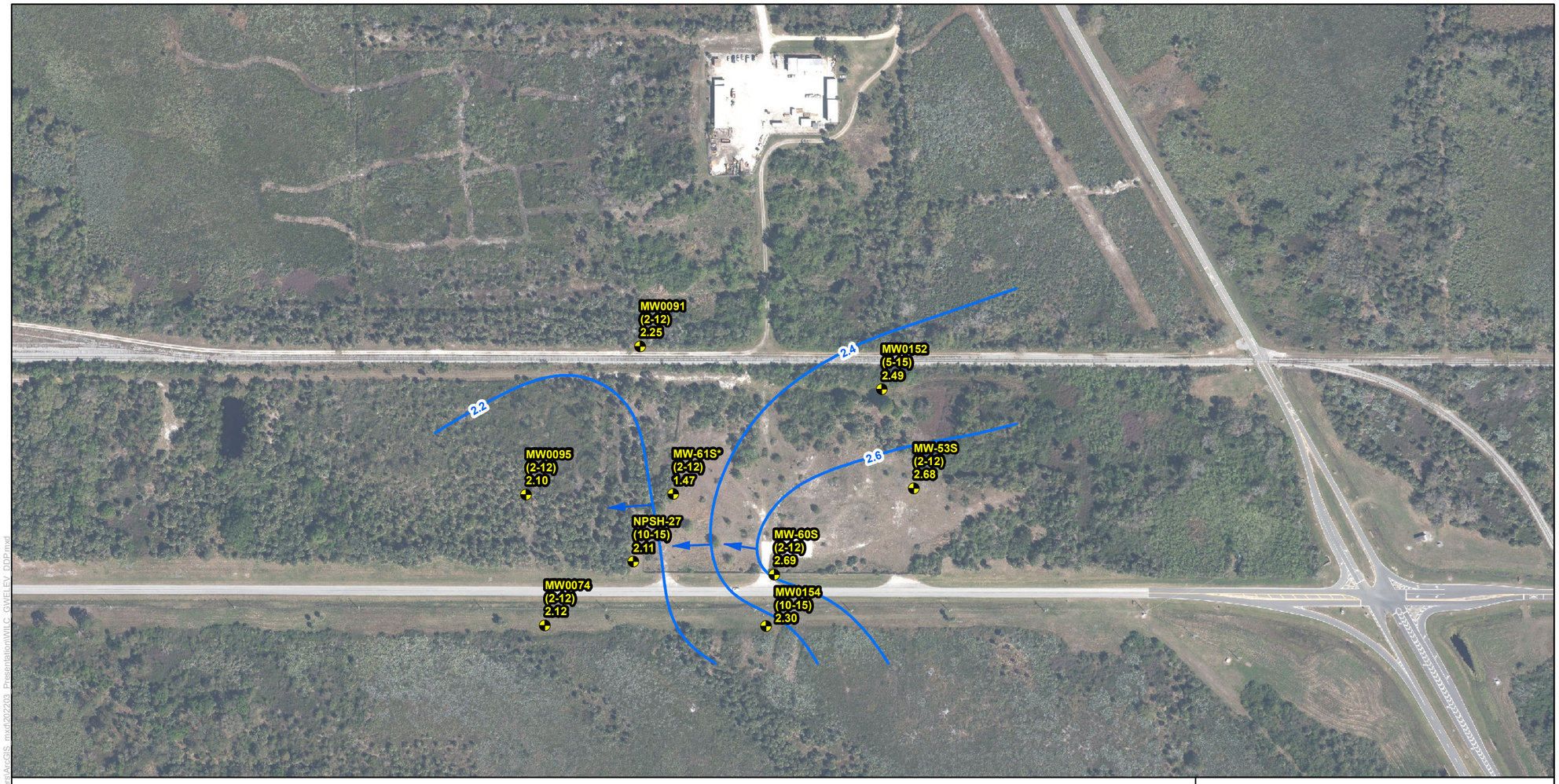
Table 3-3
Natural Attenuation Field Sampling Parameters
2015 - 2021
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Location ID	Screened Interval (feet bls)	Sample Date	pH	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
WILC-MW0129	15 to 25	12/7/2020	6.76	20.6	997	0.25	-94	7.60
		12/15/2021	6.75	23.4	1,192	0.06	-148	1.59
WILC-MW0130	56 to 66	12/15/2015	6.93	25.7	8,534	0.16	15	27.2
		12/10/2020	7.04	24.0	6,140	0.16	-242	0.39
		12/15/2021	7.16	24.7	5,659	0.08	-73	2.81
WILC-MW0132	45 to 50	10/24/2016	6.11	25.7	4,625	0.17	-31	50.0
		3/20/2017	7.05	25.5	4,832	1.90	38	4.71
		5/11/2017	6.87	24.6	6,778	0.42	-67	3.73
WILC-MW0133	40 to 50	10/24/2016	6.28	25.6	5,000	0.20	-364	8.46
		3/20/2017	7.03	25.8	5,263	3.74	-38	8.73
		5/11/2017	6.79	24.7	7,395	0.19	-113	6.30
WILC-MW0134	10 to 20	10/27/2016	6.00	26.7	649	0.24	-54	13.6
		3/20/2017	6.96	25.8	755	0.26	-139	5.20
		5/11/2017	6.73	25.0	1,020	0.08	-87	9.40
WILC-MW0135	40 to 50	10/24/2016	6.28	25.7	4,690	0.16	-312	14.6
		3/20/2017	6.90	26.9	4,949	0.20	-60	13.1
		5/11/2017	6.80	25.0	7,001	0.35	-12	5.30
WILC-MW0136	40 to 45	10/27/2016	7.10	26.7	5,617	1.80	-177	39.2
		3/20/2017	7.07	26.3	4,989	0.47	-43	2.95
		5/11/2017	6.87	25.4	7,114	0.17	-62	4.20
WILC-MW0137	10 to 20	10/27/2016	6.33	26.6	795	0.12	-127	12.5
		3/20/2017	6.97	25.4	742	0.29	-110	70.4
		5/11/2017	6.80	25.6	1,009	0.04	-83	6.50
WILC-MW0138	10 to 20	10/27/2016	6.32	25.2	654	0.25	-94	15.8
		3/20/2017	6.87	25.2	1,196	0.29	41	13.0
		5/11/2017	6.69	25.9	1,864	0.13	-102	3.39
WILC-MW0139	10 to 20	10/27/2016	6.20	26.7	851	0.13	-94	18.8
		3/20/2017	6.91	22.9	744	0.20	-141	4.19
		5/11/2017	6.76	25.9	1,072	0.12	-91	5.61
WILC-MW0140	23 to 33	12/3/2020	6.76	26.1	1,127	0.68	-53	4.20
WILC-MW0141	34 to 44	12/3/2020	7.00	24.9	1,537	0.41	-113	3.70
WILC-MW0142	8 to 18	12/27/2017	5.99	26.5	1,400	1.00	-27	9.50
		12/18/2019	6.45	24.0	885	0.24	-57	12.8
		12/3/2020	6.16	26.2	784	0.32	-20	1.80
WILC-MW0143	23 to 33	12/27/2017	6.69	27.0	1,670	0.49	-112	10.8
		12/18/2019	7.32	25.1	1,728	0.09	-135	5.02
		12/3/2020	7.04	26.6	1,265	0.34	-115	3.10
WILC-MW0144	40 to 50	12/27/2017	6.71	26.0	3,390	0.20	-152	3.70
		12/18/2019	7.00	25.2	2,370	0.11	-109	14.8
		12/3/2020	6.67	26.6	2,183	0.28	-68	4.70
WILC-MW0145	38 to 48	12/27/2017	7.00	27.0	3,110	0.30	-122	10.1
		12/18/2019	7.20	24.5	2,699	0.16	-122	16.1
		12/10/2020	7.06	24.6	2,738	0.43	-285	4.59
WILC-MW0146	23 to 33	12/10/2020	8.45	24.2	1,760	0.15	-317	10.2
WILC-MW0147	38 to 48	12/10/2020	7.00	23.8	3,655	0.39	-286	5.75
WILC-MW0148	38 to 48	12/27/2017	7.17	27.5	3,130	0.30	-117	9.80

Table 3-3
Natural Attenuation Field Sampling Parameters
2015 - 2021
Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Location ID	Screened Interval (feet bls)	Sample Date	pH	TEMP (°C)	COND (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)
WILC-MW0149	20 to 30	12/7/2020	7.59	20.3	713	0.57	12	8.36
WILC-MW0152	5 to 15	12/4/2020	6.68	23.2	713	0.19	-156	1.03
		12/17/2021	5.92	22.2	724	0.14	-77	0.43
WILC-MW0153	20 to 30	12/4/2020	7.20	23.0	975	0.16	-192	71.2
		12/17/2021	6.81	22.5	1,068	0.12	-101	0.40
WILC-MW0154	5 to 15	12/3/2020	6.87	23.7	713	0.29	-141	7.36
		12/16/2021	6.50	23.3	704	0.09	-45	3.59
WILC-MW0155	29 to 34	12/3/2020	7.02	23.8	1,211	0.28	-85	7.98
WILC-MW0156	5 to 15	12/8/2020	6.53	14.2	787	0.49	-127	2.06

Notes:
Temperature results are rounded to one decimal point
Conductivity and Oxidation Reduction potential are rounded to whole numbers
°C = degrees Celsius
µS/cm = microsiemens per centimeter
bls = below land surface
COND = Conductivity
DO = Dissolved oxygen
ID = Identification
mg/L = milligrams per liter
mV = millivolts
MW = Monitoring Well
NASA = National Aeronautics and Space Administration
NPSH = National Park Service Headquarters
NTU = Nephelometric turbidity unit
OBS = Observation
ORP = Oxidation Reduction Potential
pH = Potential Hydrogen
SWMU = Solid Waste Management Unit
TEMP = Temperature
WILC = Wilson Corners



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Legend

- Monitoring Well - 2 to 15 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

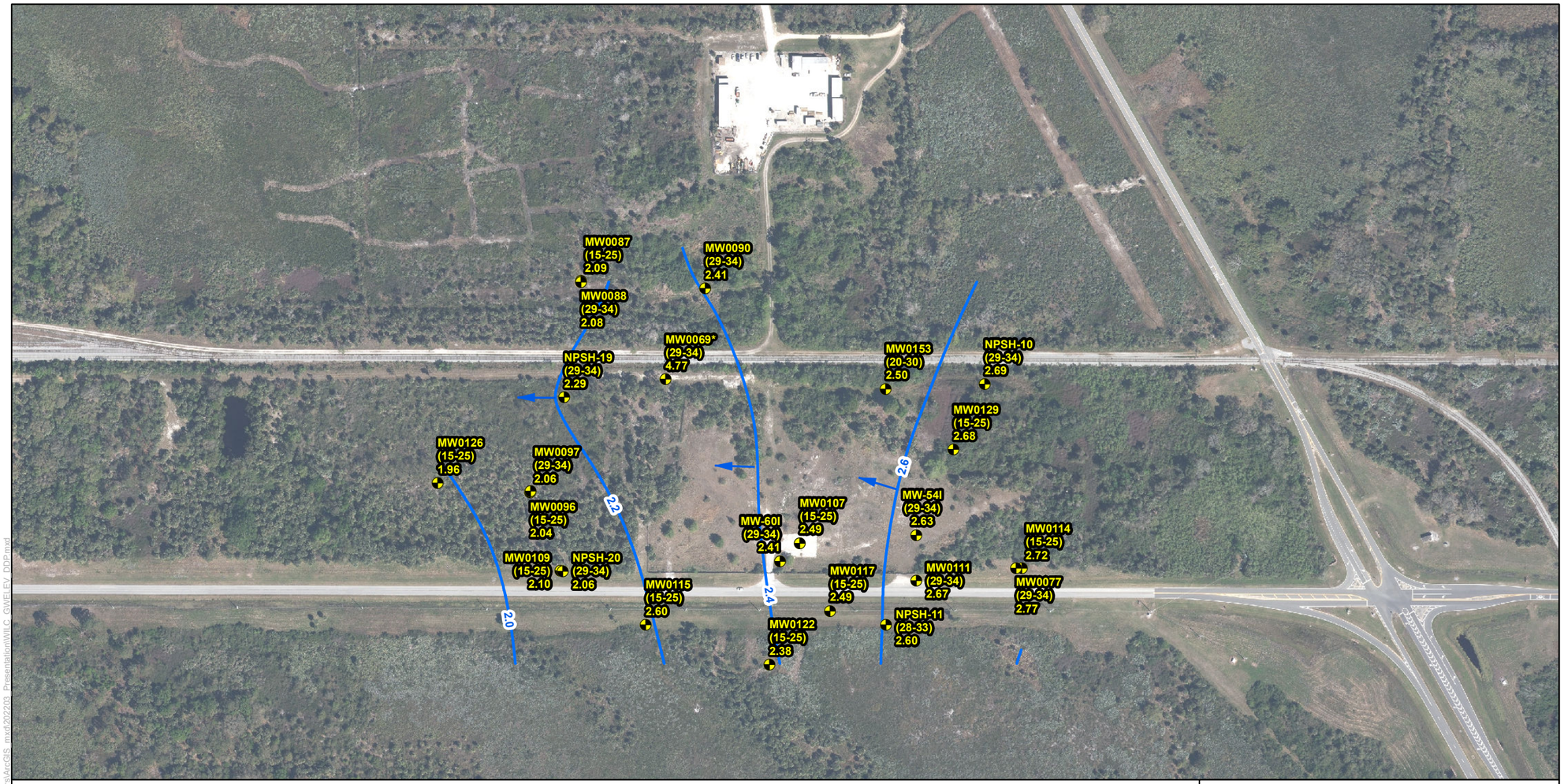
Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 13, 2021
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- bls = Below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.
- * = Water level not used in contouring

N

0 200 400 Feet

FIGURE 3-1
Groundwater Contour Map - December 2021
2-15 Feet bls

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida



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Legend

- Monitoring Well - 15 to 34 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

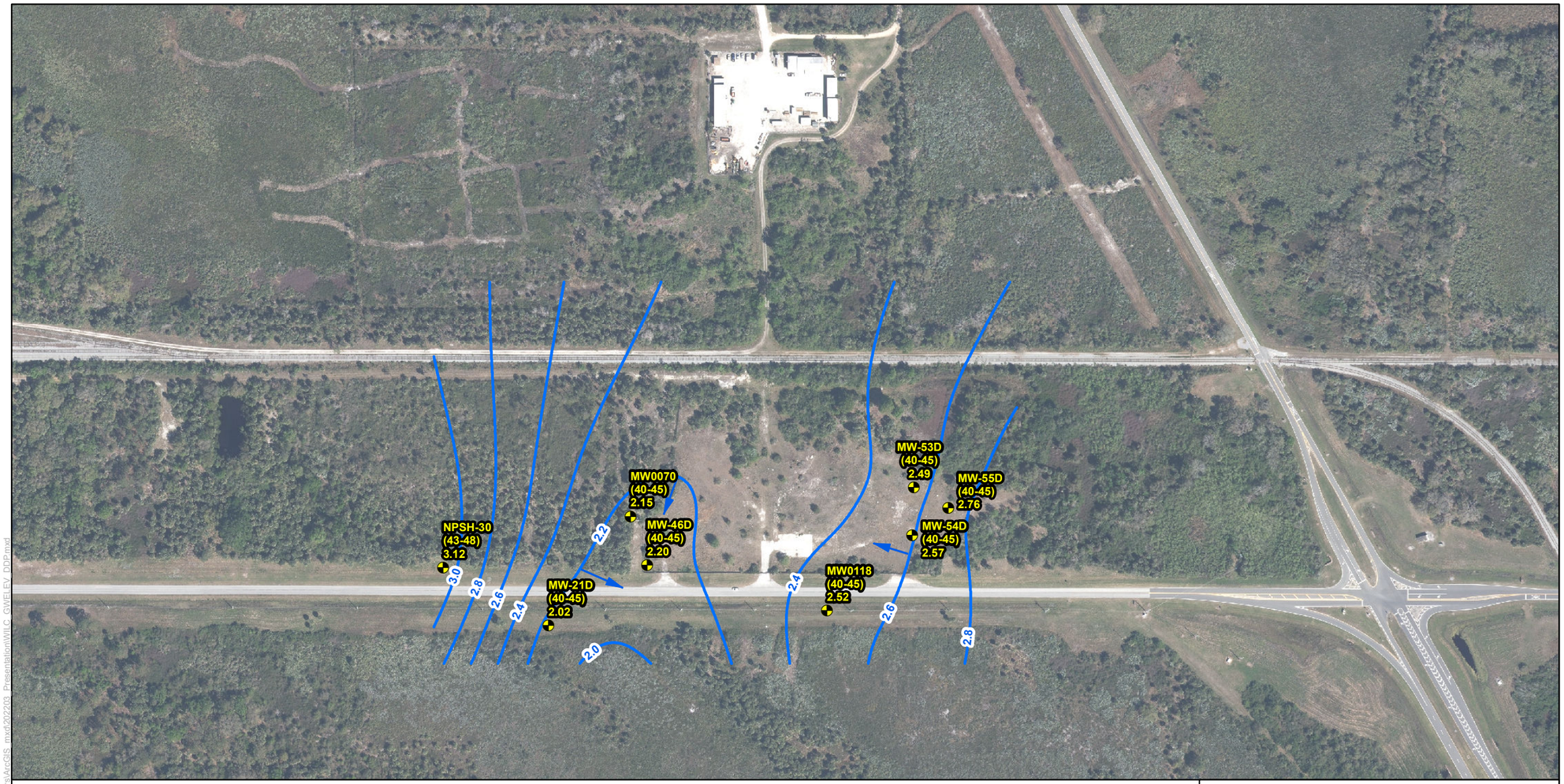
Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 13, 2021
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- bls = Below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.
- * = Water level not used in contouring

N

0 200 400 Feet

FIGURE 3-2
Groundwater Contour Map - December 2021
15-34 Feet bls

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida



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Legend

- Monitoring Well - 35 to 48 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 13, 2021
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- bls = Below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.

N

0 200 400 Feet

FIGURE 3-3
Groundwater Contour Map - December 2021
35-48 Feet bls

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

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Legend

Greater Than 48

2.62 Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 13, 2021
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- bls = Below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Groundwater elevation presented only. Insufficient number of wells available to develop contours.

N

0 200 400 Feet

FIGURE 3-4
Groundwater Contour Map - December 2021
Greater Than 48 Feet bls

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

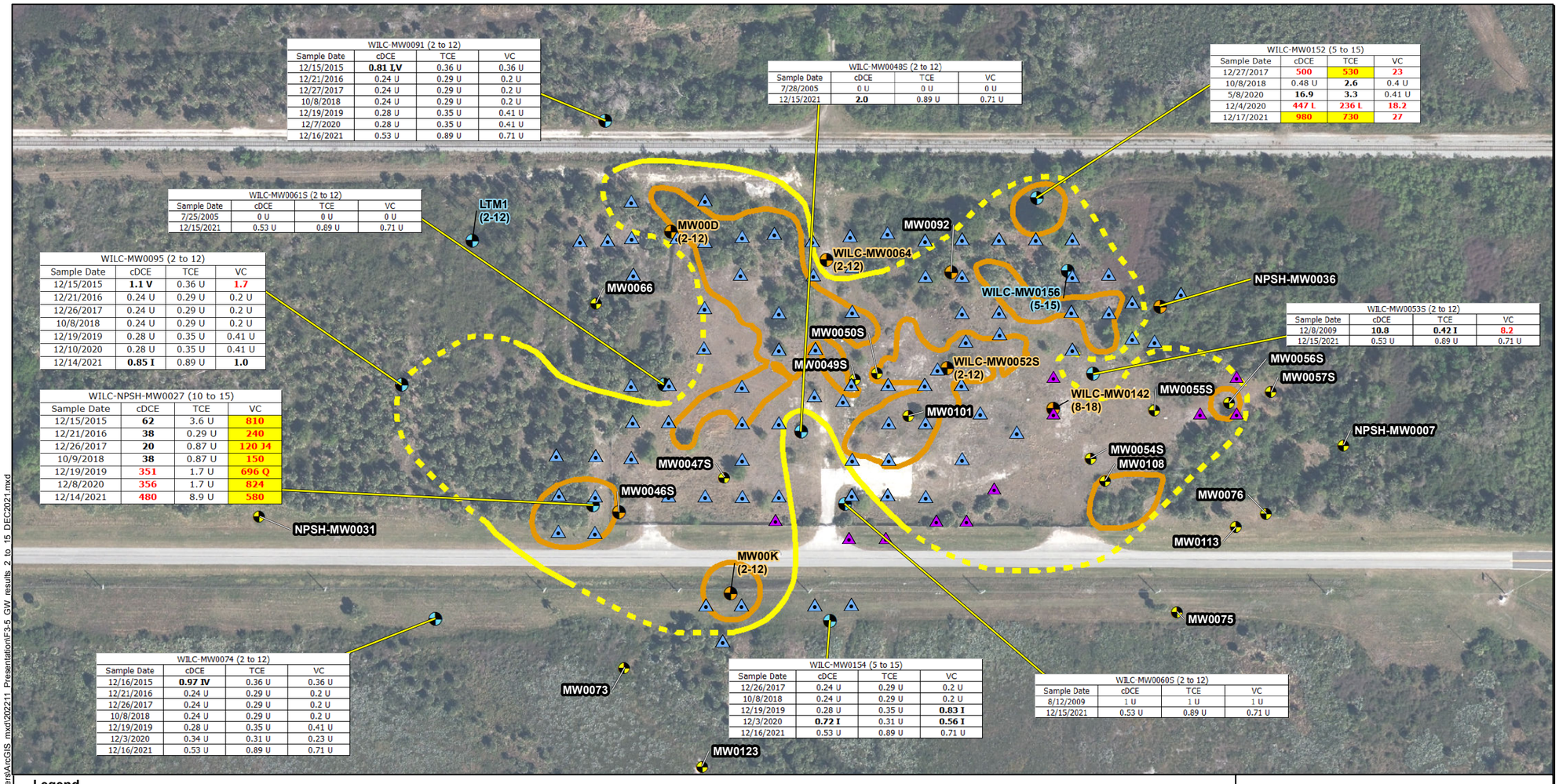
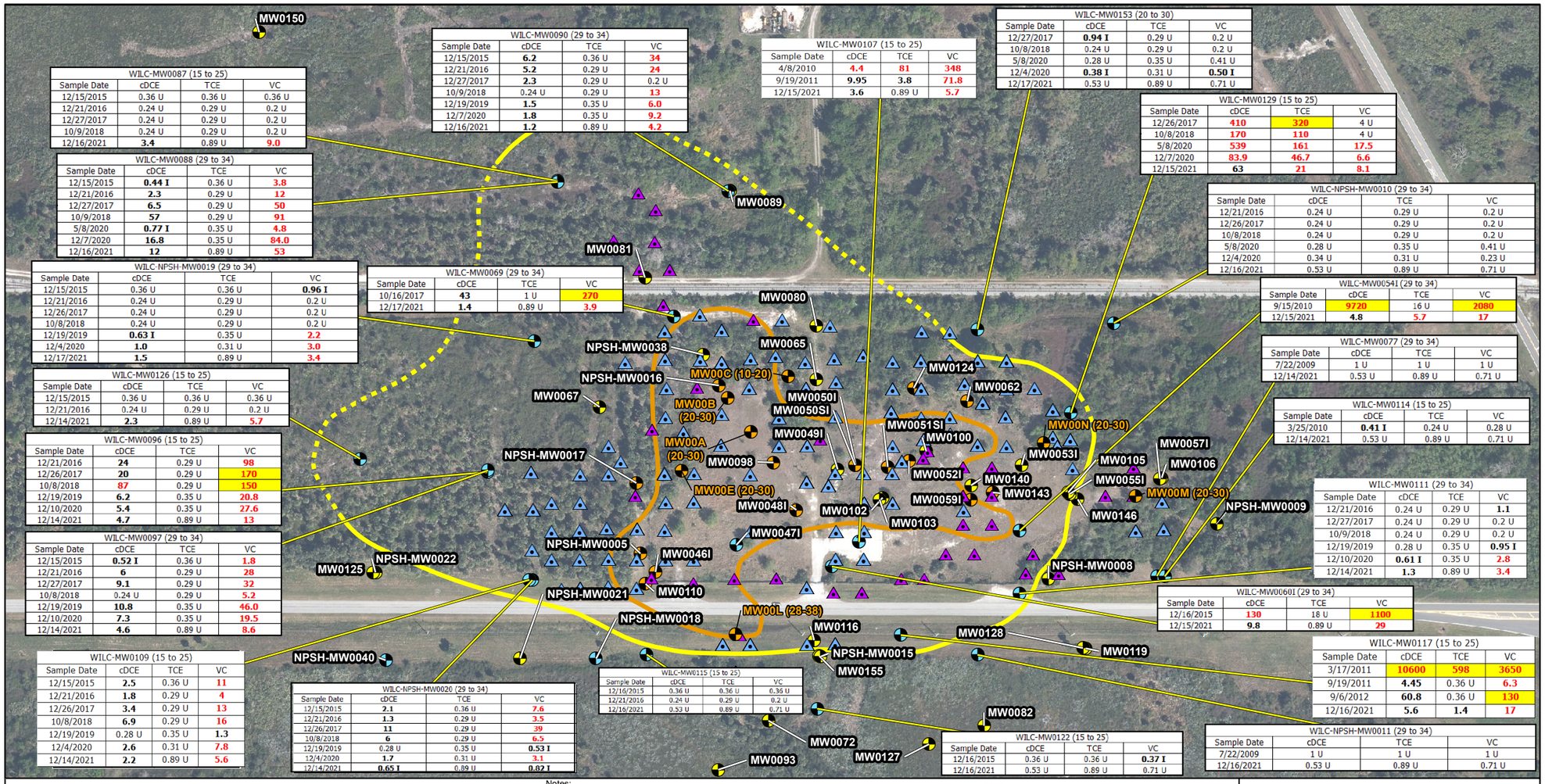


FIGURE 3-5
Groundwater Analytical Results
2 to 15 feet bls
2021

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida



WILC-MW0087 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/16/2021	**3.4**	0.89 U	**9.0**

WILC-MW0088 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	**0.44 I**	0.36 U	**3.8**
12/21/2016	**2.3**	0.29 U	**12**
12/27/2017	**6.5**	0.29 U	**50**
10/9/2018	**57**	0.29 U	**91**
5/8/2020	**0.77 I**	0.35 U	**4.8**
12/7/2020	**16.8**	0.35 U	**84.0**
12/16/2021	**12**	0.89 U	**53**

WILC-NPSH-MW0019 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	**0.96 I**
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	**0.63 I**	0.35 U	**2.2**
12/4/2020	**1.0**	0.31 U	**3.0**
12/17/2021	**1.5**	0.89 U	**3.4**

WILC-MW0126 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/14/2021	**2.3**	0.89 U	**5.7**

WILC-MW0096 (15 to 25)

Sample Date	cDCE	TCE	VC
12/21/2016	**24**	0.29 U	**98**
12/26/2017	**20**	0.29 U	**170**
10/8/2018	**87**	0.29 U	**150**
12/19/2019	**6.2**	0.35 U	**20.8**
12/10/2020	**5.4**	0.35 U	**27.6**
12/14/2021	**4.7**	0.89 U	**13**

WILC-MW0097 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	**0.52 I**	0.36 U	**1.8**
12/21/2016	**6**	0.29 U	**28**
12/27/2017	**9.1**	0.29 U	**32**
10/8/2018	0.24 U	0.29 U	**5.2**
12/19/2019	**10.8**	0.35 U	**46.0**
12/10/2020	**7.3**	0.35 U	**19.5**
12/14/2021	**4.6**	0.89 U	**8.6**

WILC-MW0109 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	**2.5**	0.36 U	**11**
12/21/2016	**1.8**	0.29 U	**4**
12/26/2017	**3.4**	0.29 U	**13**
10/8/2018	**6.9**	0.29 U	**16**
12/19/2019	0.28 U	0.35 U	**1.3**
12/4/2020	**2.6**	0.31 U	**7.8**
12/14/2021	**2.2**	0.89 U	**5.6**

WILC-MW0090 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	**6.2**	0.36 U	**34**
12/21/2016	**5.2**	0.29 U	**24**
12/27/2017	**2.3**	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	**13**
12/19/2019	**1.5**	0.35 U	**6.0**
12/7/2020	**1.8**	0.35 U	**9.2**
12/16/2021	**1.2**	0.89 U	**4.2**

WILC-MW0069 (29 to 34)

Sample Date	cDCE	TCE	VC
10/16/2017	**43**	1 U	**270**
12/17/2021	**1.4**	0.89 U	**3.9**

WILC-NPSH-MW0020 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	**2.1**	0.36 U	**7.6**
12/21/2016	**1.3**	0.29 U	**3.5**
12/26/2017	**11**	0.29 U	**39**
10/8/2018	**6**	0.29 U	**6.9**
12/19/2019	0.28 U	0.35 U	**0.53 I**
12/4/2020	**1.7**	0.31 U	**3.1**
12/14/2021	**0.65 I**	0.89 U	**0.82 I**

WILC-MW0115 (15 to 25)

Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0107 (15 to 25)

Sample Date	cDCE	TCE	VC
4/8/2010	**4.4**	**81**	**348**
9/19/2011	**9.95**	**3.8**	**71.8**
12/15/2021	**3.6**	0.89 U	**5.7**

WILC-MW0122 (15 to 25)

Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	**0.37 I**
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0153 (20 to 30)

Sample Date	cDCE	TCE	VC
12/27/2017	**0.94 I**	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	**0.38 I**	0.31 U	**0.50 I**
12/17/2021	0.53 U	0.89 U	0.71 U

WILC-MW0129 (15 to 25)

Sample Date	cDCE	TCE	VC
12/26/2017	**410**	**320**	4 U
10/8/2018	**170**	**110**	4 U
5/8/2020	**539**	**161**	**17.5**
12/7/2020	**83.9**	**46.7**	**6.6**
12/15/2021	**63**	**21**	**8.1**

WILC-NPSH-MW0010 (29 to 34)

Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	0.34 U	0.31 U	0.23 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0054I (29 to 34)

Sample Date	cDCE	TCE	VC
9/15/2010	**9720**	16 U	**2080**
12/15/2021	**4.8**	**5.7**	**17**

WILC-MW0077 (29 to 34)

Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0114 (15 to 25)

Sample Date	cDCE	TCE	VC
3/25/2010	**0.41 I**	0.24 U	0.28 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0111 (29 to 34)

Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	**1.1**
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	**0.95 I**
12/10/2020	**0.61 I**	0.35 U	**2.8**
12/14/2021	**1.3**	0.89 U	**3.4**

WILC-MW0060I (29 to 34)

Sample Date	cDCE	TCE	VC
12/16/2015	**130**	18 U	**1100**
12/15/2021	**9.8**	0.89 U	**29**

WILC-MW0117 (15 to 25)

Sample Date	cDCE	TCE	VC
3/17/2011	**10600**	**598**	**3650**
9/19/2011	**4.45**	0.36 U	**6.3**
9/6/2012	**60.8**	0.36 U	**130**
12/16/2021	**5.6**	**1.4**	**17**

WILC-NPSH-MW0011 (29 to 34)

Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/16/2021	0.53 U	0.89 U	0.71 U

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Site Monitoring Well not on Sampling Plan

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Analyte was undetected
- I = Analyte was detected but below the reporting limit; therefore, an estimated value
- Q = Results from run #2
- **Bold** indicates a detected value
- bls = below land surface
- Red text indicates an exceedance of GCTL
- Red text and yellow highlight indicates an exceedance of NADC
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1 to11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS

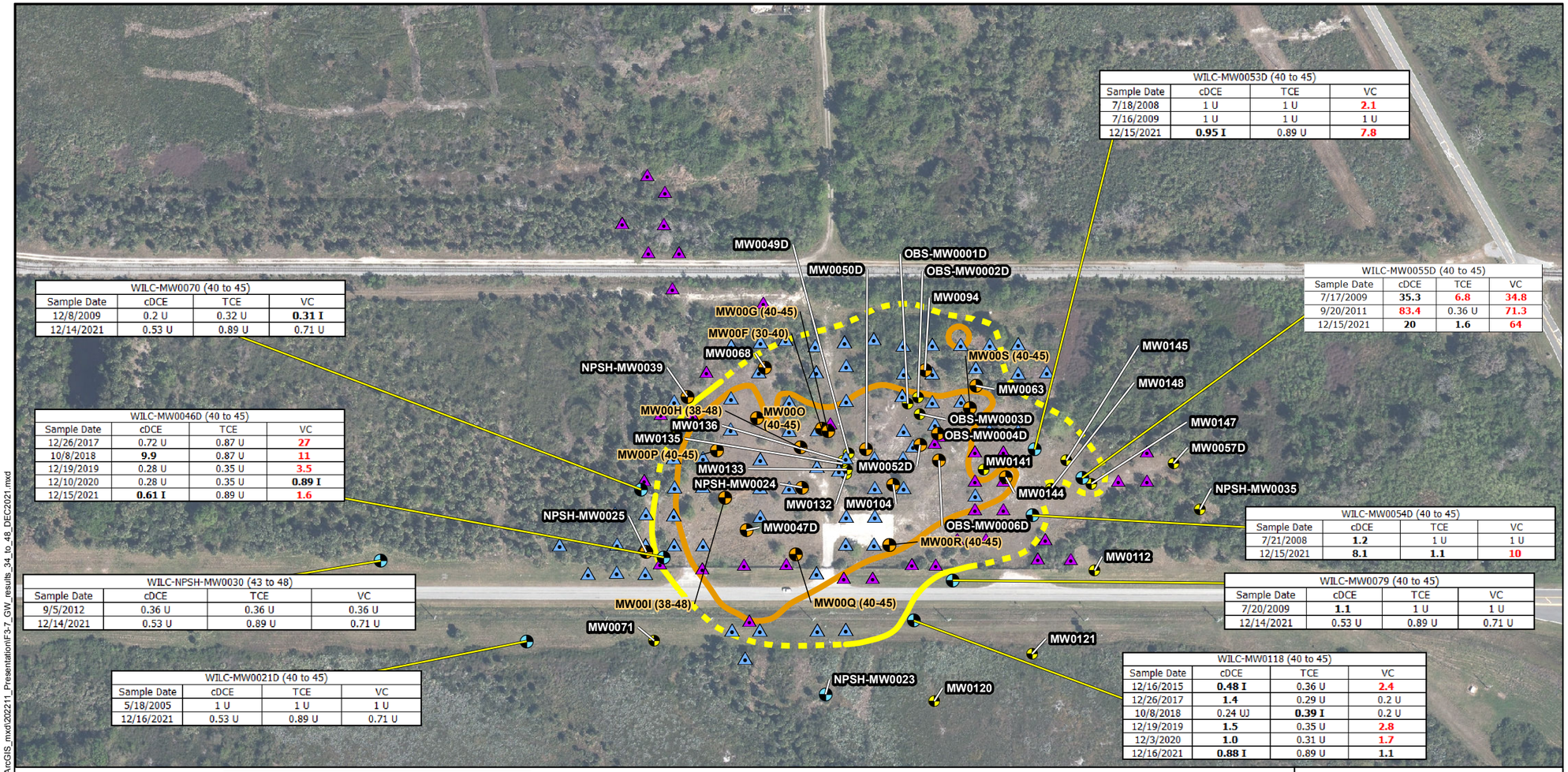
- Aerial Source: FDOT 2018
- As of December 2020, groundwater samples were collected using low-flow techniques
- SWMU = Solid Waste Management Unit
- Contours Consider 2020 and 2021 DPT Groundwater Data.
- WILC = Wilson Corners

N

0 200 400 Feet

FIGURE 3-6
Groundwater Analytical Results
15 to 34 ft bls
2021

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida



WILC-MW0053D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/18/2008	1 U	1 U	2.1
7/16/2009	1 U	1 U	1 U
12/15/2021	0.95 I	0.89 U	7.8

WILC-MW0055D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/17/2009	35.3	6.8	34.8
9/20/2011	83.4	0.36 U	71.3
12/15/2021	20	1.6	64

WILC-MW0070 (40 to 45)			
Sample Date	cDCE	TCE	VC
12/8/2009	0.2 U	0.32 U	0.31 I
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0046D (40 to 45)			
Sample Date	cDCE	TCE	VC
12/26/2017	0.72 U	0.87 U	27
10/8/2018	9.9	0.87 U	11
12/19/2019	0.28 U	0.35 U	3.5
12/10/2020	0.28 U	0.35 U	0.89 I
12/15/2021	0.61 I	0.89 U	1.6

WILC-MW0054D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/21/2008	1.2	1 U	1 U
12/15/2021	8.1	1.1	10

WILC-NPSH-MW0030 (43 to 48)			
Sample Date	cDCE	TCE	VC
9/5/2012	0.36 U	0.36 U	0.36 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0079 (40 to 45)			
Sample Date	cDCE	TCE	VC
7/20/2009	1.1	1 U	1 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0021D (40 to 45)			
Sample Date	cDCE	TCE	VC
5/18/2005	1 U	1 U	1 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0118 (40 to 45)			
Sample Date	cDCE	TCE	VC
12/16/2015	0.48 I	0.36 U	2.4
12/26/2017	1.4	0.29 U	0.2 U
10/8/2018	0.24 UJ	0.39 I	0.2 U
12/19/2019	1.5	0.35 U	2.8
12/3/2020	1.0	0.31 U	1.7
12/16/2021	0.88 I	0.89 U	1.1

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Site Monitoring Well not on Sampling Plan
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Analyte was undetected
- I = Analyte was detected but below the reporting limit; therefore, an estimated value
- Q = Results from run #2
- J = Analyte concentration detected below the method detection limit
- **Bold** indicates a detected value
- bls = below land surface
- Red text indicates an exceedance of GCTL
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1 to 11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS
- Aerial Source: FDOT 2018
- As of December 2020, groundwater samples were collected using low-flow techniques

- SWMU = Solid Waste Management Unit
- Contours Consider 2020 and 2021 DPT Groundwater Data.
- WILC = Wilson Corners

N

0 200 400 Feet

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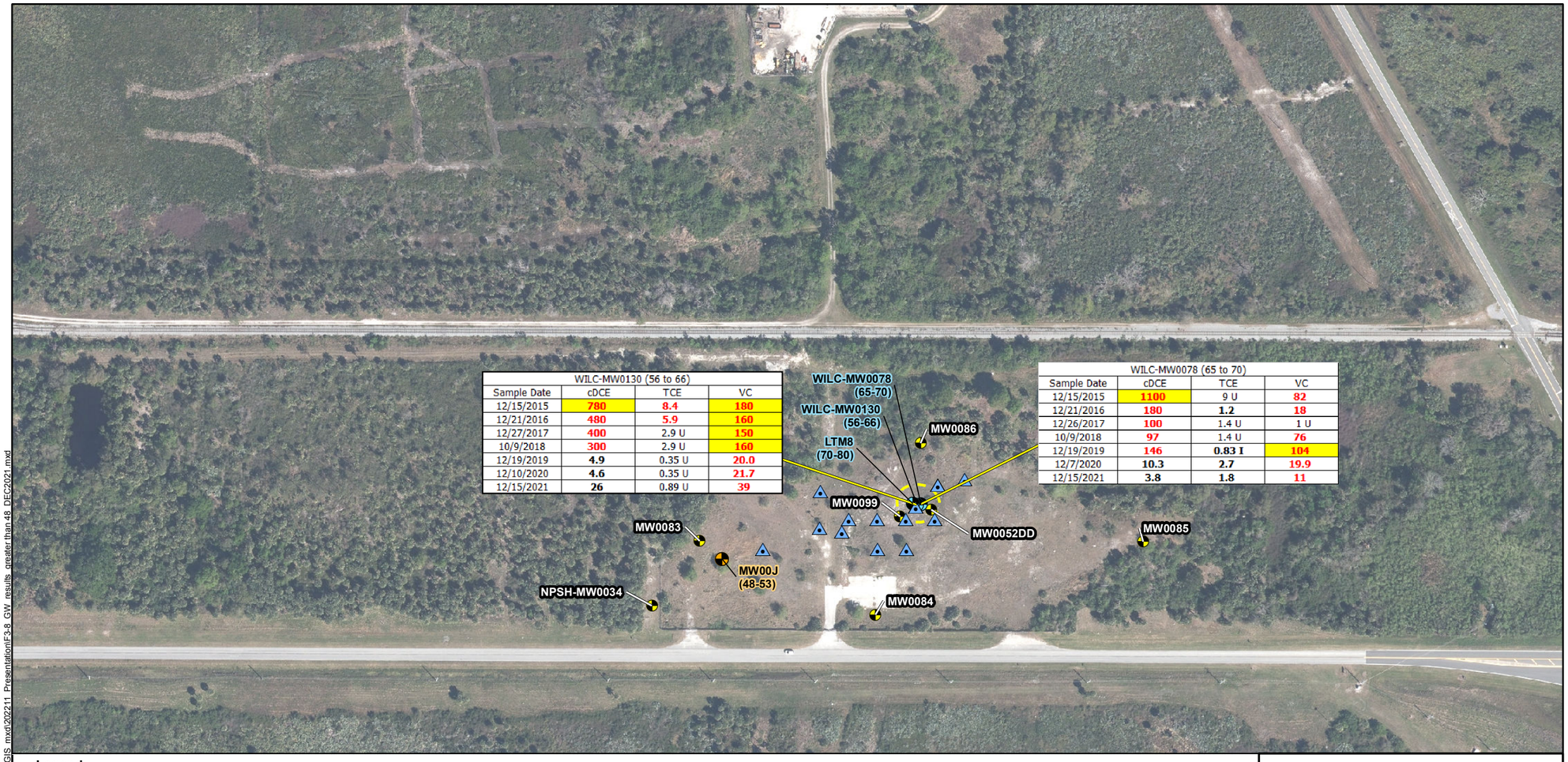
FIGURE 3-7
Groundwater Analytical Results
34 to 48 ft bls
2021

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida



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Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Site Monitoring Well not on Sampling Plan

Proposed Long Term Monitoring Well Location 2022

Proposed Performance Monitoring Well Location 2022

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Analyte was undetected
- I = Analyte was detected but below the reporting limit; therefore, an estimated value
- **Bold** indicates a detected value
- bls = below land surface
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1 to 11) = Monitoring well screen interval in feet below land surface
- Red text with yellow highlight indicates an exceedance of NADC
- Red text indicates an exceedance of GCTL
- Historical data source: RIS
- Aerial Source: FDOT 2018
- As of December 2020, groundwater samples were collected using low flow techniques
- SWMU = Solid Waste Management Unit
- Contours Consider 2020 and 2021 DPT Groundwater Data.
- WILC = Wilson Corners

N

0 200 400 Feet

FIGURE 3-8
Groundwater Analytical Results
Greater than 48 ft bls
2021

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

4. CONCLUSIONS AND RECOMMENDATIONS

The Wilson Corners LTM activities and results were presented to the KSCRT in May 2022, and the KSCRT agreed with the following conclusions and recommendations. The ADP and meeting minutes are provided in **Appendix A**.

The following conclusions can be made based on the 2021 LTM results:

- In December 2021, groundwater flow for the site was generally to the west, with the individual zones only varying by occasional northerly and southerly components. This is generally consistent with historical observations at the site.

- The LCP continues to extend both horizontally and vertically beyond the current monitoring well network. Data, inclusive of the 2020 and 2021 DPT sampling events, indicate that the LCP encompasses an estimated 20.7 acres, as compared to the 2020 LCP footprint of 17.0 acres. The 2021 Overall CVOC plume is presented in **Figure 4-1**.

- The vertical extent of VOCs was historically delineated by monitoring wells screened greater than 48 feet bls. The results from the two vertical extent monitoring wells WILC-MW0078 (screened 65 to 70) and WILC-MW0130 (screened 56 to 66), that were sampled during the 2021 LTM indicate that groundwater VC concentrations in both wells were greater than the GCTL. The Remediation Team has previously agreed to delay deeper DPT investigations in this area to prevent the creation of additional pathways for vertical migration.

- Freon 113 was not detected above GCTLs during the 2021 LTM events.

Based on groundwater sampling activities performed in 2021, including April 2021 DPT groundwater sampling, the following recommendations are provided:

- Perform the next LTM sampling event as presented in **Table 4-1** and concurrently with the IM baseline sampling prior to AS system installation;

- Include sampling from nine new monitoring wells, that are planned to be installed in late 2022, concurrent with upcoming IM construction activities. Installation of one deep vertical well, screened 70 to 80 feet bls, will be delayed to prevent the creation of an additional pathway for vertical migration; and

- Once the AS System install and start-up is complete, select monitoring wells from the LTM program will transition to the performance monitoring plan. Performance monitoring will be performed quarterly, and the monitoring well network will be evaluated following the first performance monitoring sampling event.

The next annual LTM sampling event is planned for February 2023, along with IM baseline sampling. The current selection of monitoring wells will provide an adequate data set for

monitoring groundwater plume behavior. This will be maintained with quarterly evaluations of the monitoring well network.

The six monitoring wells (WILC-NPSH-MW0018, WILC-NPSH-MW0023, WILC-MW0040, WILC-MW0079, WILC-MW0156, and WILC-MW0048S) not located or found damaged in 2021 will be evaluated for replacement concurrently with monitoring wells damaged during IM activities. An additional assessment of monitoring well conditions will be performed in December 2022 since IM activities are ongoing.

In order to continue to meet the goal of LTM presented in Section 1.3, the following list includes the objectives of the 2022 LTM activities: (i) evaluate groundwater gradient and flow direction by collecting depth to water measurements; (ii) continue monitoring the peripheral VOC trends in the northern, southern, and western portions of the site by monitoring existing and newly installed wells; (iii) monitor select internal plume wells; and (iv) re-evaluate monitoring well network to transition select LTM wells to the performance monitoring plan.

Table 4-1
2022 Proposed Long-Term Monitoring Plan
Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Proposed LTM Plan	
			Water Levels	Sampled (Analytical Parameter)
2 to 15 feet bls				
WILC-NPSH-MW0027	10 to 15		X	Select VOCs
WILC-MW0048S	2 to 12		X	Select VOCs
WILC-MW0053S	2 to 12		X	Select VOCs
WILC-MW0057S	2 to 12		X	
WILC-MW0060S	2 to 12		X	Select VOCs
WILC-MW0061S	2 to 12		X	Select VOCs
WILC-MW0074	2 to 12		X	Select VOCs
WILC-MW0091	2 to 12		X	Select VOCs
WILC-MW0095	2 to 12		X	Select VOCs
WILC-MW0152	5 to 15		X	Select VOCs
WILC-MW0154	5 to 15		X	Select VOCs
WILC-MW0156	5 to 15		X	Select VOCs
LTM1	2 to 12	X	X	Select VOCs
15 to 34 feet bls				
WILC-NPSH-MW0010	29 to 34		X	Select VOCs
WILC-NPSH-MW0011	28 to 33		X	Select VOCs
WILC-NPSH-MW0015	29 to 34		X	
WILC-NPSH-MW0018	29 to 34		X	Select VOCs
WILC-NPSH-MW0019	29 to 34		X	Select VOCs
WILC-NPSH-MW0020	29 to 34		X	Select VOCs
WILC-MW0040	29 to 34		X	Select VOCs
WILC-MW0047I	29 to 34		X	Select VOCs
WILC-MW0054I	29 to 34		X	Select VOCs
WILC-MW0060I	29 to 34		X	Select VOCs
WILC-MW0065	29 to 34		X	
WILC-MW0069	29 to 34		X	Select VOCs
WILC-MW0077	29 to 34		X	Select VOCs
WILC-MW0080	29 to 34		X	
WILC-MW0087	15 to 25		X	Select VOCs
WILC-MW0088	29 to 34		X	Select VOCs
WILC-MW0089	15 to 25		X	
WILC-MW0090	29 to 34		X	Select VOCs
WILC-MW0096	15 to 25		X	Select VOCs
WILC-MW0097	29 to 34		X	Select VOCs
WILC-MW0107	15 to 25		X	Select VOCs
WILC-MW0109	15 to 25		X	Select VOCs
WILC-MW0111	29 to 34		X	Select VOCs
WILC-MW0114	15 to 25		X	Select VOCs
WILC-MW0115	15 to 25		X	Select VOCs
WILC-MW0116	15 to 25		X	
WILC-MW0117	15 to 25		X	Select VOCs
WILC-MW0122	15 to 25		X	Select VOCs
WILC-MW0126	15 to 25		X	Select VOCs
WILC-MW0129	15 to 25		X	Select VOCs
WILC-MW0140	23 to 33		X	
WILC-MW0149	20 to 30		X	
WILC-MW0153	20 to 30		X	Select VOCs
LTM2	24 to 34	X	X	Select VOCs
LTM3	24 to 34	X	X	Select VOCs
LTM4	24 to 34	X	X	Select VOCs
LTM9	24 to 34	X	X	Select VOCs
LTM10	24 to 34	X	X	Select VOCs

Table 4-1
2022 Proposed Long-Term Monitoring Plan
Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida

Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Proposed LTM Plan	
			Water Levels	Sampled (Analytical Parameter)
34 to 48 feet bls				
WILC-MW0021D	40 to 45		X	Select VOCs
WILC-NPSH-MW0023	37.5 to 42.5		X	Select VOCs
WILC-NPSH-MW0030	43 to 48		X	Select VOCs
WILC-MW0046D	40 to 45		X	Select VOCs
WILC-MW0053D	40 to 45		X	Select VOCs
WILC-MW0054D	40 to 45		X	Select VOCs
WILC-MW0055D	40 to 45		X	Select VOCs
WILC-MW0057D	40 to 45		X	
WILC-MW0070	40 to 45		X	Select VOCs
WILC-MW0079	40 to 45		X	Select VOCs
WILC-MW0118	40 to 45		X	Select VOCs
WILC-MW0141	34 to 44		X	
WILC-MW0145	38 to 48		X	
WILC-MW0147	38 to 48		X	
LTM5	35 to 45	X	X	Select VOCs
LTM6	35 to 45	X	X	Select VOCs
LTM7	42 to 52	X	X	Select VOCs
Greater than 48 feet bls				
WILC-MW0078	65 to 70		X	Select VOCs
WILC-MW0130	56 to 66		X	Select VOCs
LTM8	70 to 80	X	X	Select VOCs

Notes:

Blank cells = The well is not included for that event or activity.

ft bls = feet below land surface

NASA = National Aeronautics and Space Administration

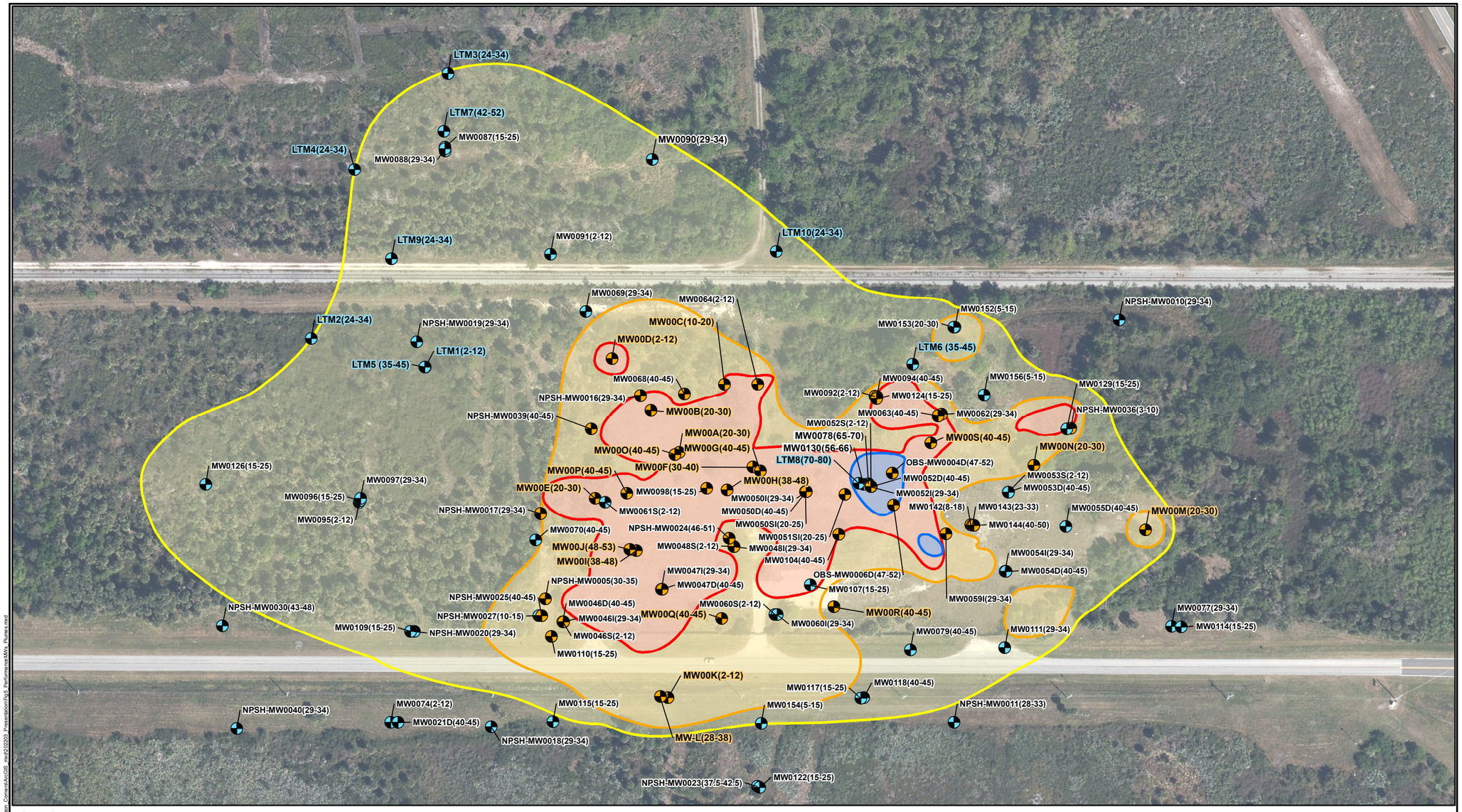
Select VOCs = 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, Freon 113, tetrachloroethene, trichloroethene, and vinyl chloride

SWMU = Solid Waste Management Unit

VOC = Volatile Organic Compound

Proposed monitoring wells will be installed during air sparge installation activities.

Proposed deep monitoring well LTM8 installation is delayed to prevent the creation of an additional pathway for vertical migration.



Legend

- LTM Well Location
- Performance Monitoring Well Location
- Overall CVOC Low Concentration Plume (LCP) (Area: 20.7 Acres/903,333 ft2)
- Proposed Long Term Monitoring Well Location 2022 (for installation)
- Proposed Performance Monitoring Well Location 2022
- Overall CVOC High Concentration Plume (HCP) (Area: 7.1 Acres/309,183 ft2)
- 10x NADC Overall CVOC Plume (Area: 3.0 Acres/129,077 ft2)
- 100x NADC Overall CVOC Plume (Area: 0.15 Acres/6,326 ft2)

Notes:
1. MW = Monitoring Well
2. NPSH = National Park Service Headquarters
3. SWMU = Solid Waste Management Unit
4. Aerial Source: Florida Department of Transportation (FDOT) 2018

N

0 125 250 Feet

FIGURE 4-1
Overall CVOC Plume

Wilson Corners, SWMU 001
NASA Kennedy Space Center, Florida

Document Path: M:\Geoprojects\Projects\NASA\GIS\Wilson_Corners\ArcGIS_mxd\220203_Presentation\Fig5_Performance\MWs_Plume.mxd

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APPENDIX A

ADVANCE DATA PACKAGE
AND
KSC REMEDIATION TEAM MEETING MINUTES
(PROVIDED IN THE ELECTRONIC COPY ONLY)

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2021 Annual Long-Term Monitoring (LTM)

Wilson Corners (WILC)

Solid Waste Management Unit (SWMU) 001

May 4, 2022

Outline

1. Site Overview
2. 2021 Annual Long-term Monitoring (LTM) Sampling Plan
3. 2021 Annual LTM Results and Test Consensus

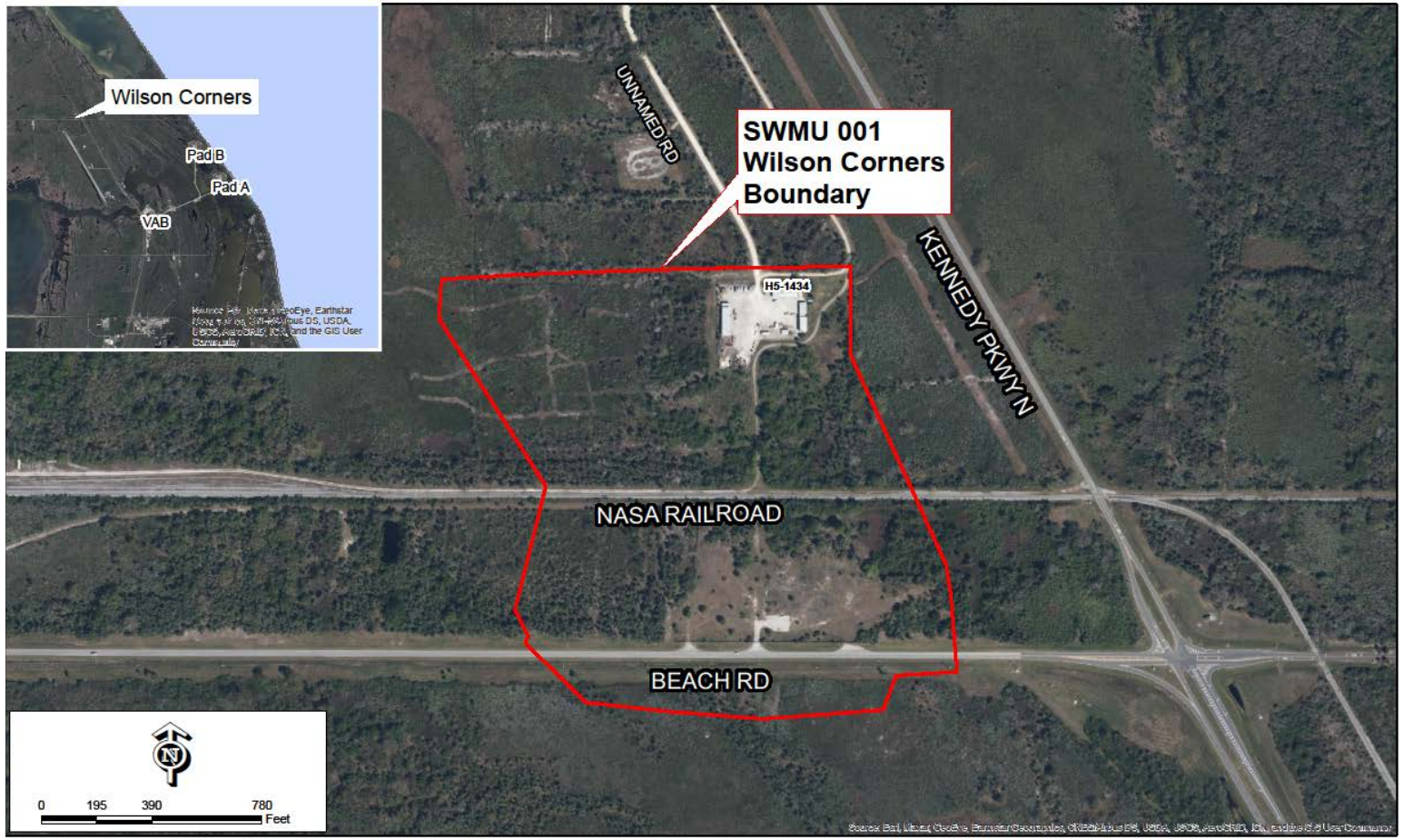
Site Overview

WILC, SWMU 001 Overview

Site Use

- Wilson Corners, Solid Waste Management Unit (SWMU) #001, is located on Beach Road (State Road 402) northwest of the intersection of Kennedy Parkway (State Road 3) and Beach Road (State Road 402).

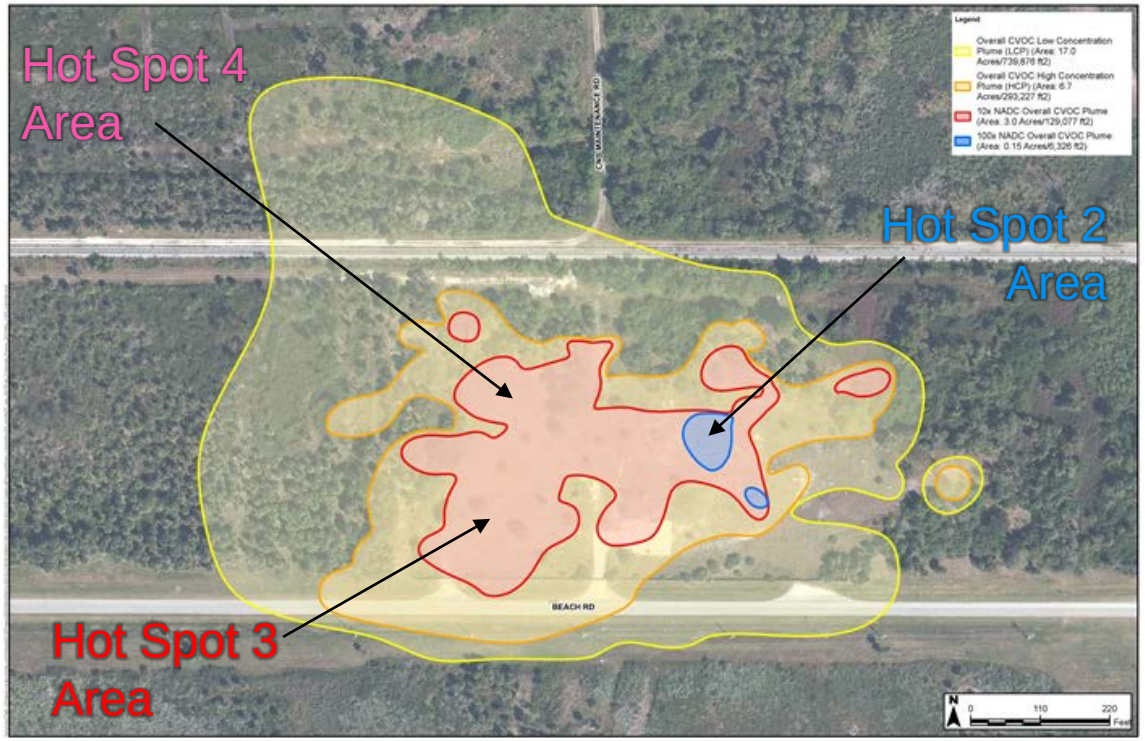
Wilson Corners, SWMU #001



WILC, SWMU 001 Overview

Current Site Conditions

- Soil or sediment impacts: None
- Groundwater COCs:
  - Chlorinated Volatile Organic Compounds (primarily trichloroethene, cis-1,2 dichloroethene, vinyl chloride, and Freon 113)
- Horizontal and vertical extent of contaminations (as of 2021 DPT Data):
  - ~17-acre Groundwater Cleanup Target Level (GCTL) plume
    - HCP has reduced from 9.9 acres to 6.7 acres
  - Vertical extent of GCTL plume is >70 feet bls
    - Vertical migration is limited by the fine-grained unit at ~50 feet bls.
    - GCTL exceedances are observed in the two deep LTM monitoring wells, within the Hot Spot 2 area, screened 56 to 66 and 65 to 70 feet bls.
    - KSCRT has agreed to delay doing deeper DPT investigation in this area to reduce the potential for creation of pathways causing vertical migration. An increase in TCE breakdown products was observed in monitoring wells following a deep DPT investigation within the Hot Spot 2 area in 2012. Following the Hot Spot 2 interim measure, a deeper DPT investigation will be conducted.

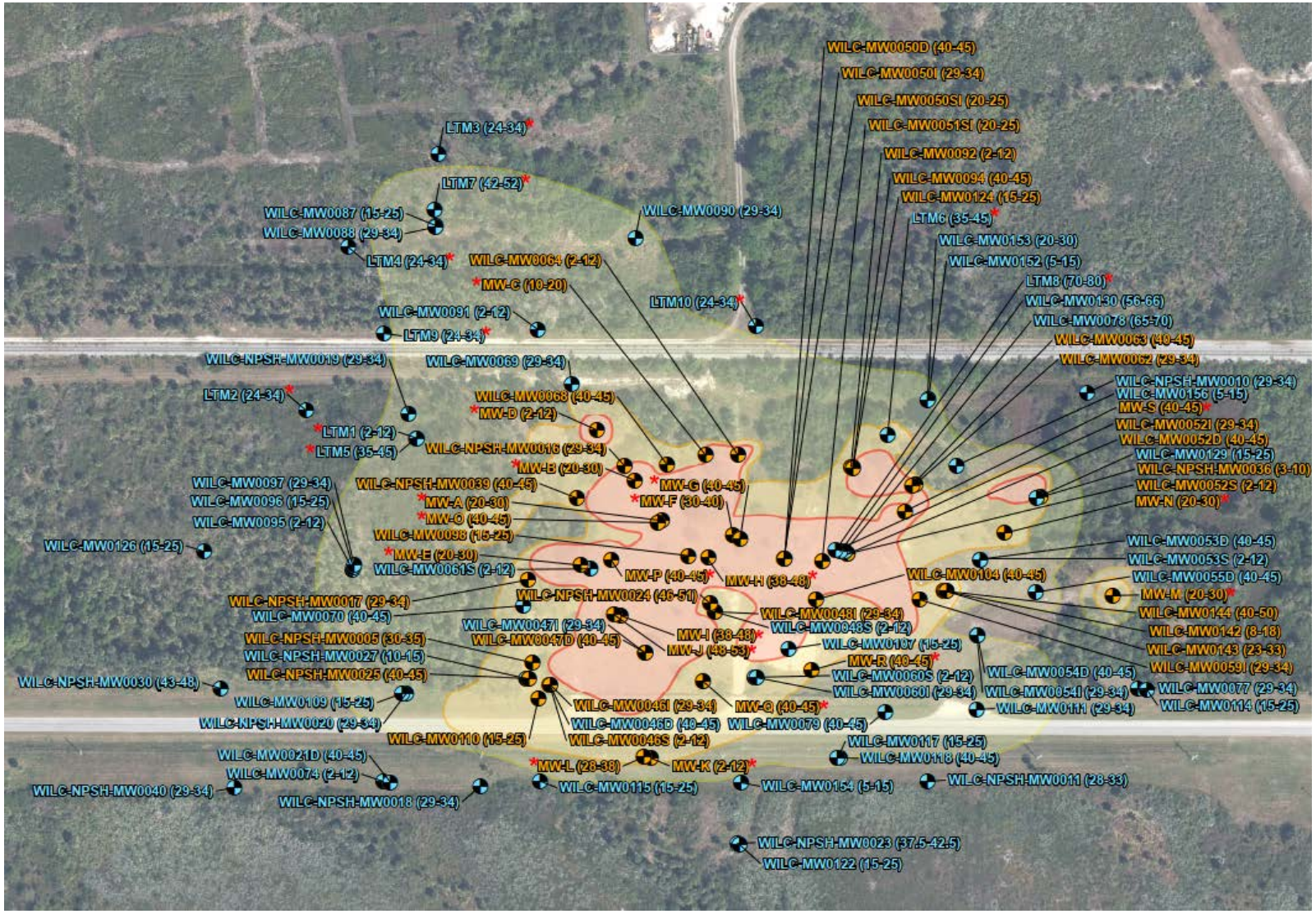


Composite plume using 2020 groundwater data and 2020 and 2021 DPT data

WILC, SWMU 001 Overview

Long-term Groundwater Monitoring

- Long-Term Monitoring was initiated in February 2005, semi-annually
- Following evaluation of monitoring program in 2020, it was determined that monitoring wells are no longer meeting the objective of the monitoring program
  - KSCRT consensus reached at April 2021 meeting to modify sampling plan and install new monitoring wells (LTM 1 though LTM 10)
  - 10 existing monitoring wells added to 2021 LTM event to delineate the horizontal extent of the LCP
  - Proposed monitoring wells to be installed in 2022



Legend

- LTM Well Locations
- Performance Monitoring Well Locations
- Overall CVOC Low Concentration Plume (LCP) (Area: 17.0 Acres/739,876 ft2)
- Overall CVOC High Concentration Plume (HCP) (Area: 6.7 Acres/293,227 ft2)
- 10x NADC Overall CVOC Plume (Area: 3.0 Acres/129,077 ft2)
- * Proposed Performance Monitoring or LTM Well Location

Source: Figure 5-1 from Implementation Work Plan for High Concentration Plume Air Sparge Interim Measure (November 2021, AECOM)

2021 Annual LTM Sampling Plan

2021 Annual LTM Sampling Plan

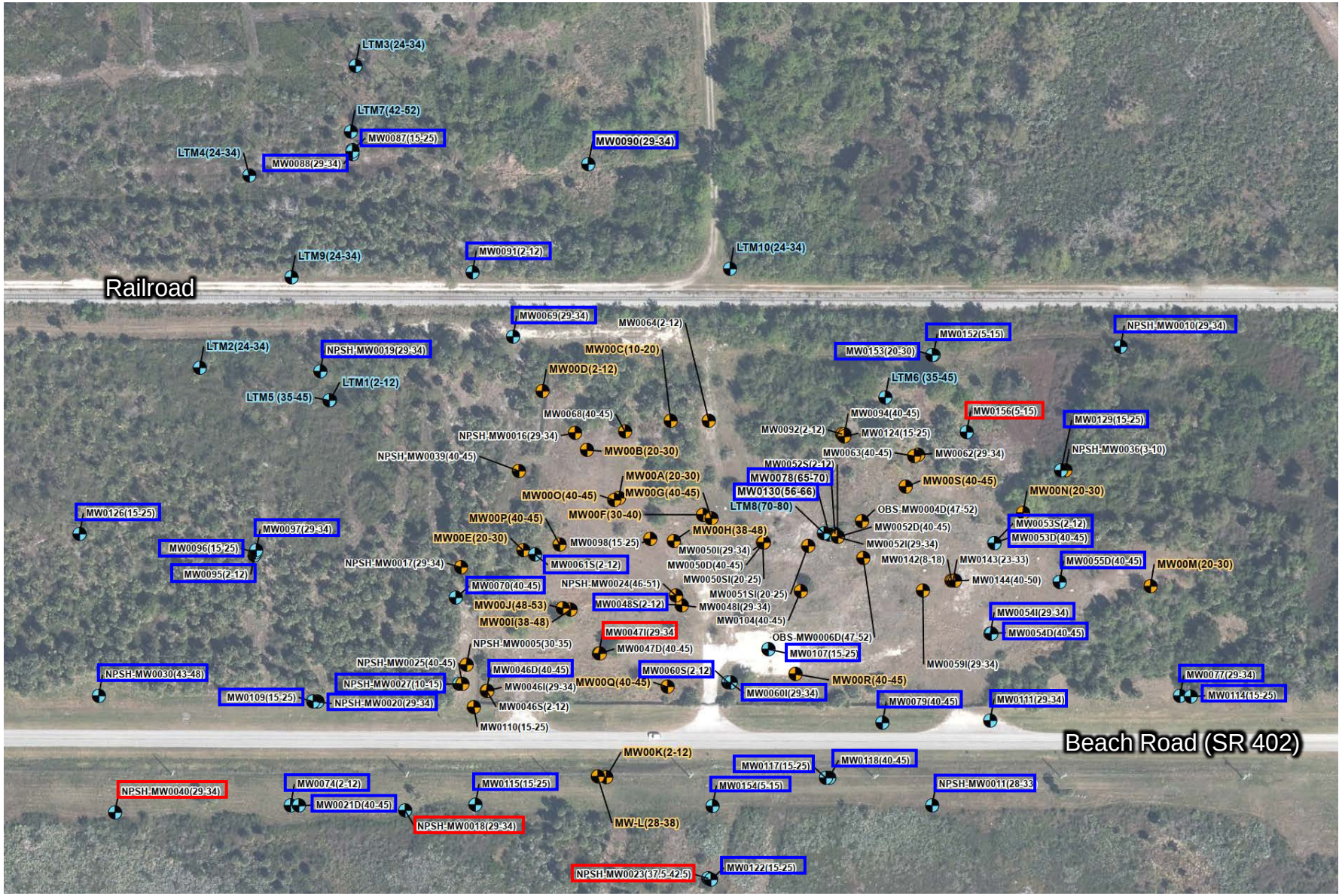
LTM Plan

- Based on evaluation of 2020 and 2021 DPT data and 2020 LTM event, the 2021 LTM Plan was updated to include:
  - Sampling 49 existing monitoring wells and 10 proposed monitoring wells (59 total)
  - Collect groundwater elevation readings from an additional 12 existing monitoring wells and 10 proposed monitoring wells (71 total)
- New wells were added from around perimeter of LCP to further determine horizontal extent of LCP
  - Interval 2 – 15 feet bls:
    - Removed 2 wells (WILC-NPSH-MW0036 and WILC-MW0064);
    - Added 4 wells (WILC-MW00048S, WILC-MW0053S, WILC-MW0060S, and WILC-MW0061S)
  - Interval 15 – 34 feet bls:
    - Removed 11 wells (WILC-MW0088, WILC-MW0097, WILC-MW0106, WILC-MW0111, WILC-MW0125, WILC-MW0142, WILC-MW0143, WILC-MW0146, WILC-MW0150, WILC-MW0151, and WILC-MW0155
    - Added 7 wells (WILC-MW0107, WILC-MW0114, WILC-MW0115, WILC-MW0117, WILC-MW0122, WILC-MW0126, and WILC-NPSH-MW0011)
  - Interval 34 – 48 feet bls:
    - Removed 5 wells (WILC-NPSH-MW0039, WILC-MW0068, WILC-MW0141, WILC-MW0144, and WILC-MW0148)
    - Added 9 wells (WILC-NPSH-MW0023, WILC-MW0021D, WILC-MW0053D, WILC-MW0054D, WILC-MW0055D, WILC-MW0057D, WILC-MW0070, WILC-MW0079, and WILC-NPSH-MW0030)
  - Vertical extent of LCP to be addressed in future sampling events after IM implementation

- Team concurrence for new wells and modified LTM plan was received at the April 2021 KSCR Team meeting (Meeting number 2104-M08, Decision number 2104-D31 through -D34)

2021 Annual LTM Sampling Plan

Site-wide Monitoring Well Layout Map



2021 LTM Plan Wells Sampled
2021 LTM Plan Wells Not Accessible

aecom.com

2021 Annual LTM Sampling Plan

Modified 2021 LTM Sampling Plan

- Proposed monitoring wells will be installed in conjunction with IM implementation in 2022 and sampled during the baseline sampling event

Zone (feet bls)	Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Selected VOCs
2 to 15	WILC-MW0048S	2 to 12		X
	WILC-MW0053S	2 to 12		X
	WILC-MW0057S	2 to 12		
	WILC-MW0060S	2 to 12		X
	WILC-MW0061S	2 to 12		X
	WILC-MW0074	2 to 12		X
	WILC-MW0091	2 to 12		X
	WILC-MW0095	2 to 12		X
	WILC-MW0152	5 to 15		X
	WILC-MW0154	5 to 15		X
	WILC-MW0156	5 to 15		X
	WILC-NPSH-MW0027	10 to 15		X
	LTM1	2 to 12	X	X
15 to 34	WILC-MW0087	15 to 25		X
	WILC-MW0089	15 to 25		
	WILC-MW0096	15 to 25		X
	WILC-MW0107	15 to 25		X
	WILC-MW0109	15 to 25		X
	WILC-MW0114	15 to 25		X
	WILC-MW0115	15 to 25		X
	WILC-MW0116	15 to 25		
	WILC-MW0117	15 to 25		X
	WILC-MW0122	15 to 25		X
	WILC-MW0126	15 to 25		X
	WILC-MW0129	15 to 25		X
	WILC-MW0149	20 to 30		
	WILC-MW0153	20 to 30		X
	WILC-MW0140	23 to 33		
	LTM2	24 to 34	X	X
	LTM3	24 to 34	X	X
	LTM4	24 to 34	X	X
	LTM9	24 to 34	X	X
	LTM10	24 to 34	X	X
	WILC-NPSH-MW0011	28 to 33		X

Zone (feet bls)	Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Selected VOCs
15 to 34 (contd.)	WILC-NPSH-MW0010	29 to 34		X
	WILC-NPSH-MW0015	29 to 34		
	WILC-NPSH-MW0018	29 to 34		X
	WILC-NPSH-MW0019	29 to 34		X
	WILC-NPSH-MW0020	29 to 34		X
	WILC-NPSH-MW0040	29 to 34		X
	WILC-MW0047I	29 to 34		X
	WILC-MW0054I	29 to 34		X
	WILC-MW0060I	29 to 34		X
	WILC-MW0065	29 to 34		
	WILC-MW0069	29 to 34		X
	WILC-MW0077	29 to 34		X
	WILC-MW0080	29 to 34		
	WILC-MW0088	29 to 34		X
	WILC-MW0090	29 to 34		X
	WILC-MW0097	29 to 34		X
	WILC-MW0111	29 to 34		X
34 to 48	WILC-MW0141	34 to 44		
	LTM5	35 to 45	X	X
	LTM6	35 to 45	X	X
	WILC-NPSH-MW0023	37.5 to 42.5		X
	WILC-MW0145	38 to 48		
	WILC-MW0147	38 to 48		
	WILC-MW0021D	40 to 45		X
	WILC-MW0046D	40 to 45		X
	WILC-MW0053D	40 to 45		X
	WILC-MW0054D	40 to 45		X
	WILC-MW0055D	40 to 45		X
	WILC-MW0057D	40 to 45		
	WILC-MW0070	40 to 45		X
	WILC-MW0079	40 to 45		X
	WILC-MW0118	40 to 45		X
	LTM7	42 to 52	X	X
	WILC-NPSH-MW0030	43 to 48		X
>48	WILC-MW0130	56 to 66		X
	WILC-MW0078	65 to 70		X
	LTM8	70 to 80	X	X

Source: Table 4-1 from 2019- 2020 Annual LTM Report (November 2021, AECOM)

Notes:
Blank cells indicate that the well is not included for that event or activity.
ft bls = feet below land surface
NASA = National Aeronautics and Space Administration
Select VOCs = 1,1-dichloroethene, cis-1,2-dichloroethene, trans-1,2-dichloroethene, Freon 113, tetrachloroethene, trichloroethene, and vinyl chloride
SWMU = Solid Waste Management Unit
VOCs = Volatile Organic Compounds

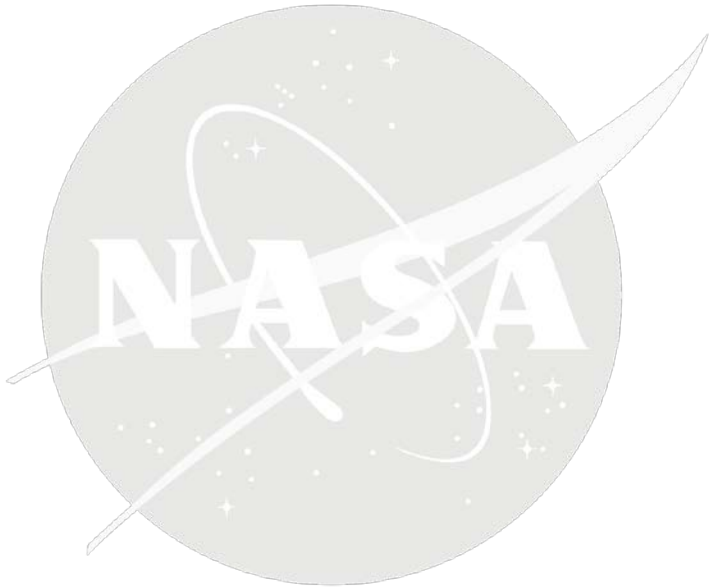
2021 Annual LTM Sampling Plan

Field Activities – December 13 through 15, 2021

- Collected water levels from only the wells sampled and accessible (42) at the time of water level gauging per approval by NASA RPM
  - Less than planned based on delayed construction activities and additional modifications to the LTM Plan
- Groundwater sampling via low flow sampling – 44 existing wells for selected volatile organic compounds (VOCs) including Freon 113

  - Analyzed select VOCs: 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (c-DCE), trans-1,2-dichloroethene (t-DCE), Freon 113, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC)

  - 4 wells (NPSH-MW0018, NPSH-MW0023, NPSH-MW0040, and MW0156) could not be located and 1 well (MW0047I) could not be sampled due to active beehive under stick-up cap

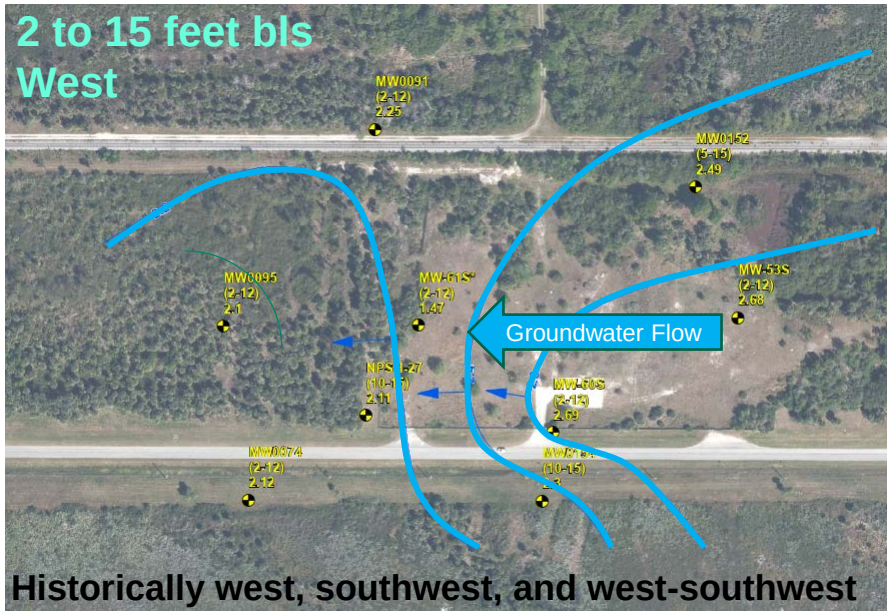


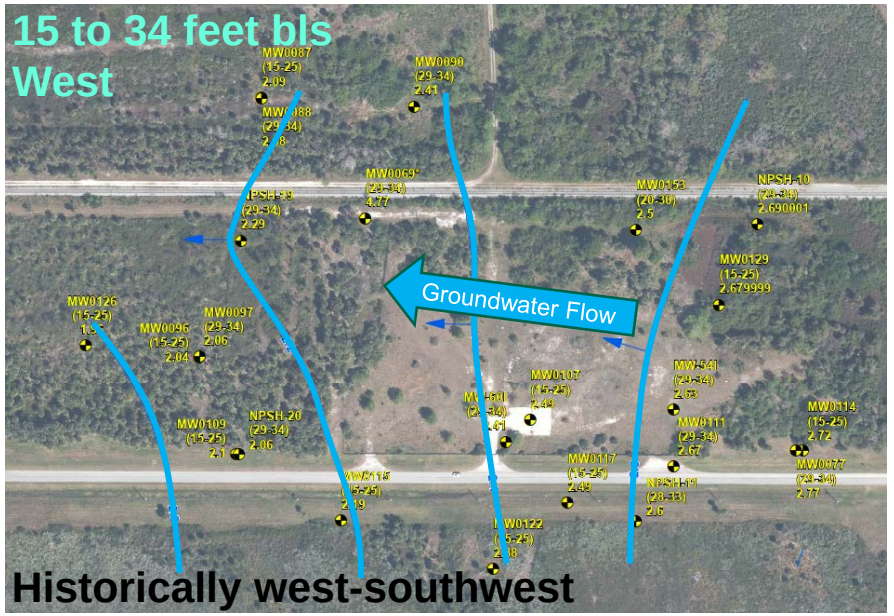
2021 Annual LTM Results

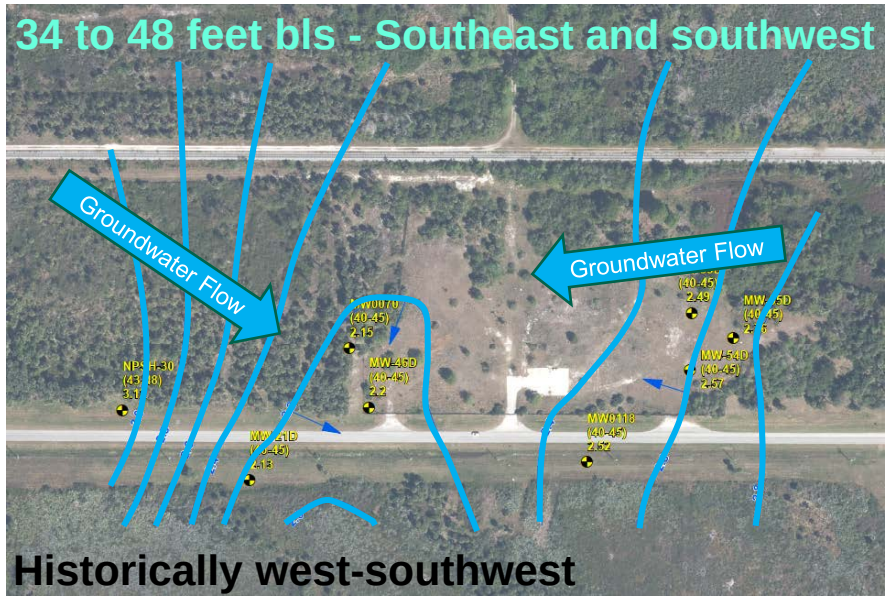
WILC, SWMU 001 Overview

Site-Wide Hydrology

- Depth to groundwater ranges between 3 to 5 feet bls
- Groundwater flow direction is generally to the west at all intervals
  - Deviation from historical flow at 34 to 48 feet bls with southwest and southeast flow component.







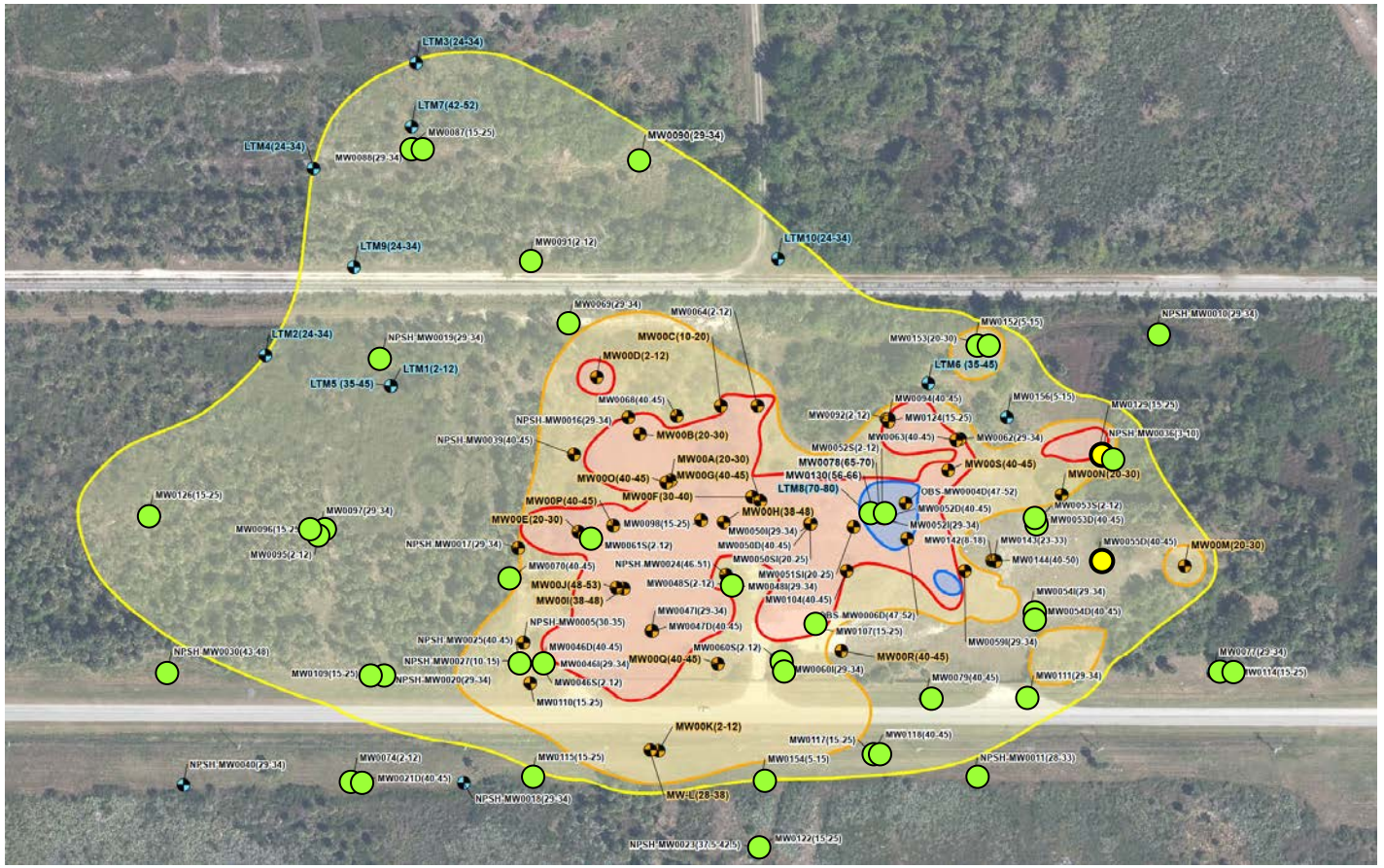
2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – Freon 113

- Freon 113 is also known as 1,1,2-trichlorotrifluoroethane
- Freon 113 concentrations were historically highest in the Former Hot Spot 1 Area of the Site
- 2021 Freon 113 Groundwater Analytical Results
  - Analyzed 44 monitoring wells (5 wells were not accessible)
  - Freon 113 concentrations were below the GCTL of 210,000 µg/L in all monitoring wells
    - 2 wells (WILC-MW0129 and WILC-MW0055D) had detections of Freon 113 above laboratory method detection limits.
    - Highest detection: MW0129, located north of the Hot Spot 1 area, at 290 micrograms per liter (µg/L)

Zone (feet bls)	Well ID	Screen Interval (feet bls)	Sample Date	Freon 113
15 to 34	WILC-MW0129	15 to 25	12/26/2017	**1700**
			10/8/2018	**410**
			5/8/2020	**615 J**
			12/7/2020	**200**
			12/15/2021	**290**
34 to 48	WILC-MW0055D	40 to 45	9/20/2011	-
			12/15/2021	**12**

December 2021 Freon 113 Sampling Locations with Overall CVOC Plume



Freon 113 Not Detected

Freon 113 Detected, but below the GCTL

2021 Annual Long-term Monitoring Results

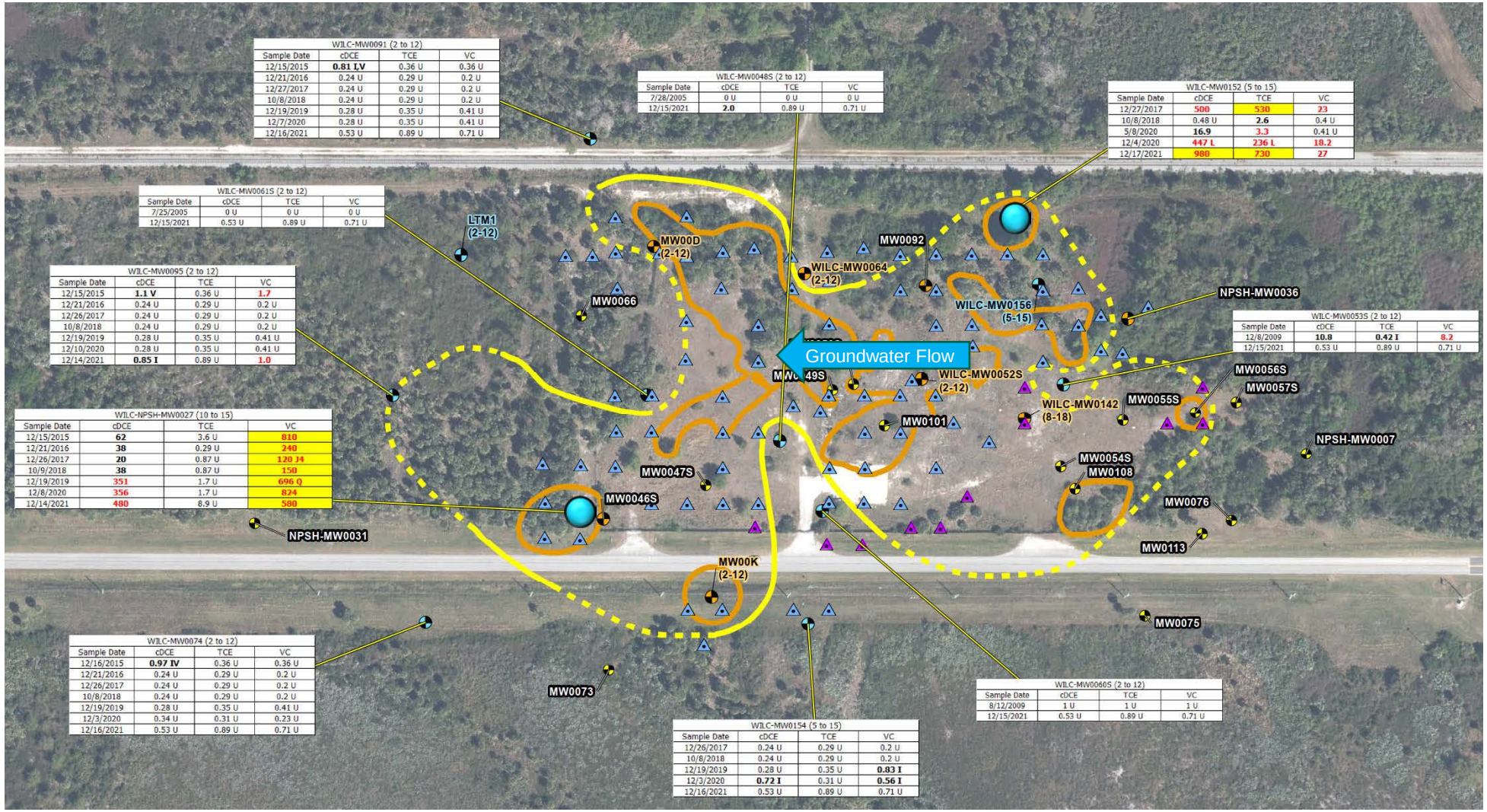
Groundwater Sampling Results

- GIS Mann-Kendall Toolkit Trend Analysis
- The following criteria had to be met for analysis:
  - Minimum of four data points from the last six years
  - Minimum of 50% detection frequency
  - Concentrations historically greater than GCTLs
- Wells in the table to the right met the criteria above, and Mann-Kendall analysis was used

Summary of Mann-Kendall Analysis		
Zone (feet bls)	Well ID	TCE Equivalent 2015 - 2021
2 to 15	NPSH-MW0027	No Trend
	NPSH-MW0152	No Trend
15 to 34	NPSH-MW0019	Probably Increasing
	NPSH-MW0020	No Trend
	MW0088	No Trend
	MW0090	Probably Decreasing
	MW0096	Stable
	MW0097	No Trend
	MW0109	Stable
	MW0111	No Trend
	MW0129	Stable
34 to 48	MW0118	Stable
	MW0046D	Decreasing
>48	MW0078	Probably Decreasing
	MW0130	Decreasing

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – 2 to 15 feet bls



Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

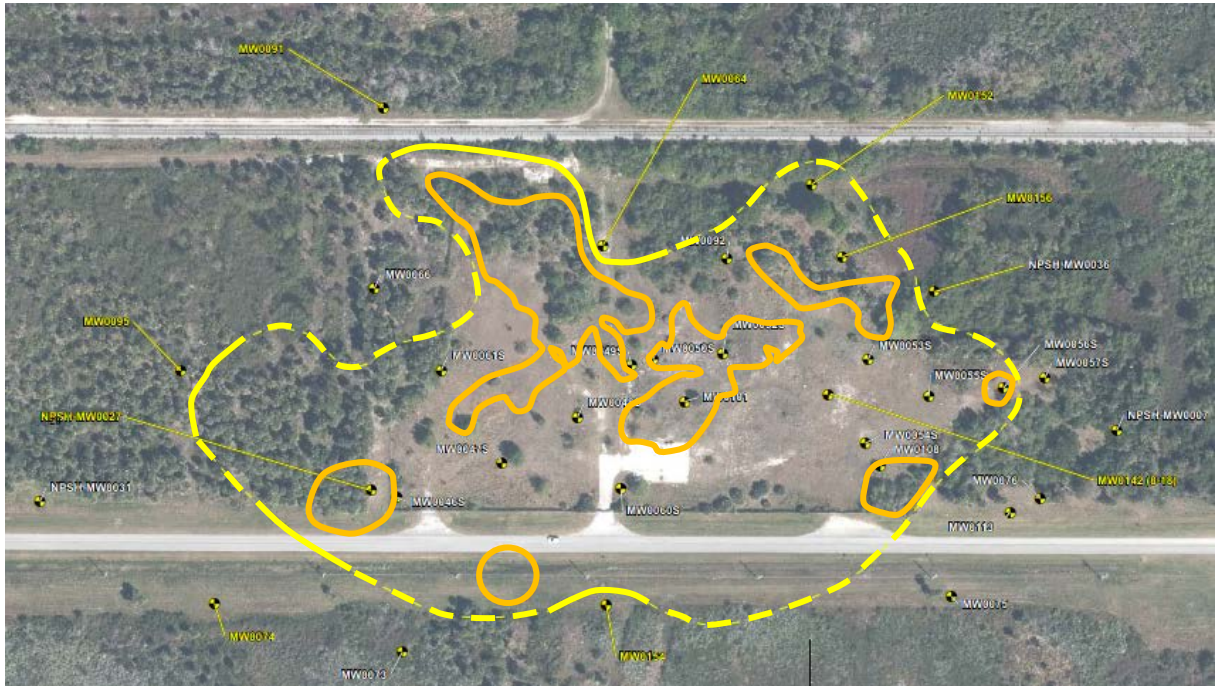
- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results Summary – 2 to 15 feet bls

2020 Sampling Results

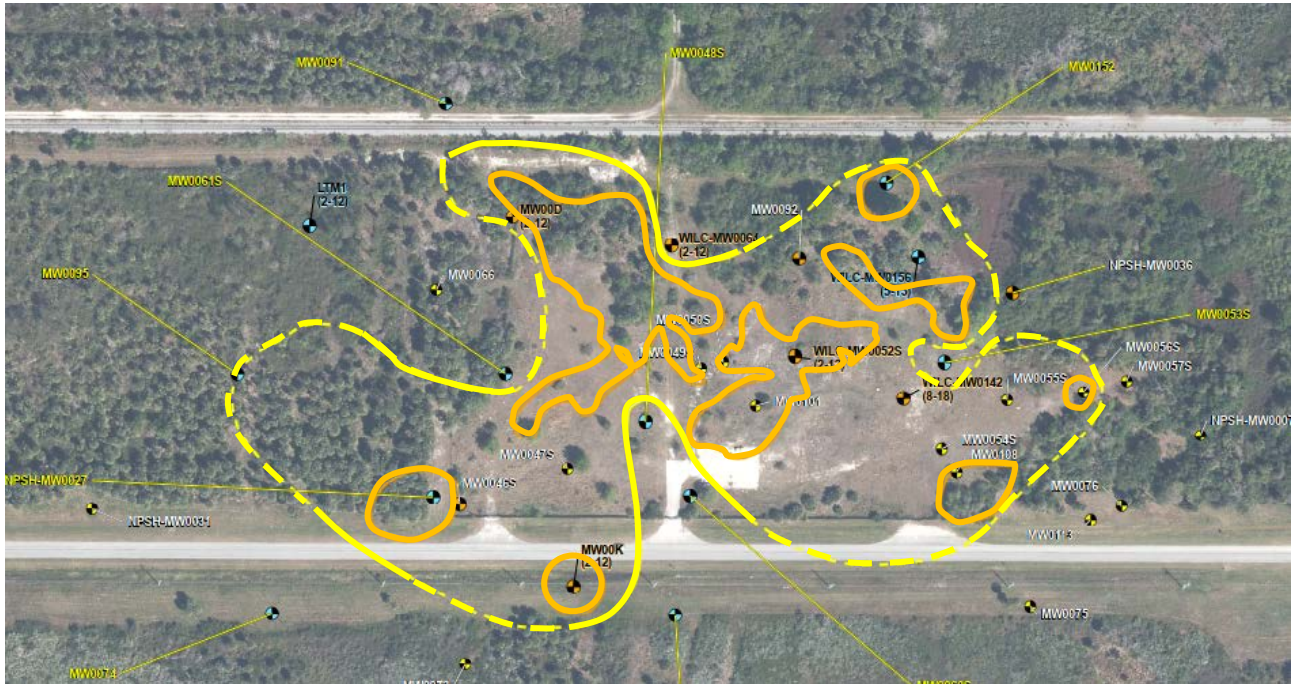


Source: Wilson Corners 2019-2020 Annual Long-Term Monitoring Report

Legend

- Monitoring Well
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

2021 Sampling Results



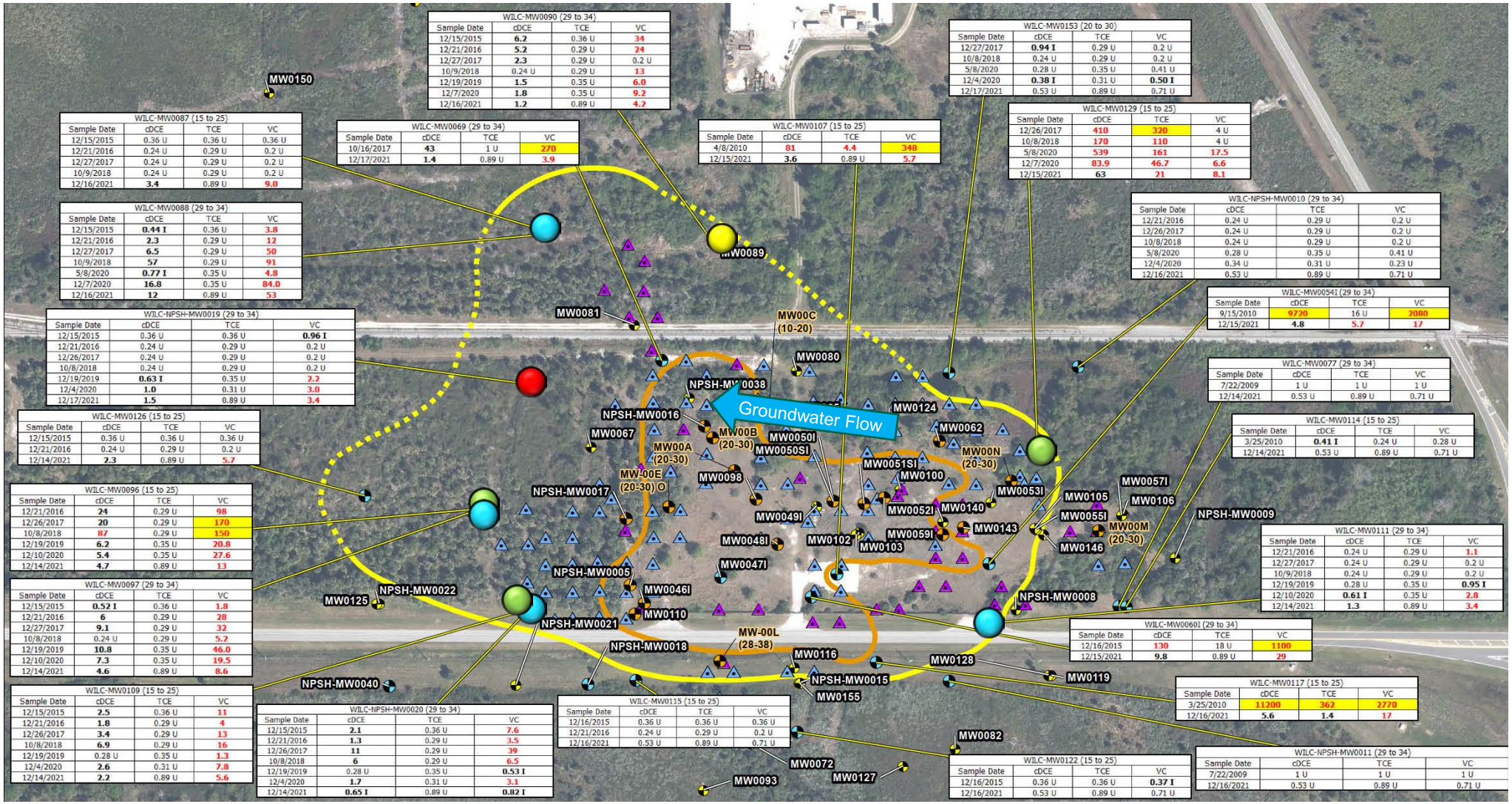
Legend

- LTM Well Location
- Performance Monitoring Well Location
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

- Retraction exhibited from the south compared to 2020, but the overall footprint and east-west extents are similar.

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – 15 to 34 feet bls



WILC-MW0090 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	6.2	0.36 U	34
12/21/2016	5.2	0.29 U	24
12/27/2017	2.3	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	13
12/19/2019	1.5	0.35 U	6.0
12/7/2020	1.8	0.35 U	9.2
12/16/2021	1.2	0.89 U	4.2

WILC-MW0153 (20 to 30)

Sample Date	cDCE	TCE	VC
12/27/2017	0.94 I	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	0.38 I	0.31 U	0.50 I
12/17/2021	0.53 U	0.89 U	0.71 U

WILC-MW0087 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/16/2021	3.4	0.89 U	9.0

WILC-MW0069 (29 to 34)

Sample Date	cDCE	TCE	VC
10/16/2017	43	1 U	270
12/17/2021	1.4	0.89 U	3.9

WILC-MW0107 (15 to 25)

Sample Date	cDCE	TCE	VC
4/8/2010	81	4.4	348
12/15/2021	3.6	0.89 U	5.7

WILC-MW0129 (15 to 25)

Sample Date	cDCE	TCE	VC
12/26/2017	410	320	4 U
10/8/2018	170	110	4 U
5/8/2020	539	161	17.5
12/7/2020	83.9	46.7	6.6
12/15/2021	63	21	8.1

WILC-MW0088 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	0.44 I	0.36 U	3.8
12/21/2016	2.3	0.29 U	12
12/27/2017	6.5	0.29 U	50
10/9/2018	57	0.29 U	91
5/8/2020	0.77 I	0.35 U	4.8
12/7/2020	16.8	0.35 U	84.0
12/16/2021	12	0.89 U	53

WILC-NPSH-MW0010 (29 to 34)

Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	0.34 U	0.31 U	0.23 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-NPSH-MW0019 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.96 I
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.63 I	0.35 U	2.2
12/4/2020	1.0	0.31 U	3.0
12/17/2021	1.5	0.89 U	3.4

WILC-MW00541 (29 to 34)

Sample Date	cDCE	TCE	VC
9/15/2010	9720	16 U	2080
12/15/2021	4.8	5.7	17

WILC-MW0126 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/14/2021	2.3	0.89 U	5.7

WILC-MW0077 (29 to 34)

Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0114 (15 to 25)

Sample Date	cDCE	TCE	VC
3/25/2010	0.41 I	0.24 U	0.28 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0096 (15 to 25)

Sample Date	cDCE	TCE	VC
12/21/2016	24	0.29 U	98
12/26/2017	20	0.29 U	170
10/8/2018	87	0.29 U	150
12/19/2019	6.2	0.35 U	20.8
12/10/2020	5.4	0.35 U	27.6
12/14/2021	4.7	0.89 U	13

WILC-MW0111 (29 to 34)

Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	1.1
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	0.95 I
12/10/2020	0.61 I	0.35 U	2.8
12/14/2021	1.3	0.89 U	3.4

WILC-MW0097 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	0.52 I	0.36 U	1.8
12/21/2016	6	0.29 U	20
12/27/2017	9.1	0.29 U	32
10/8/2018	0.24 U	0.29 U	5.2
12/19/2019	10.8	0.35 U	46.0
12/10/2020	7.3	0.35 U	19.5
12/14/2021	4.6	0.89 U	8.6

WILC-MW0060I (29 to 34)

Sample Date	cDCE	TCE	VC
12/16/2015	130	18 U	1100
12/15/2021	9.8	0.89 U	29

WILC-MW0109 (15 to 25)

Sample Date	cDCE	TCE	VC
12/15/2015	2.5	0.36 U	11
12/21/2016	1.8	0.29 U	4
12/26/2017	3.4	0.29 U	13
10/8/2018	6.9	0.29 U	16
12/19/2019	0.28 U	0.35 U	1.3
12/4/2020	2.6	0.31 U	7.8
12/14/2021	2.2	0.89 U	5.6

WILC-NPSH-MW0020 (29 to 34)

Sample Date	cDCE	TCE	VC
12/15/2015	2.1	0.36 U	7.6
12/21/2016	1.3	0.29 U	3.5
12/26/2017	11	0.29 U	39
10/8/2018	6	0.29 U	6.5
12/19/2019	0.28 U	0.35 U	0.53 I
12/4/2020	1.7	0.31 U	3.1
12/14/2021	0.65 I	0.89 U	0.82 I

WILC-MW0115 (15 to 25)

Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0117 (15 to 25)

Sample Date	cDCE	TCE	VC
3/25/2010	11200	362	2770
12/16/2021	5.6	1.4	17

WILC-MW0122 (15 to 25)

Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	0.37 I
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-NPSH-MW0011 (29 to 34)

Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/16/2021	0.53 U	0.89 U	0.71 U

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

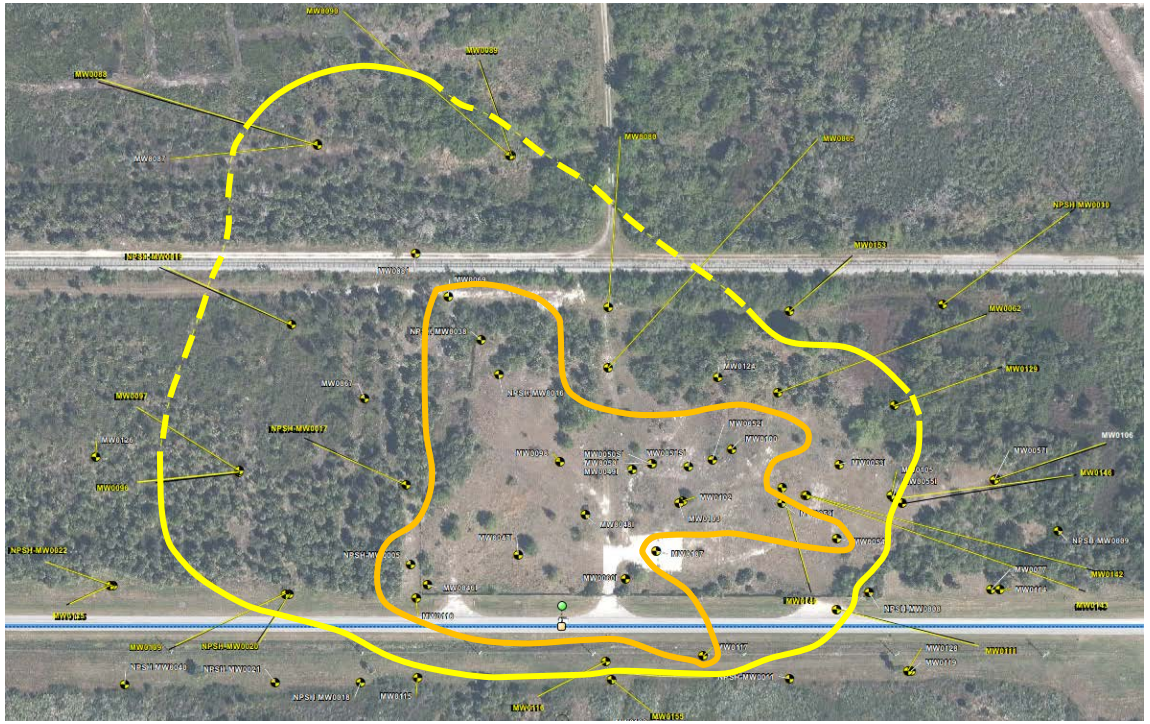
- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results Summary – 15 to 34 feet bls

2020 Sampling Results

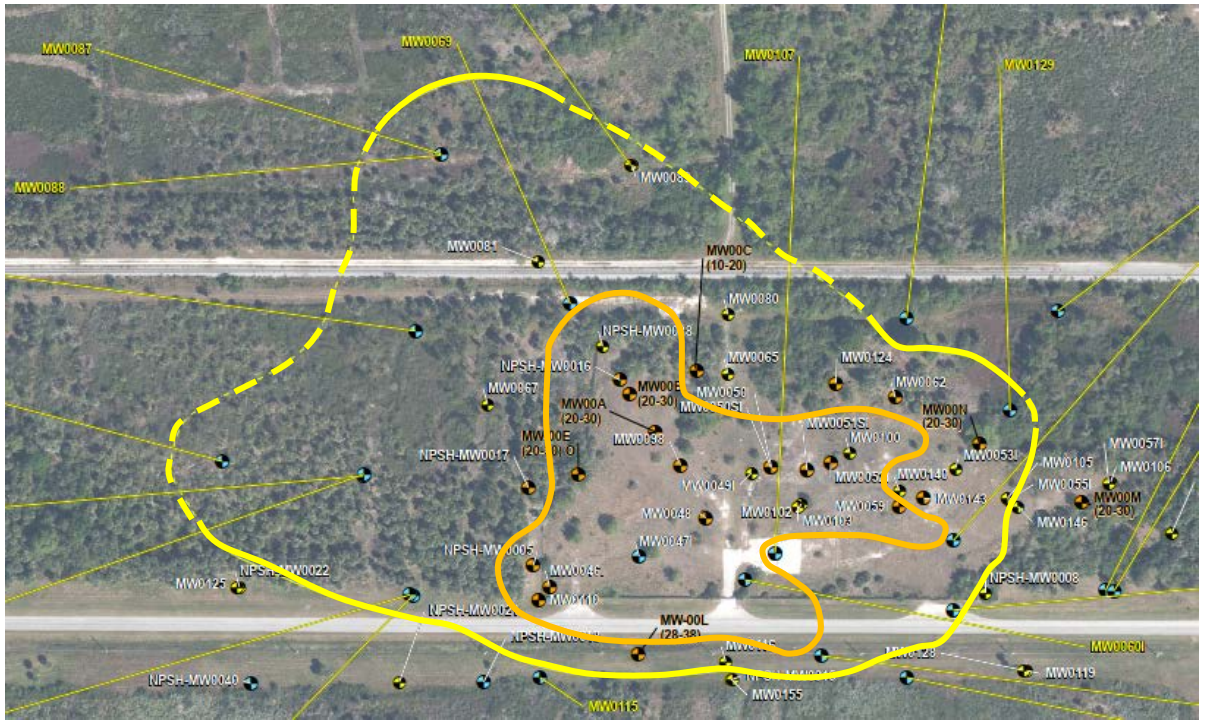


Source: Wilson Corners 2019 -2020 Annual Long-Term Monitoring Report

Legend

- Monitoring Well
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

2021 Sampling Results



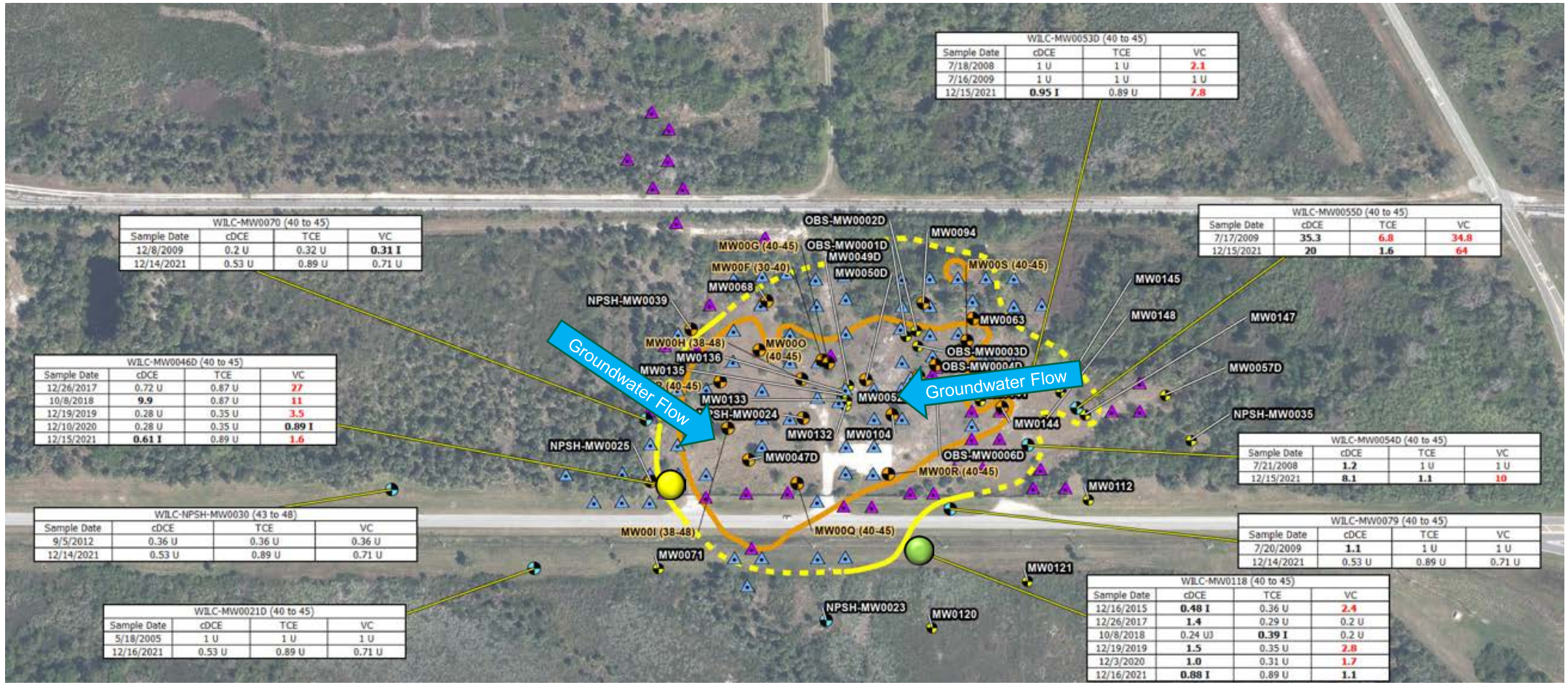
Legend

- LTM Well Location
- Performance Monitoring Well Location
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

- Western migration and relatively unchanged to the north, south, and east compared to 2020.

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – 34 to 48 feet bls



- Stable
- Decreasing
- Increasing
- No Trend

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

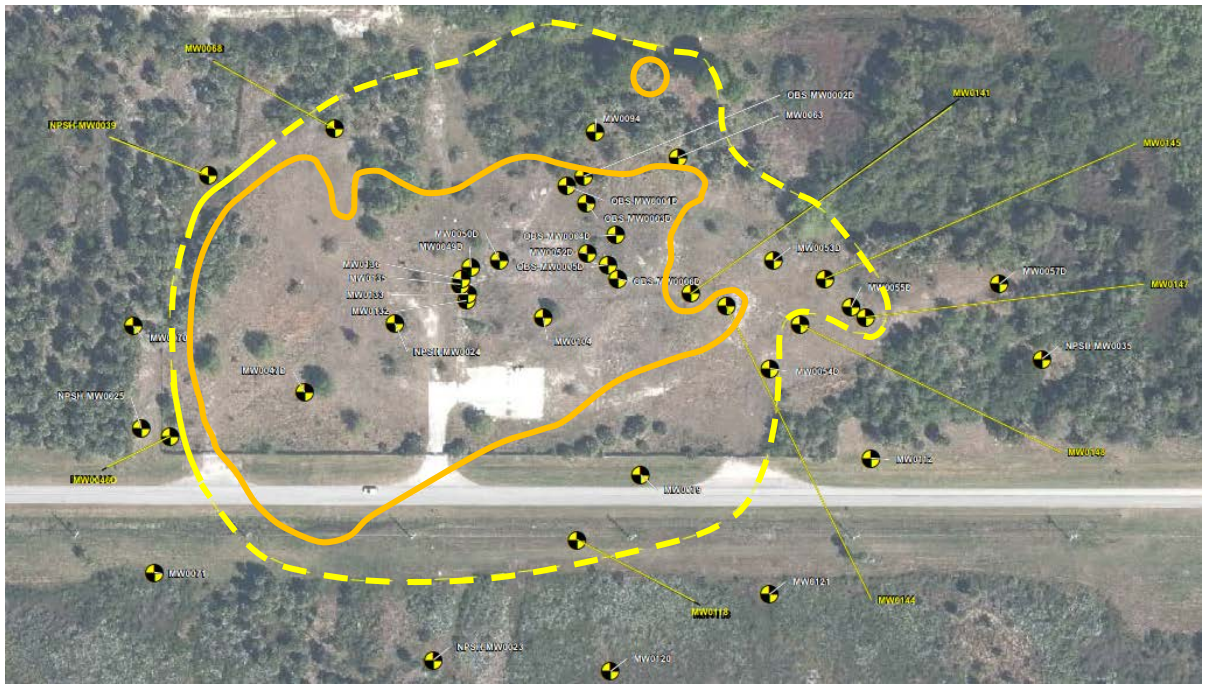
Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results Summary – 34 to 48 feet bls

2020 Sampling Results

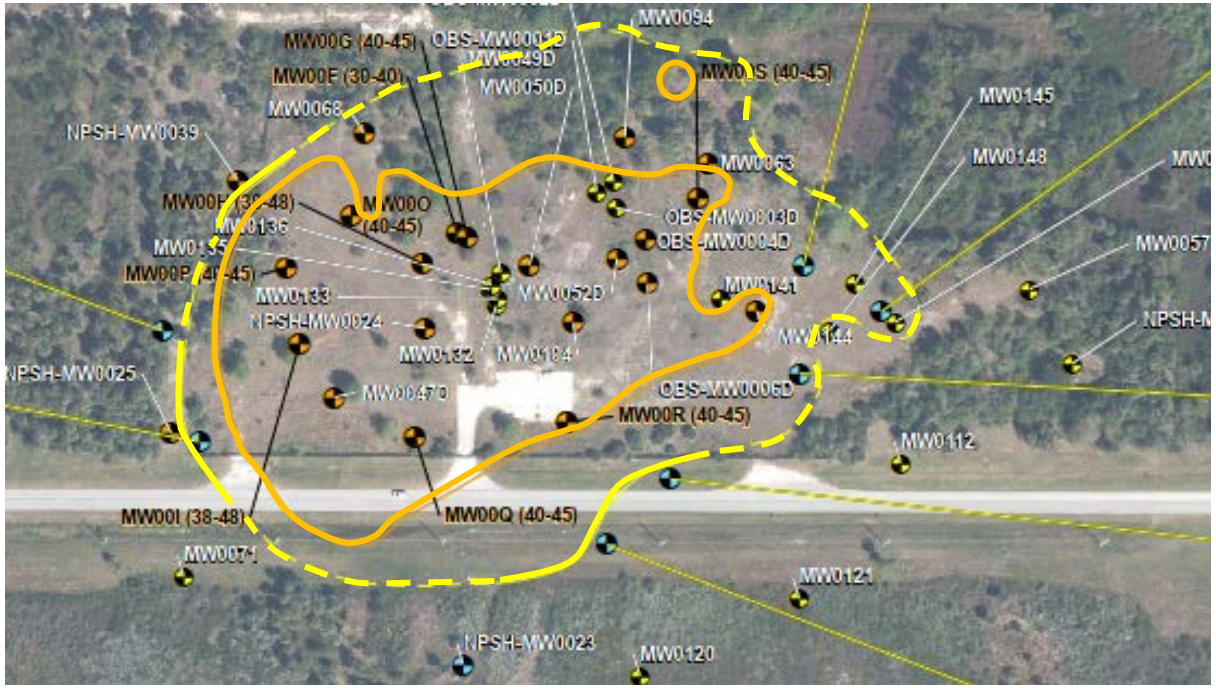


Source: Wilson Corners 2019 -2020 Annual Long-Term Monitoring Report

Legend

- Monitoring Well
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

2021 Sampling Results



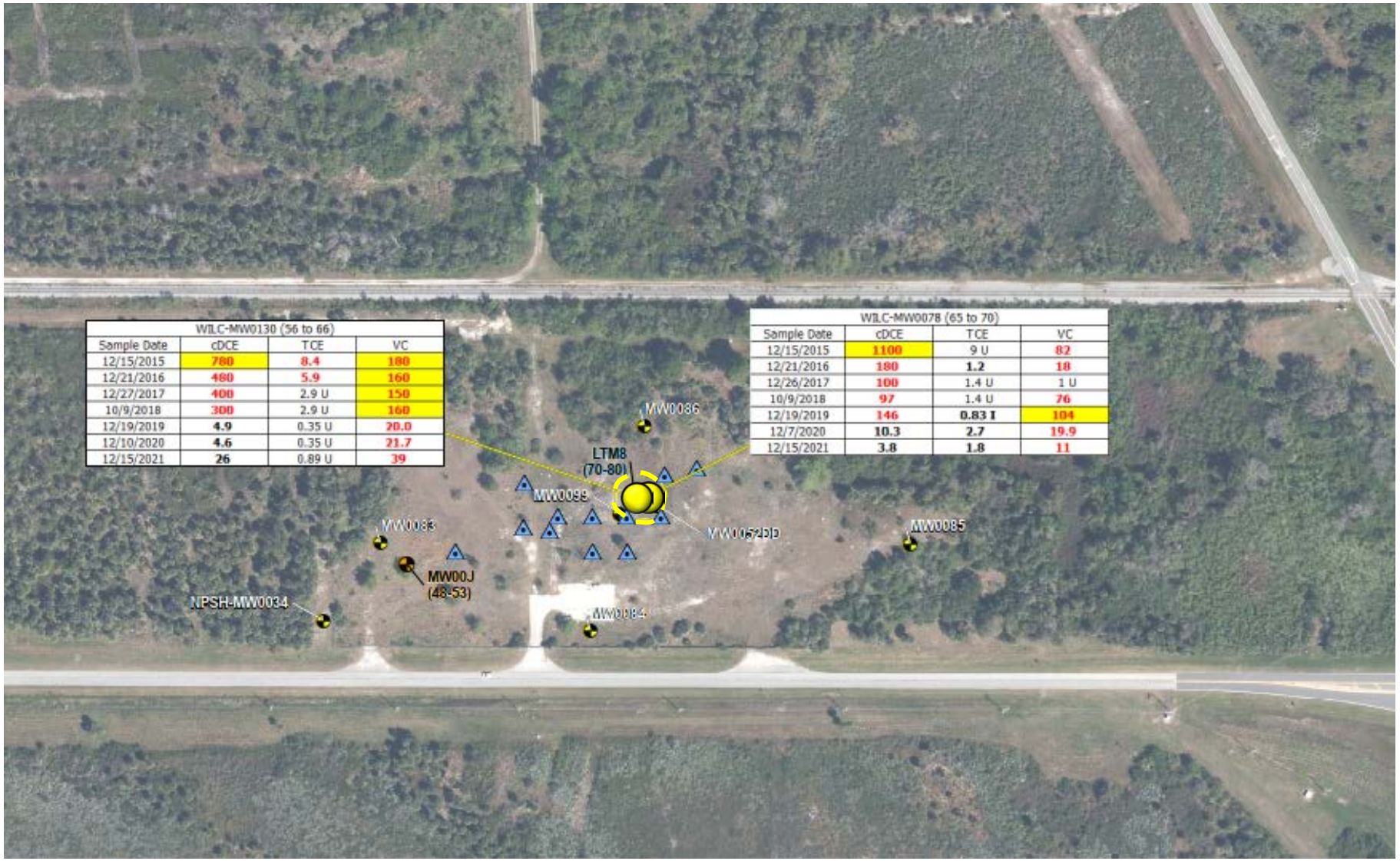
Legend

- LTM Well Location
- Performance Monitoring Well Location
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

- Overall extents remain similar compared to 2020 with southeast retraction.

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – Greater than 48 feet bls



Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location

Proposed Long Term Monitoring Well Location 2022

Proposed Performance Monitoring Well Location 2022

Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results Summary – Greater than 48 feet bls

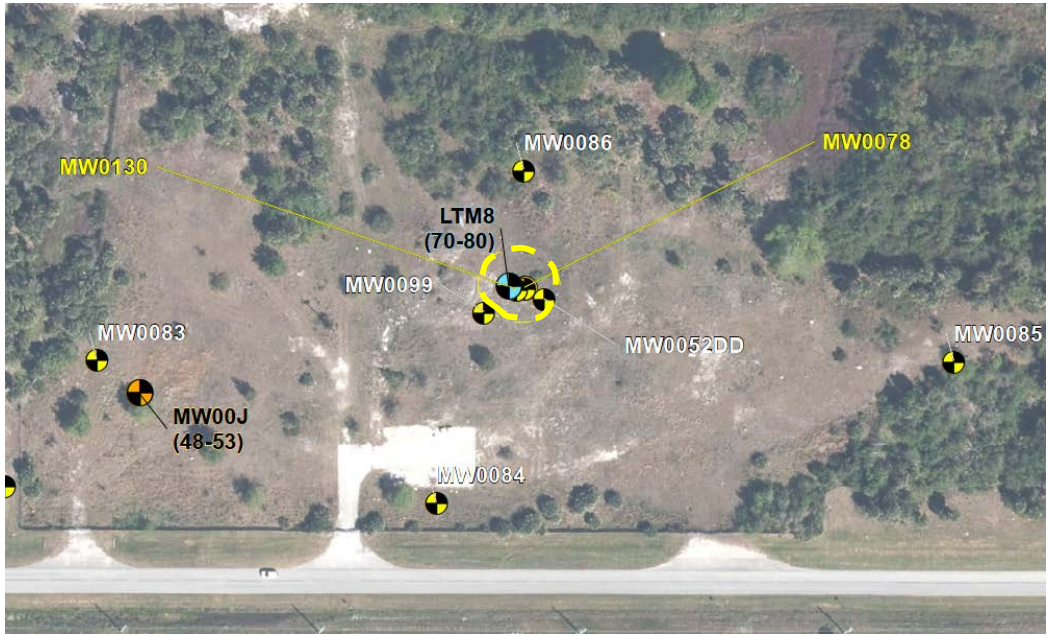
2020 Sampling Results

Source: Wilson Corners 2019 -2020 Annual Long-Term Monitoring Report

Legend

- Monitoring Well
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)

2021 Sampling Results



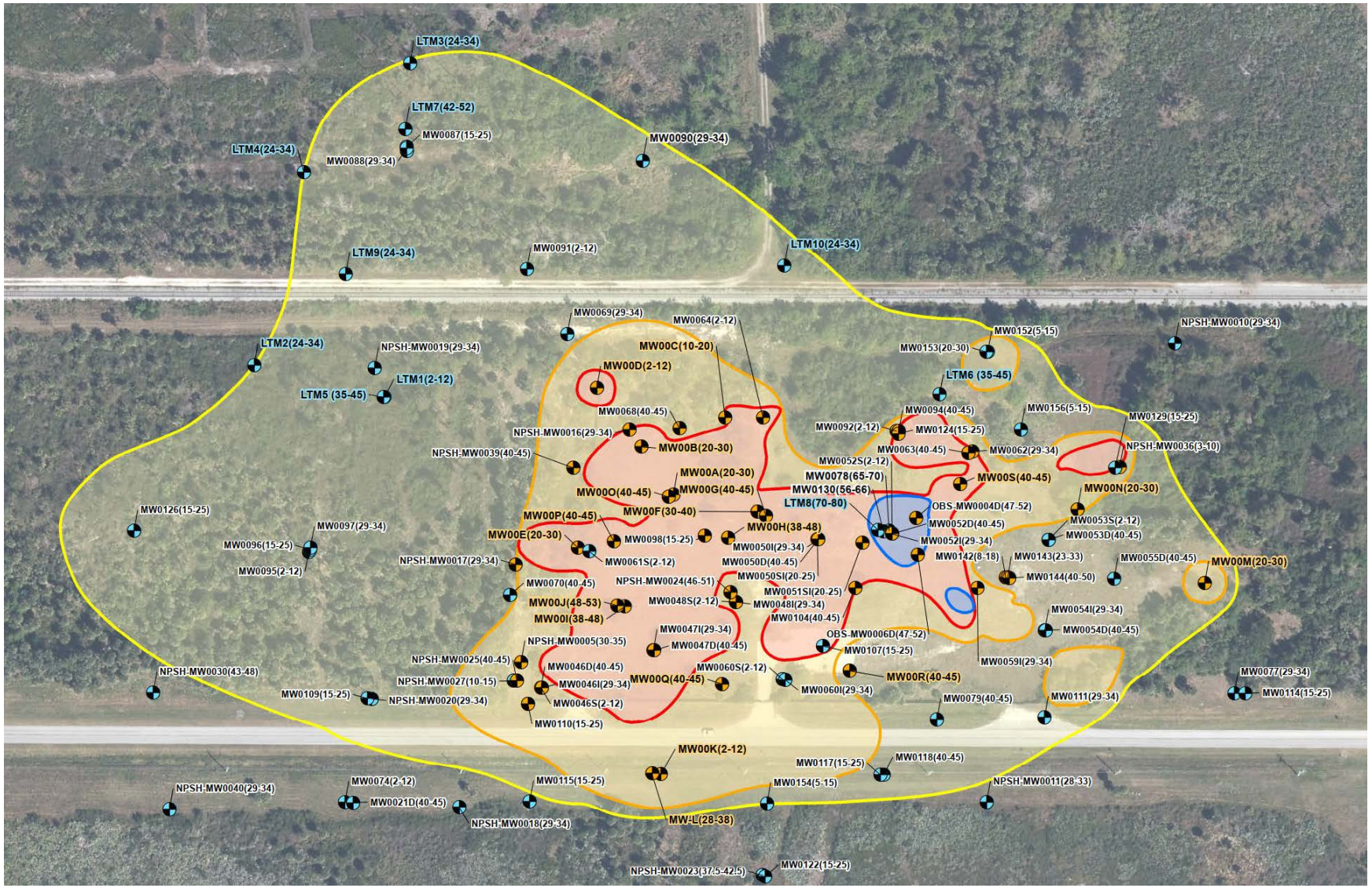
Legend

- LTM Well Location
- Performance Monitoring Well Location
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)

- Overall extents remain similar compared to 2020.

2021 Annual Long-term Monitoring Results

Overall CVOC Plume



Legend

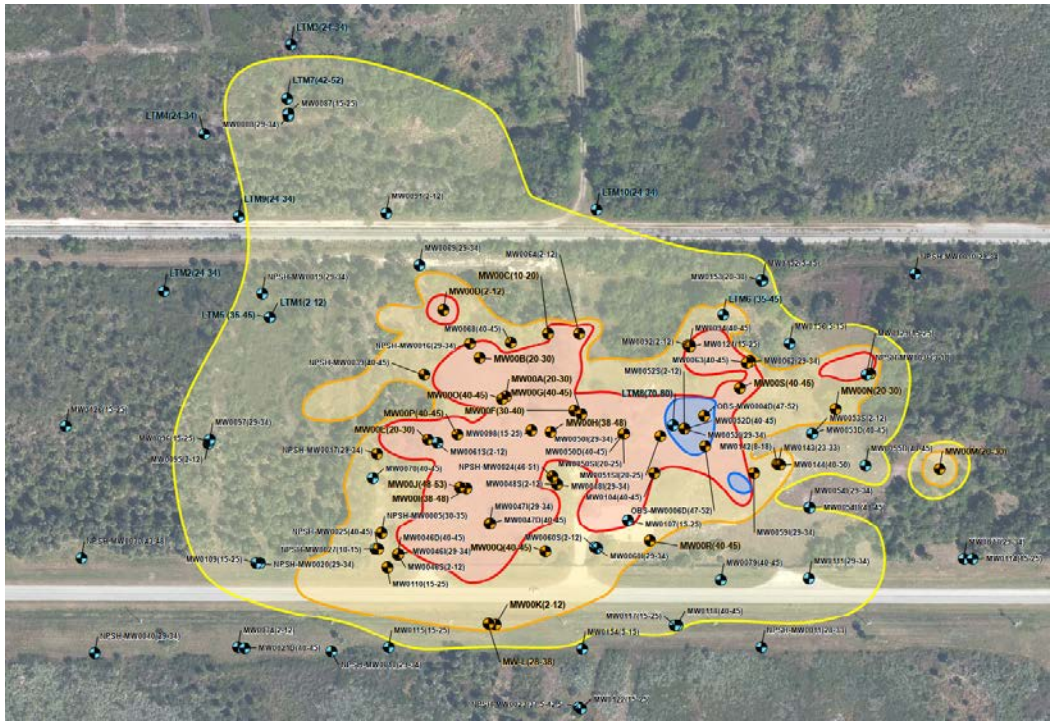
- LTM Well Location
- Performance Monitoring Well Location
- Overall CVOC Low Concentration Plume (LCP) (Area: 20.7 Acres/903,333 ft2)
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Overall CVOC High Concentration Plume (HCP) (Area: 7.1 Acres/309,183 ft2)
- 100x NADC Overall CVOC Plume (Area: 0.15 Acres/6,326 ft2)
- 10x NADC Overall CVOC Plume (Area: 3.0 Acres/129,077 ft2)

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring Results

Overall CVOC Plume

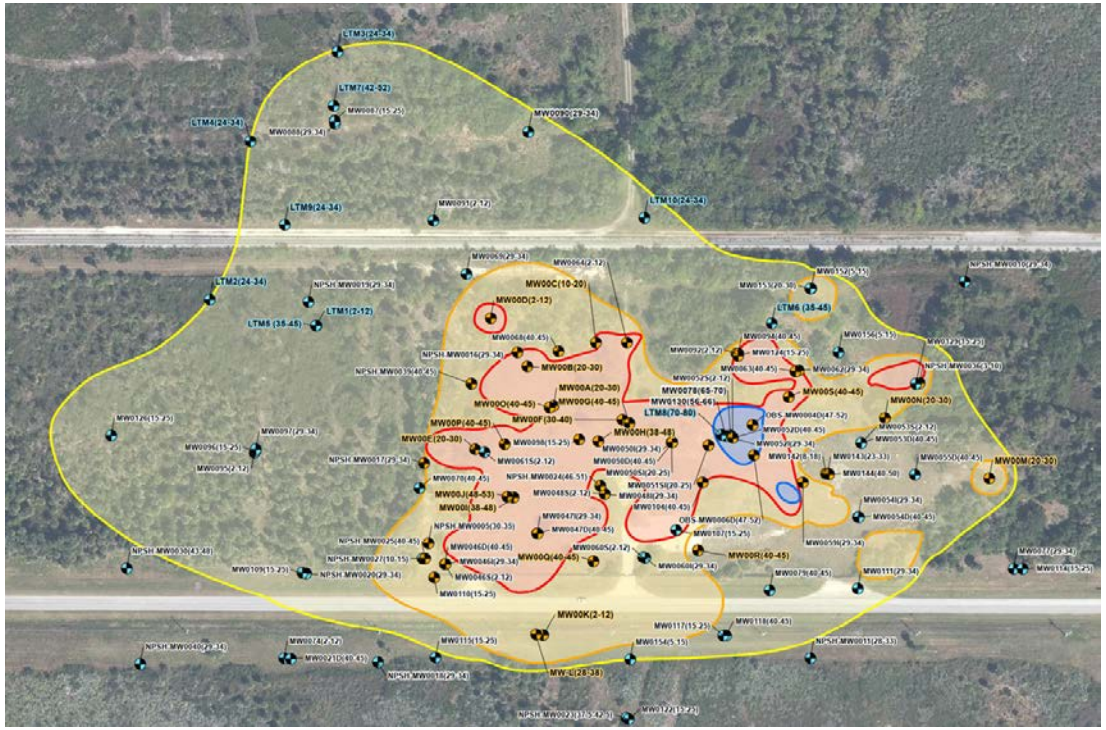
2020



Legend

- LTM Well Location
- Performance Monitoring Well Location
- Overall CVOC Low Concentration Plume (LCP) (Area: 17.0 Acres/739,876 ft2)
- Overall CVOC High Concentration Plume (HCP) (Area: 6.7 Acres/293,227 ft2)
- 10x NADC Overall CVOC Plume (Area: 3.0 Acres/129,077 ft2)
- 100x NADC Overall CVOC Plume (Area: 0.15 Acres/6,326 ft2)

2021



Legend

- LTM Well Location
- Performance Monitoring Well Location
- Overall CVOC Low Concentration Plume (LCP) (Area: 20.7 Acres/903,333 ft2)
- Overall CVOC High Concentration Plume (HCP) (Area: 7.1 Acres/309,183 ft2)
- 100x NADC Overall CVOC Plume (Area: 0.15 Acres/6,326 ft2)
- 10x NADC Overall CVOC Plume (Area: 3.0 Acres/129,077 ft2)

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

2021 Annual Long-term Monitoring

Test Consensus

- Perform the next LTM sampling event concurrently with IM baseline sampling prior to air sparge system installation.
- Once the AS System install and start-up is complete, select wells from the LTM program will transition to performance monitoring and performance monitoring will be performed quarterly.
  - Evaluate monitoring well network following first performance monitoring event.

2021 Annual Long-term Monitoring

Test Consensus

- 2022 LTM plan includes 12 additional wells for water level gauging.
- No changes to wells sampled in 2021.

2022 LTM Sampling Plan

Zone (feet bls)	Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Water Levels	Selected VOCs
2 to 15	WILC-MW0048S	2 to 12		X	X
	WILC-MW0053S	2 to 12		X	X
	WILC-MW0057S	2 to 12		X	
	WILC-MW0060S	2 to 12		X	X
	WILC-MW0061S	2 to 12		X	X
	WILC-MW0074	2 to 12		X	X
	WILC-MW0091	2 to 12		X	X
	WILC-MW0095	2 to 12		X	X
	WILC-MW0152	5 to 15		X	X
	WILC-MW0154	5 to 15		X	X
	WILC-MW0156	5 to 15		X	X
	WILC-NPSH-MW0027	10 to 15		X	X
	LTM1	2 to 12	X	X	X
15 to 34	WILC-MW0087	15 to 25		X	X
	WILC-MW0089	15 to 25		X	
	WILC-MW0096	15 to 25		X	X
	WILC-MW0107	15 to 25		X	X
	WILC-MW0109	15 to 25		X	X
	WILC-MW0114	15 to 25		X	X
	WILC-MW0115	15 to 25		X	X
	WILC-MW0116	15 to 25		X	
	WILC-MW0117	15 to 25		X	X
	WILC-MW0122	15 to 25		X	X
	WILC-MW0126	15 to 25		X	X
	WILC-MW0129	15 to 25		X	X
	WILC-MW0149	20 to 30		X	
	WILC-MW0153	20 to 30		X	X
	WILC-MW0140	23 to 33		X	
	LTM2	24 to 34	X	X	X
	LTM3	24 to 34	X	X	X
	LTM4	24 to 34	X	X	X
	LTM9	24 to 34	X	X	X
	LTM10	24 to 34	X	X	X
	WILC-NPSH-MW0011	28 to 33		X	X

Zone (feet bls)	Well ID	Screen Interval (feet bls)	New Well Proposed for Installation	Water Levels	Selected VOCs
15 to 34 (contd.)	WILC-NPSH-MW0010	29 to 34		X	X
	WILC-NPSH-MW0015	29 to 34		X	
	WILC-NPSH-MW0018	29 to 34		X	X
	WILC-NPSH-MW0019	29 to 34		X	X
	WILC-NPSH-MW0020	29 to 34		X	X
	WILC-NPSH-MW0040	29 to 34		X	X
	WILC-MW0047I	29 to 34		X	X
	WILC-MW0054I	29 to 34		X	X
	WILC-MW0060I	29 to 34		X	X
	WILC-MW0065	29 to 34		X	
	WILC-MW0069	29 to 34		X	X
	WILC-MW0077	29 to 34		X	X
	WILC-MW0080	29 to 34		X	
	WILC-MW0088	29 to 34		X	X
	WILC-MW0090	29 to 34		X	X
	WILC-MW0097	29 to 34		X	X
	WILC-MW0111	29 to 34		X	X
34 to 48	WILC-MW0141	34 to 44		X	
	LTM5	35 to 45	X	X	X
	LTM6	35 to 45	X	X	X
	WILC-NPSH-MW0023	37.5 to 42.5		X	X
	WILC-MW0145	38 to 48		X	
	WILC-MW0147	38 to 48		X	
	WILC-MW0021D	40 to 45		X	X
	WILC-MW0046D	40 to 45		X	X
	WILC-MW0053D	40 to 45		X	X
	WILC-MW0054D	40 to 45		X	X
	WILC-MW0055D	40 to 45		X	X
	WILC-MW0057D	40 to 45		X	
	WILC-MW0070	40 to 45		X	X
	WILC-MW0079	40 to 45		X	X
	WILC-MW0118	40 to 45		X	X
	LTM7	42 to 52	X	X	X
	WILC-NPSH-MW0030	43 to 48		X	X
>48	WILC-MW0130	56 to 66		X	X
	WILC-MW0078	65 to 70		X	X
	LTM8	70 to 80	X	X	X

Thank You

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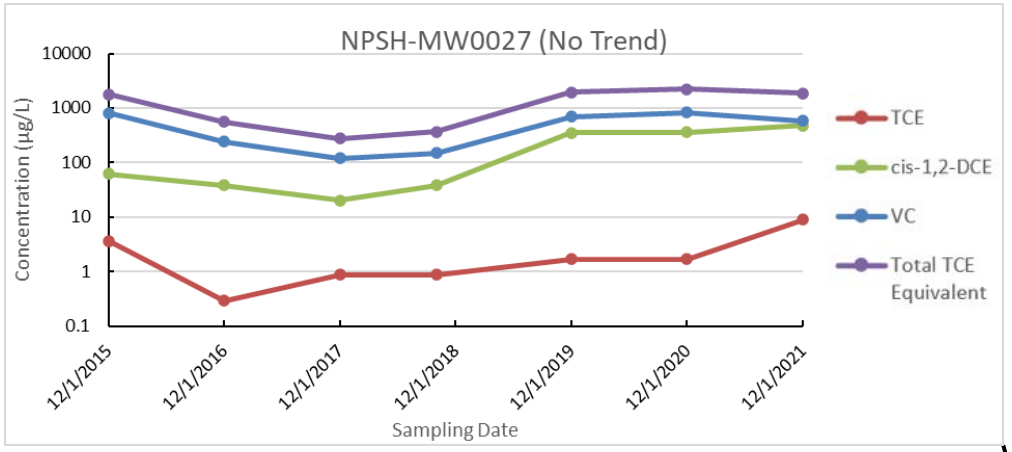
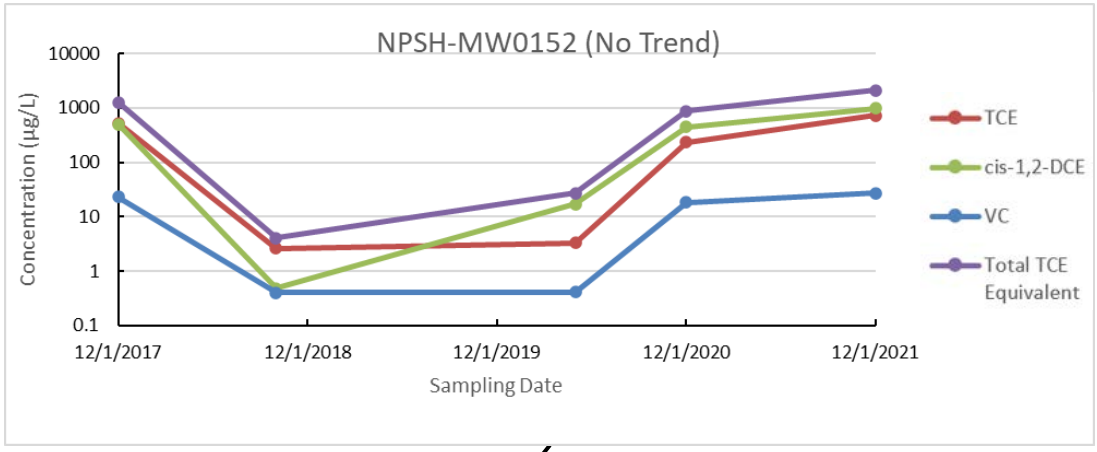
2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – 2 to 15 feet bls – Trend Graphs



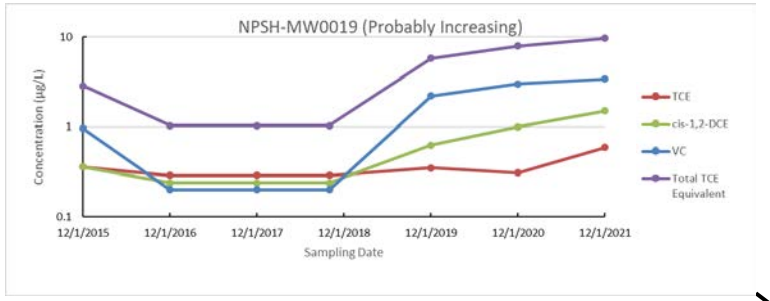


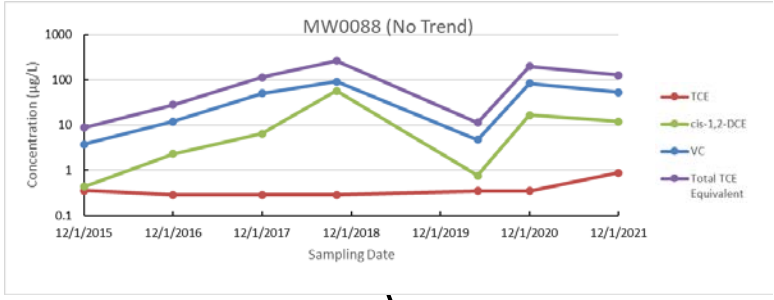
- Stable
- Decreasing
- Increasing
- No Trend

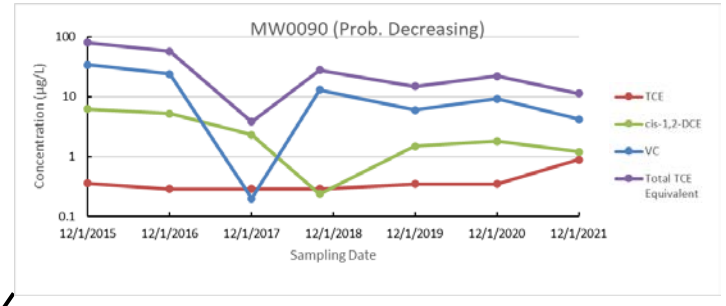
Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

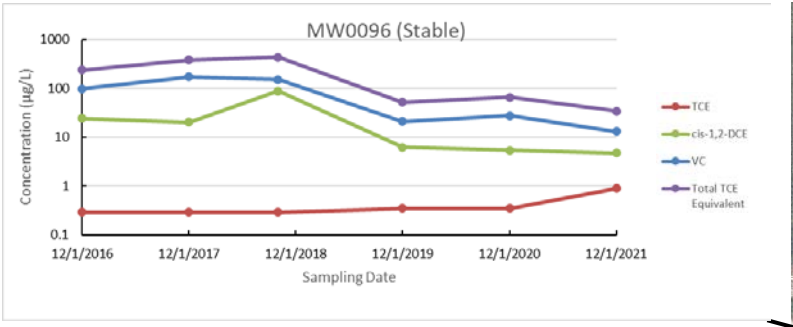
2021 Annual Long-term Monitoring Results

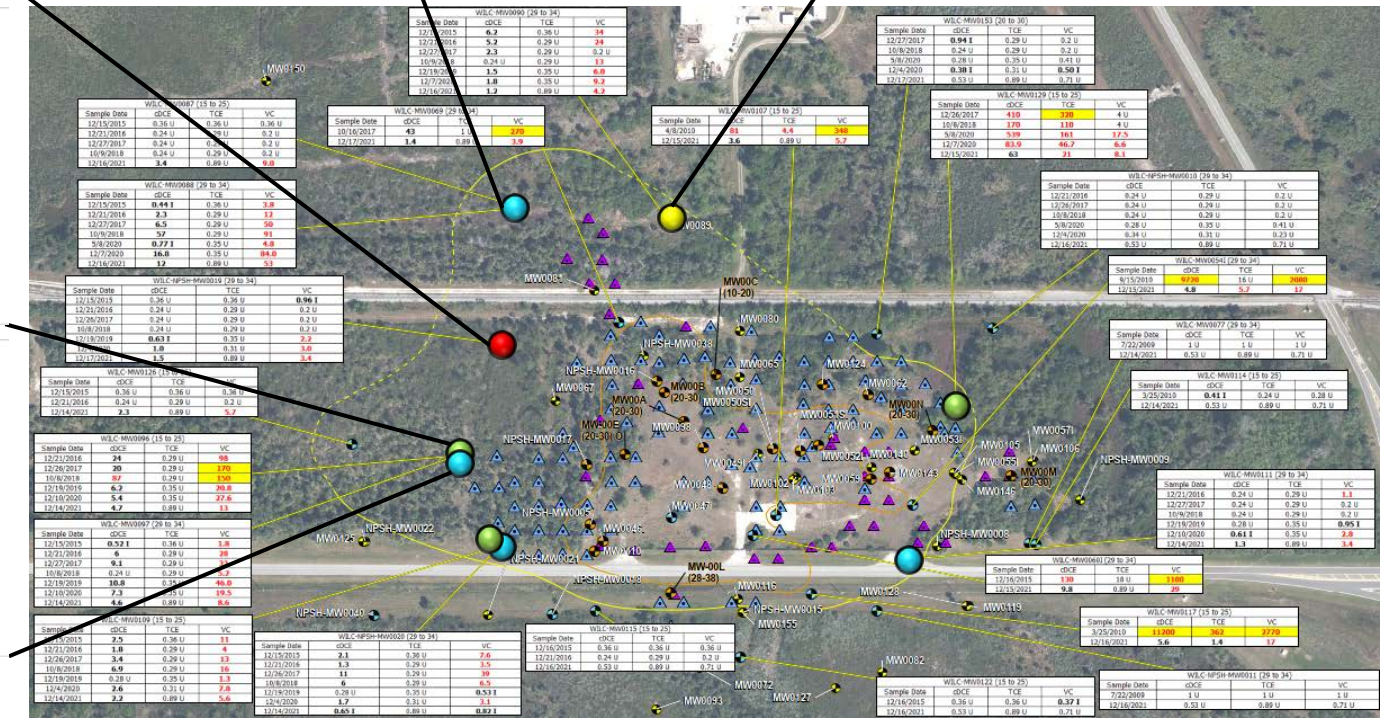
Groundwater Sampling Results – 15 to 34 feet bls – Trend Graphs (page 1 of 2)











- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

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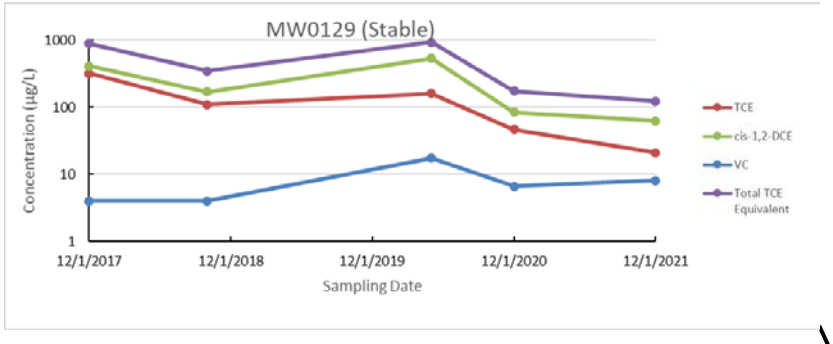
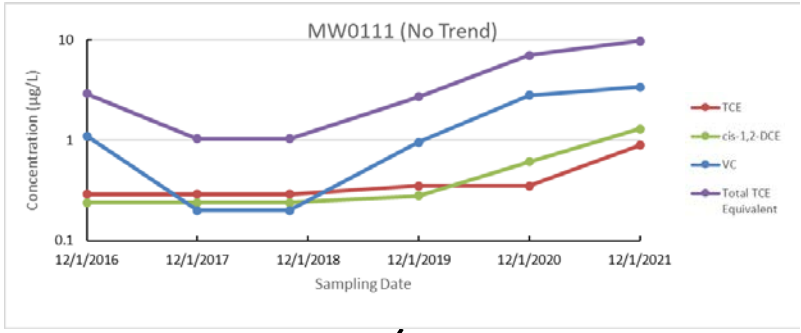
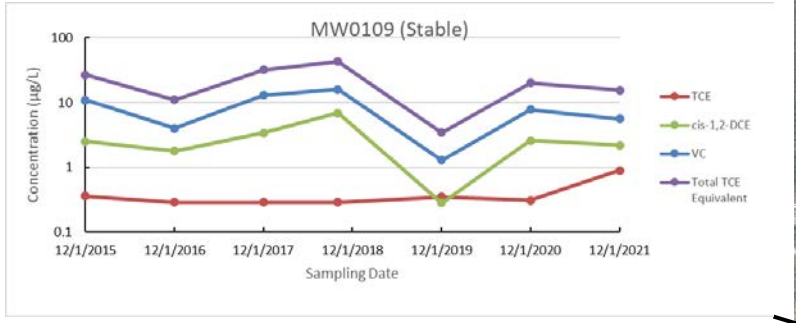
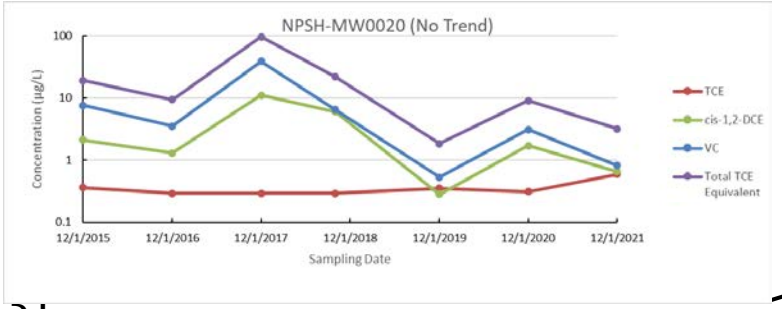
2021 Annual Long-term Monitoring Results

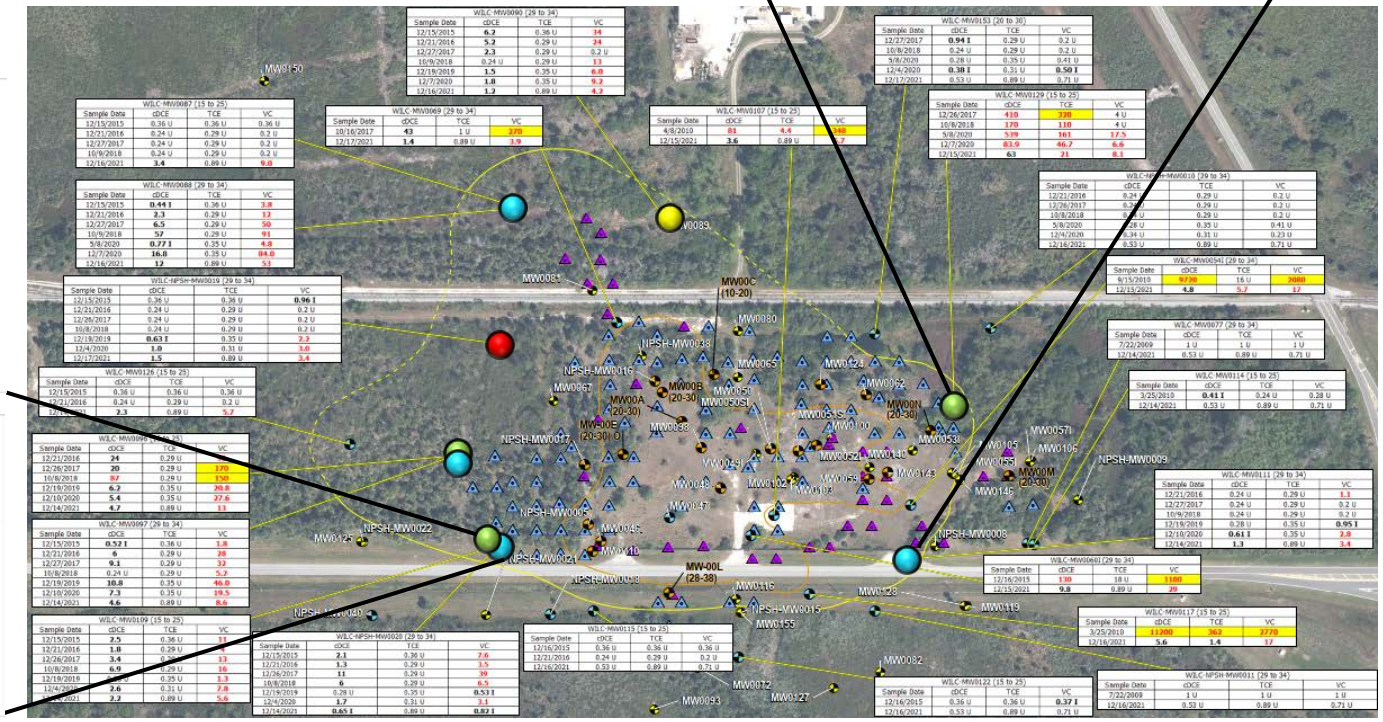
Groundwater Sampling Results – 15 to 34 feet bls – Trend Graphs (page 2 of 2)











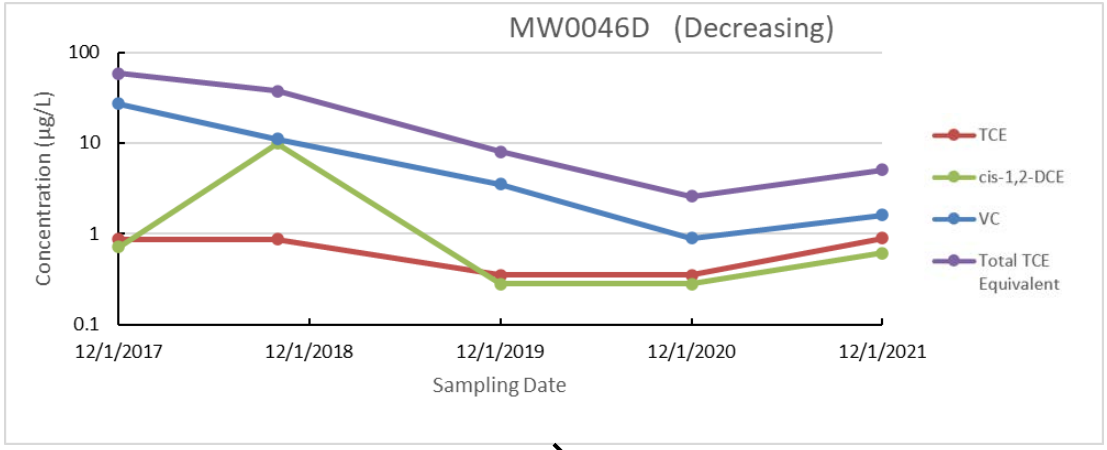
- Stable
- Decreasing
- Increasing
- No Trend

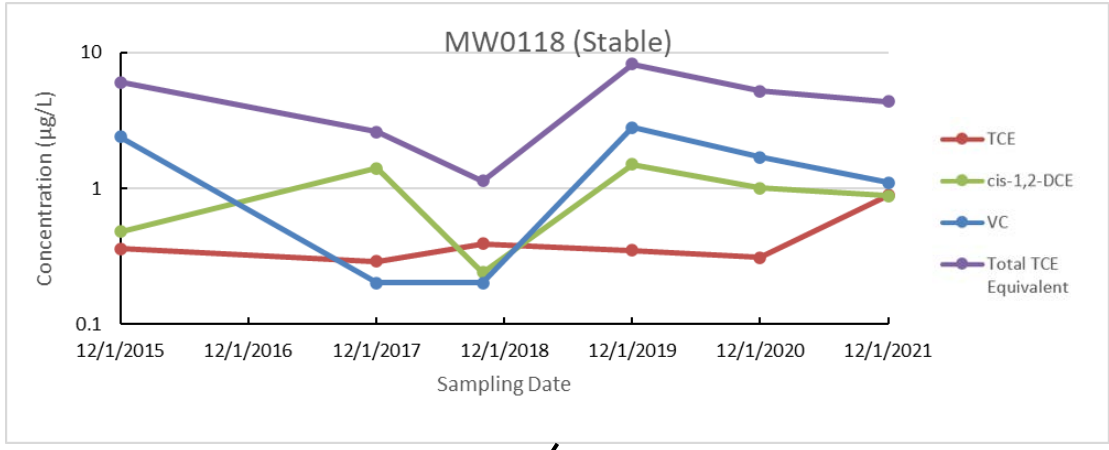
Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

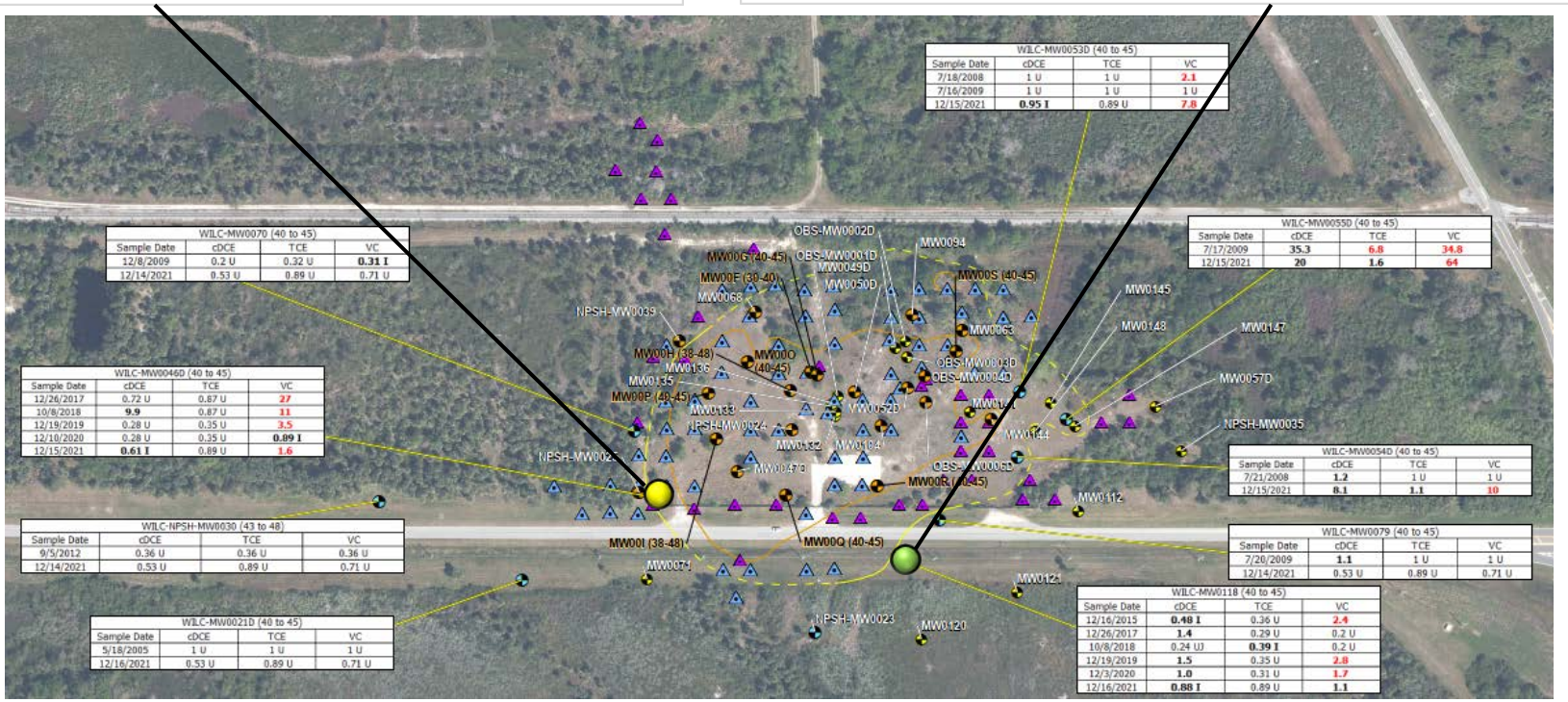
aecom.com

2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – 34 to 48 feet bls – Trend Graphs







- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

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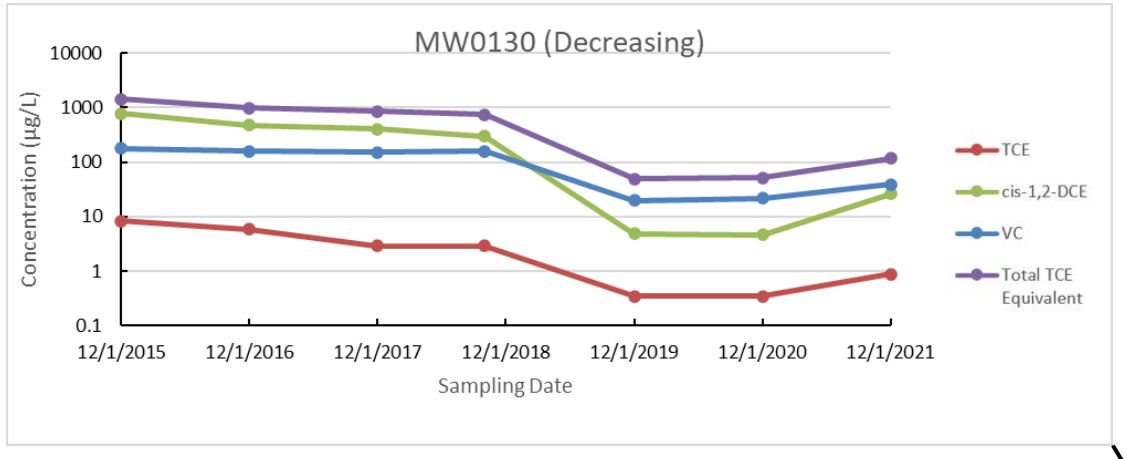
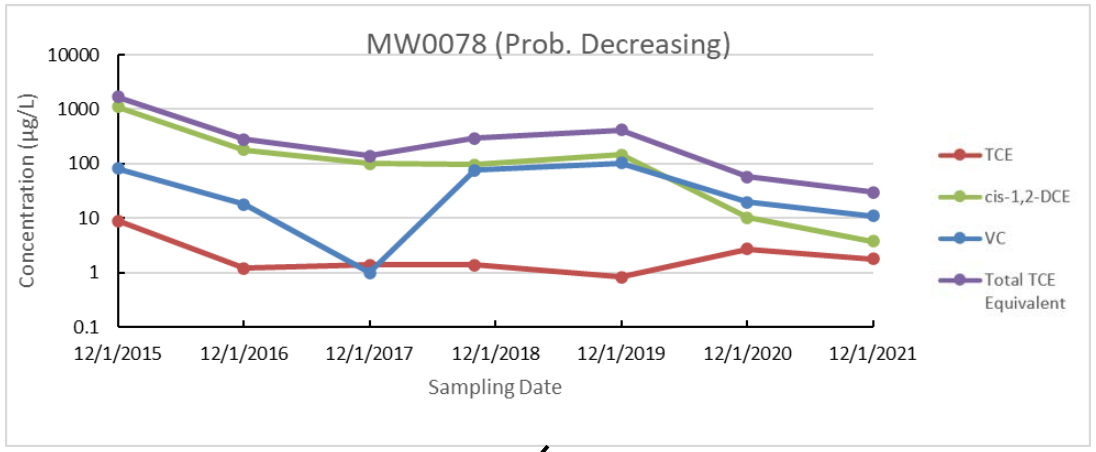
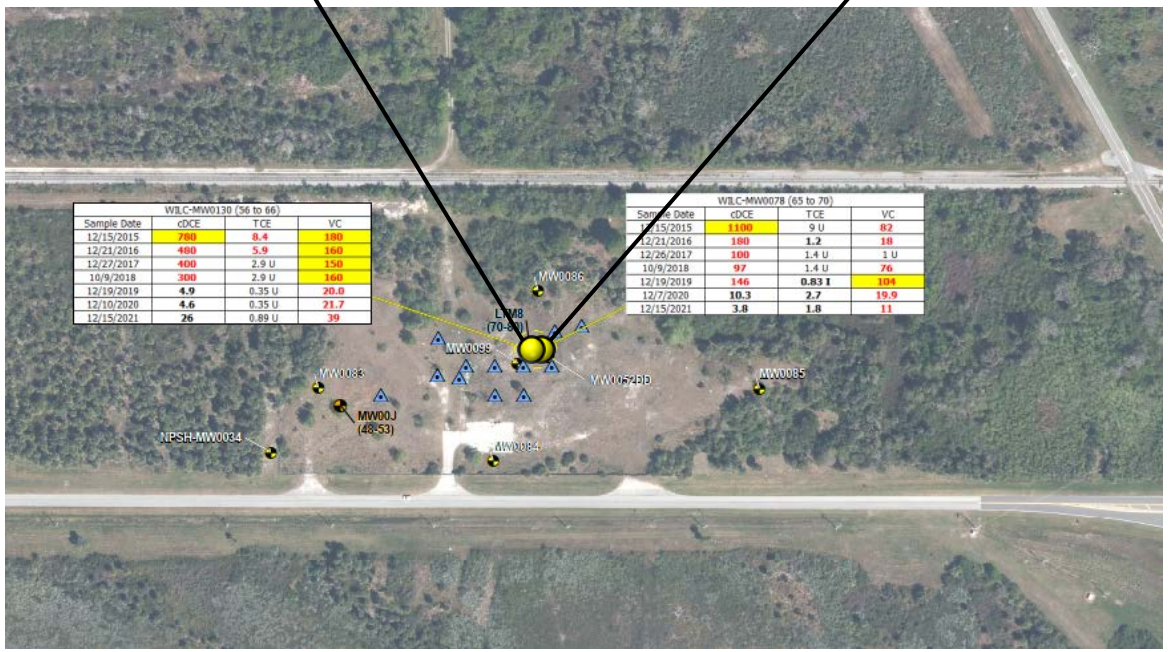
2021 Annual Long-term Monitoring Results

Groundwater Sampling Results – Greater than 48 feet bls – Trend Graphs

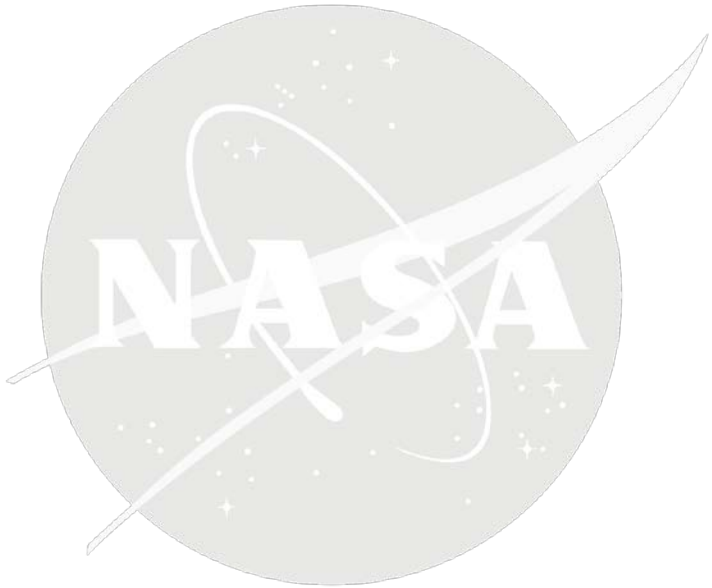






- Stable
- Decreasing
- Increasing
- No Trend

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit



Background

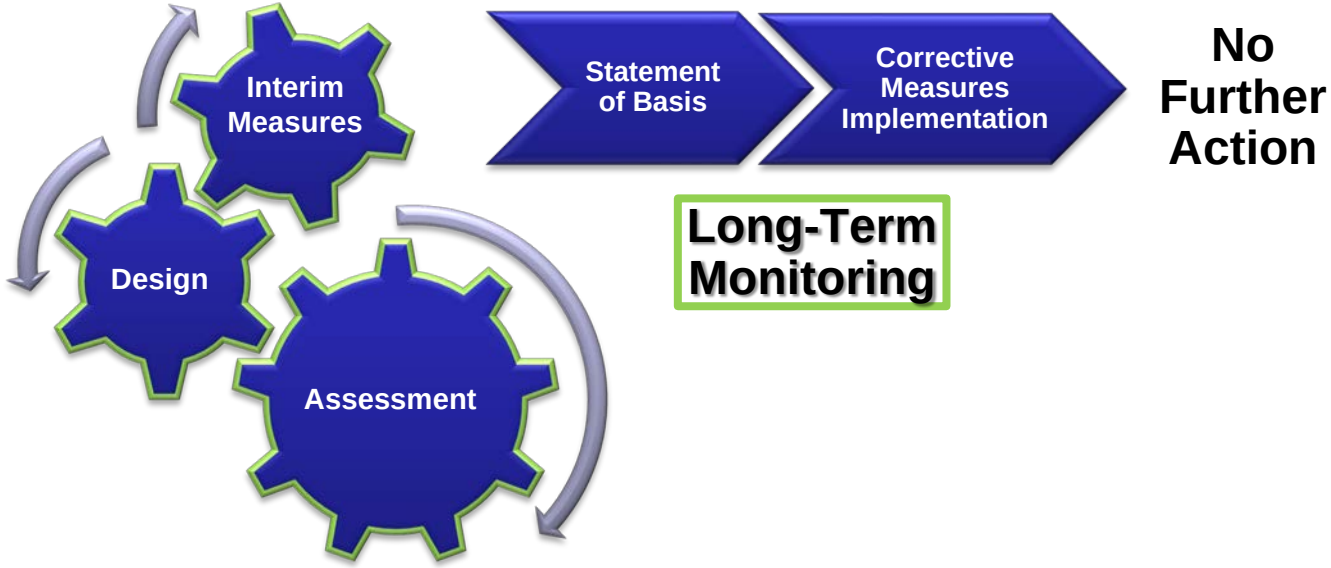
WILC, SWMU 001Overview

Where are we in the RCRA Process?

- Site is in Corrective Measures Implementation (CMI) from a traditional Resource Conservation and Recovery Act (RCRA) standpoint.
- Adaptive site management is being utilized through ongoing assessment, design, and interim measures.
- This approach also meets the requirements of Chapter 62-780 Florida Administrative Code (FAC).

Traditional Linear Approach to RCRA Corrective Actions

KSC Approach to RCRA Corrective Actions

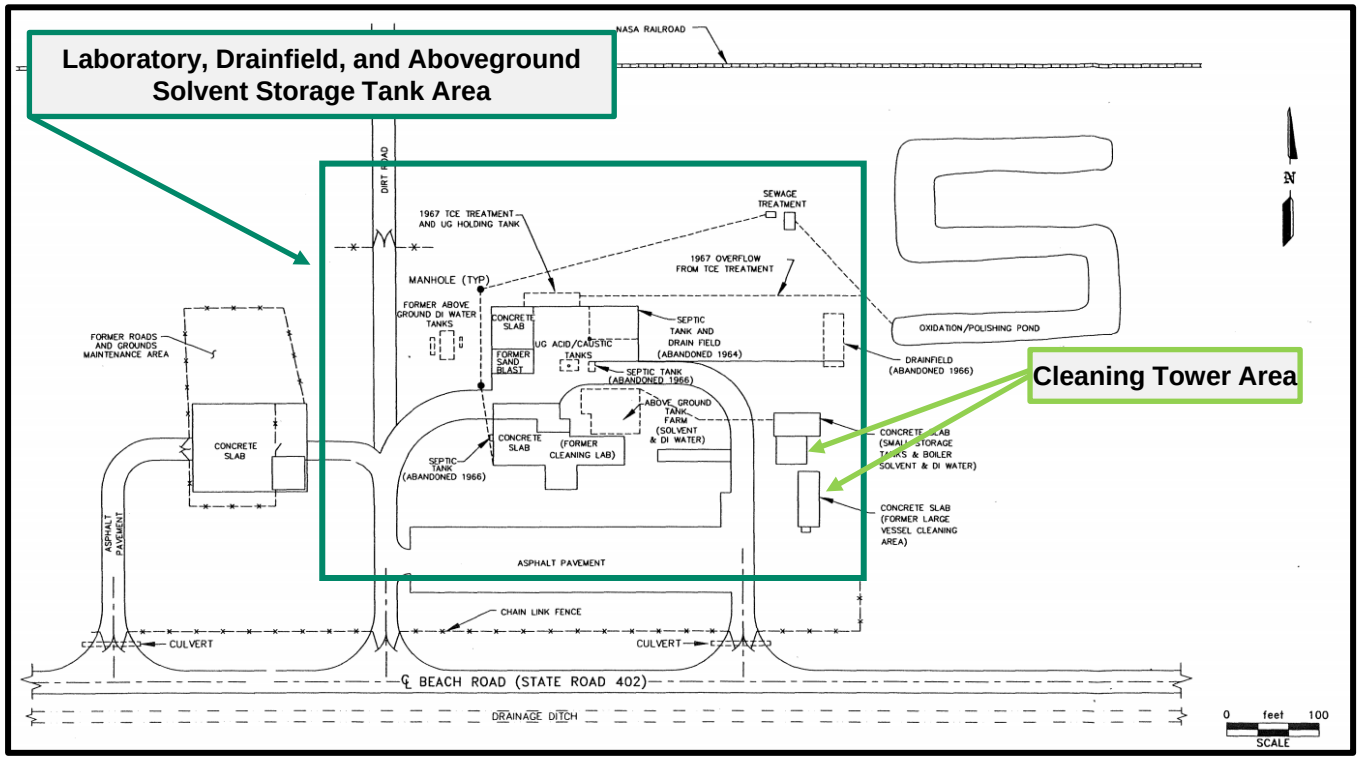


Source: KSC Remediation Program

WILC, SWMU 001 Overview

Site Background and Overview

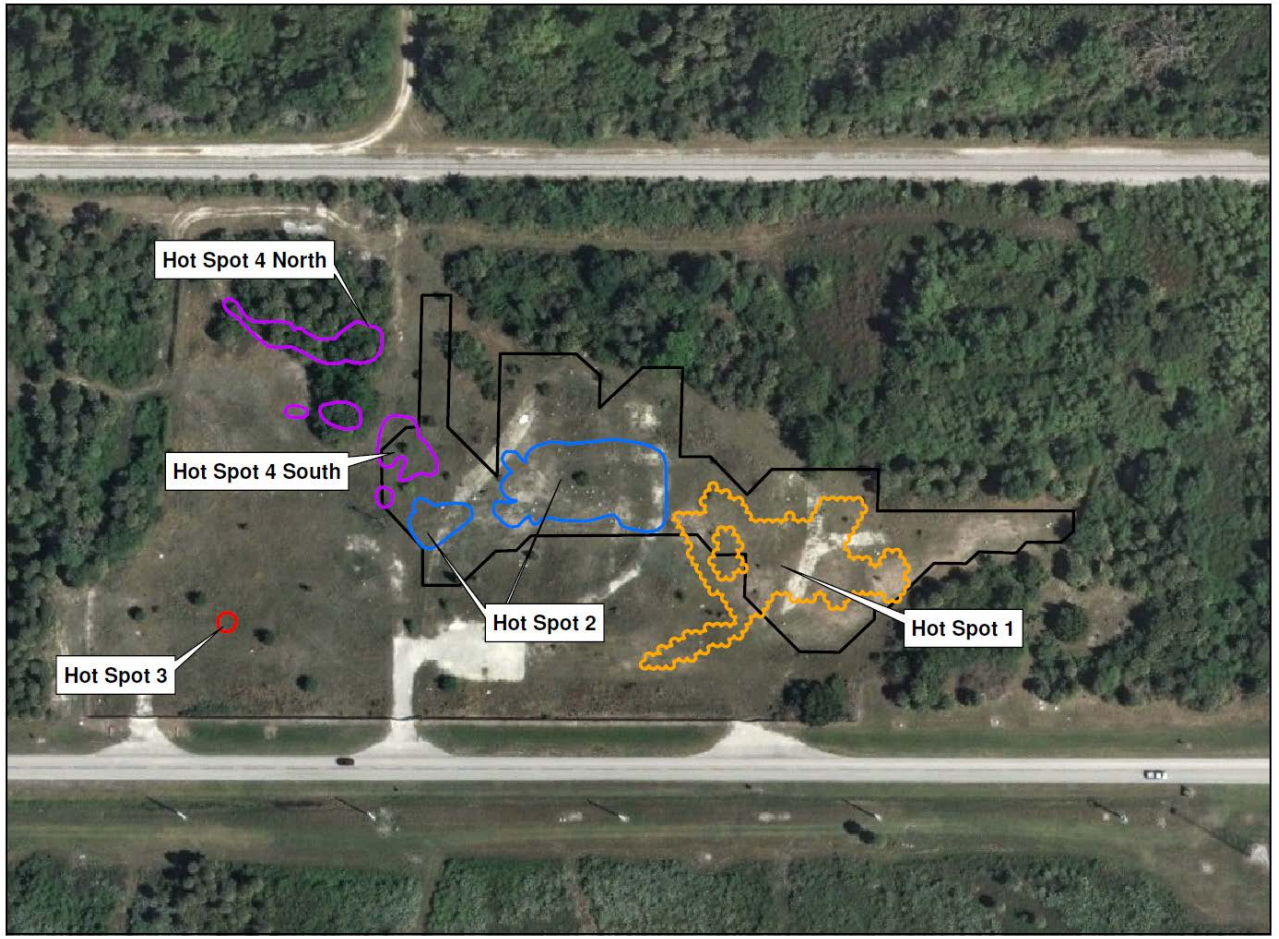
- Historical site use (abbreviated):
  - General store prior to NASA acquisition in early 1960s
  - Operated as a Propellant Systems Components Laboratory from 1963 to 1974
    - Trichloroethene (TCE) was stored in aboveground storage tanks and used in the laboratory and in an outside cleaning facility.
    - TCE was the primary solvent for cleaning components.
    - TCE was discharged to the ground via drainfields and direct spillage.
    - TCE use was phased out and replaced with Freon 113.
    - Facility razed and abandoned in 1974
- Current site use:
  - Unoccupied



WILC, SWMU 001 Overview

Site History

- Assessments/investigations began in mid-1980s
- Supplemental assessment activities to delineate the overall dissolved plume were conducted from May 2005 through July 2010
- High resolution site characterization activities were conducted between April 2011 and December 2017 (15 DPT groundwater sampling events) to delineate areas with higher concentrations of contaminants of concern (COCs) within the dissolved plume
- 7 additional soil borings were advanced to further understand the subsurface composition and locate low permeability zones
- Four hot spots were delineated
  - A hot spot is an area where concentrations of contaminants of concern (COCs) are 10 times the Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentrations (NADCs)
- Groundwater re-assessment is ongoing
  - DPT sampling performed in October 2020 and April 2021
  - Results presented at the April 2021 KSC Remediation Team Meeting
    - Additional DPT to be performed once Hot Spot 2 Interim Measures implemented



Source: Wilson Corners SWMU 001 – High Concentration Plume Air Sparge Interim Measure Work Plan (Geosyntec Consultants, June 2019)

WILC, SWMU 001 Overview

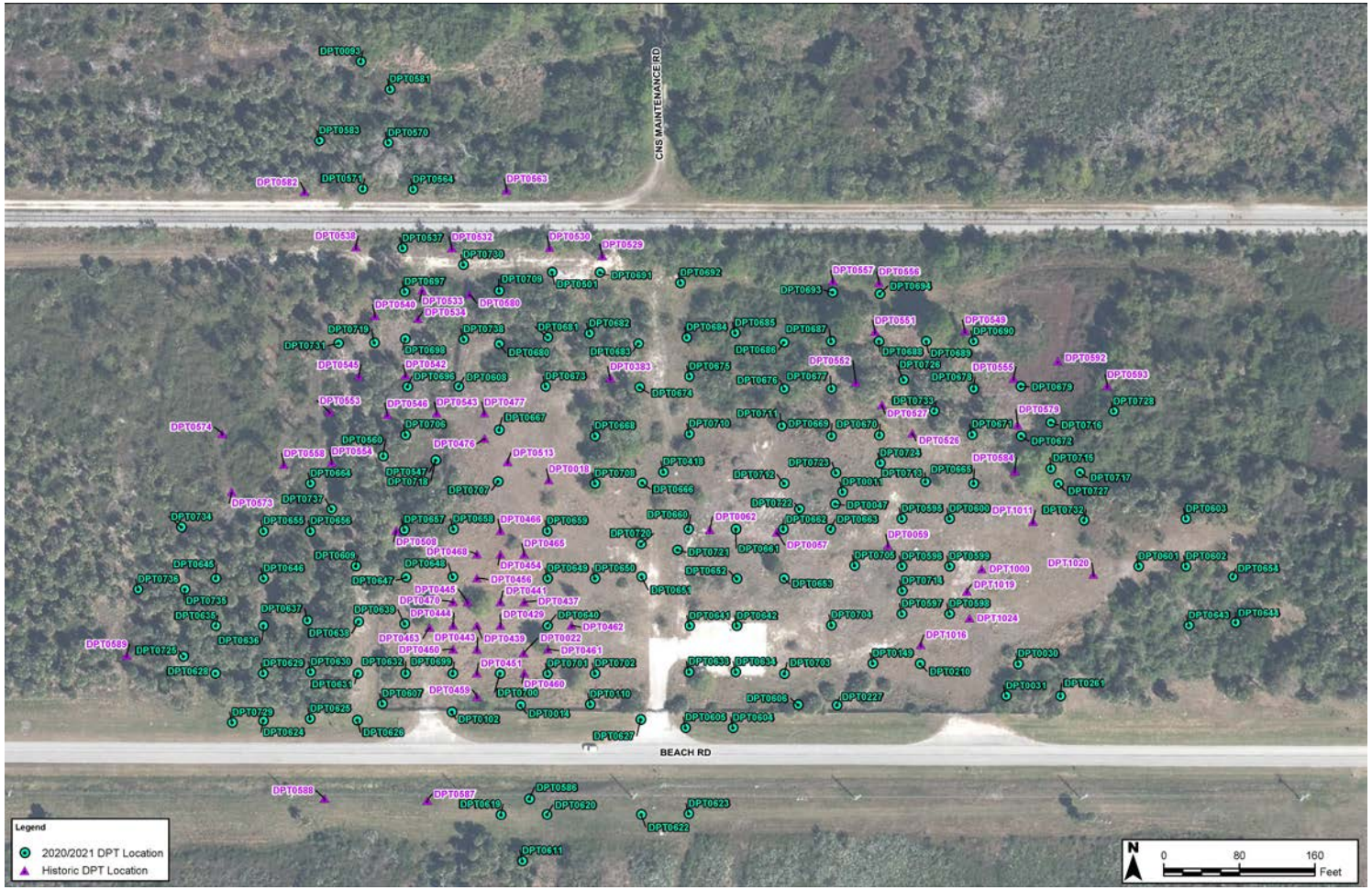
Historical Site Assessment

- Assessments/investigations began in mid-1980s
- Supplemental assessment activities to delineate the overall dissolved plume were conducted from May 2005 through July 2010
  - 600 groundwater samples using direct push technology (DPT) drilling
  - 66 monitoring wells installed
  - 14 membrane interface probe borings with cone penetrometer testing (CPT) at 3 of these locations
  - 5 soil cores to evaluate site lithology
- High resolution site characterization activities were conducted between April 2011 and December 2017 (15 DPT groundwater sampling events) to delineate areas with higher concentrations of contaminants of concern (COCs) within the dissolved plume
  - 4,175 groundwater samples were collected from 551 locations
  - Sampling was generally performed at 4-foot depth intervals at various depths from 6 to 80 feet bls
- 7 additional soil borings were advanced to further understand the subsurface composition and locate low permeability zones

WILC, SWMU 001 Overview

Site Investigations and Remedial Actions

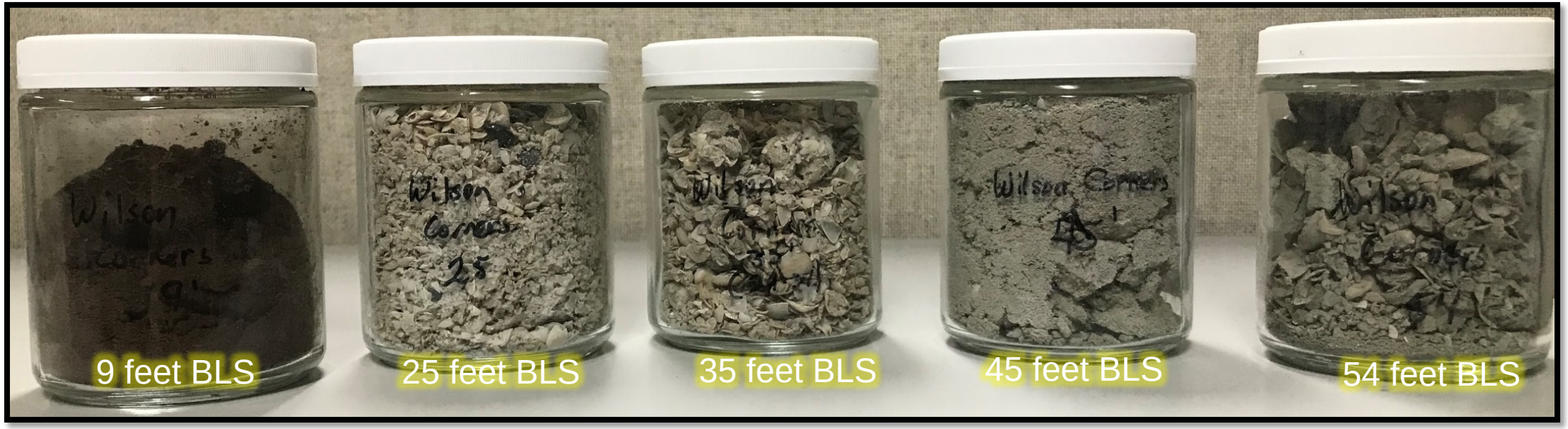
- An air sparge pilot test was conducted in 2017 to test different lithologies and determined air sparging is suitable to 50 feet below land surface (bls)
- Air Sparging Interim Measure (IM) Work Plan to remediate the entire NADC plume above 50 feet received FDEP approval on August 1, 2018
  - Included installation of up to 366 AS wells
  - Work Plan recommended DPT sampling prior to installation of system
- DPT investigations completed in October 2020 and April 2021 indicated changes in the plume boundaries
  - Observed NADC plume expansion on the west and degradation on the east
  - Results indicate a 3.2-acre reduction in size of high concentration plume (HCP)
- Findings documented and presented to KSCRT in the September 2021 ADP
  - Team consensus reached that HCP refined horizontally and vertically to 50 feet bls to support air sparging and revised work plan for installation of 340 AS wells
- Implementation Work Plan submitted to FDEP in March 2022



WILC, SWMU 001 Overview

Site Remedial Actions

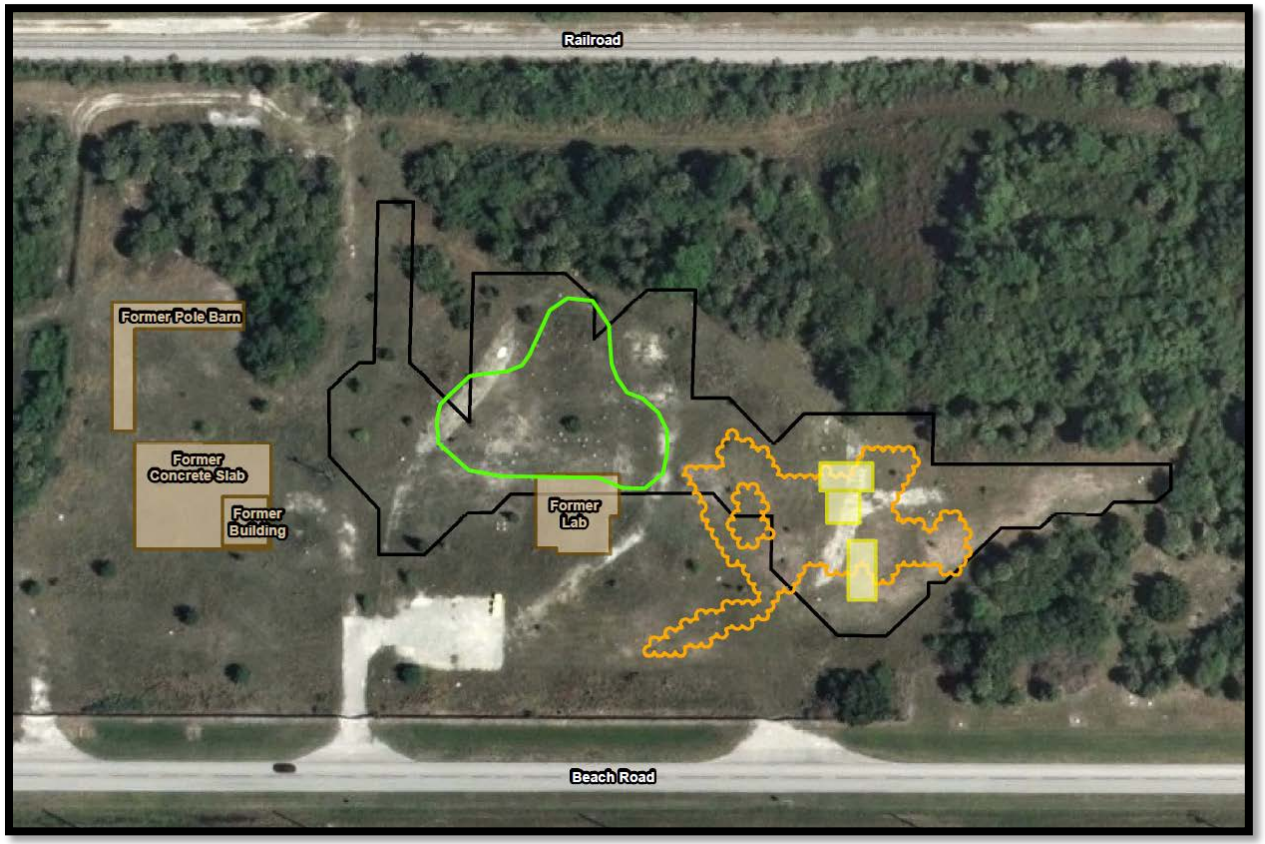
- An air sparge pilot test was conducted in 2017 to test different lithologies and determined air sparging is suitable to 50 feet below land surface (bls)
  - Lithologies tested:
    - Organic hard pan: 10-15 feet bls
    - Anastasia formation: ~22-32 feet bls
    - Low permeability silty sand: ~35 – 50 feet bls
  - Air Sparge Pilot Test Report received FDEP approval in March 2018



WILC, SWMU 001 Overview

Remedial Actions

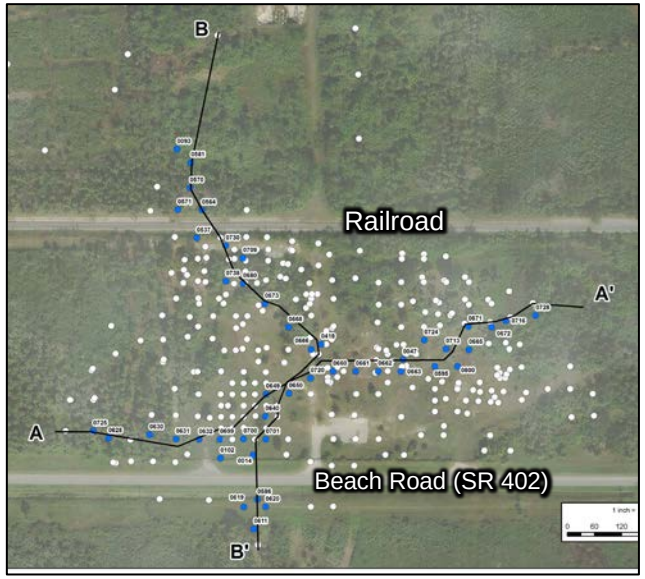
- Remedial actions have removed or treated ~22,000 pounds of TCE mass
  - 1989-1999: Pump & Treat system for plume containment
  - 2003-2004: Excavated shallow organic hardpan and treated with low temperature thermal desorption
  - 2004-2007: Focused treatment of central source area via chemical oxidation, biostimulation, and pumping
  - 2014-2015: Soil mixing with steam and zero valent iron at Hot Spot 1 treatment area



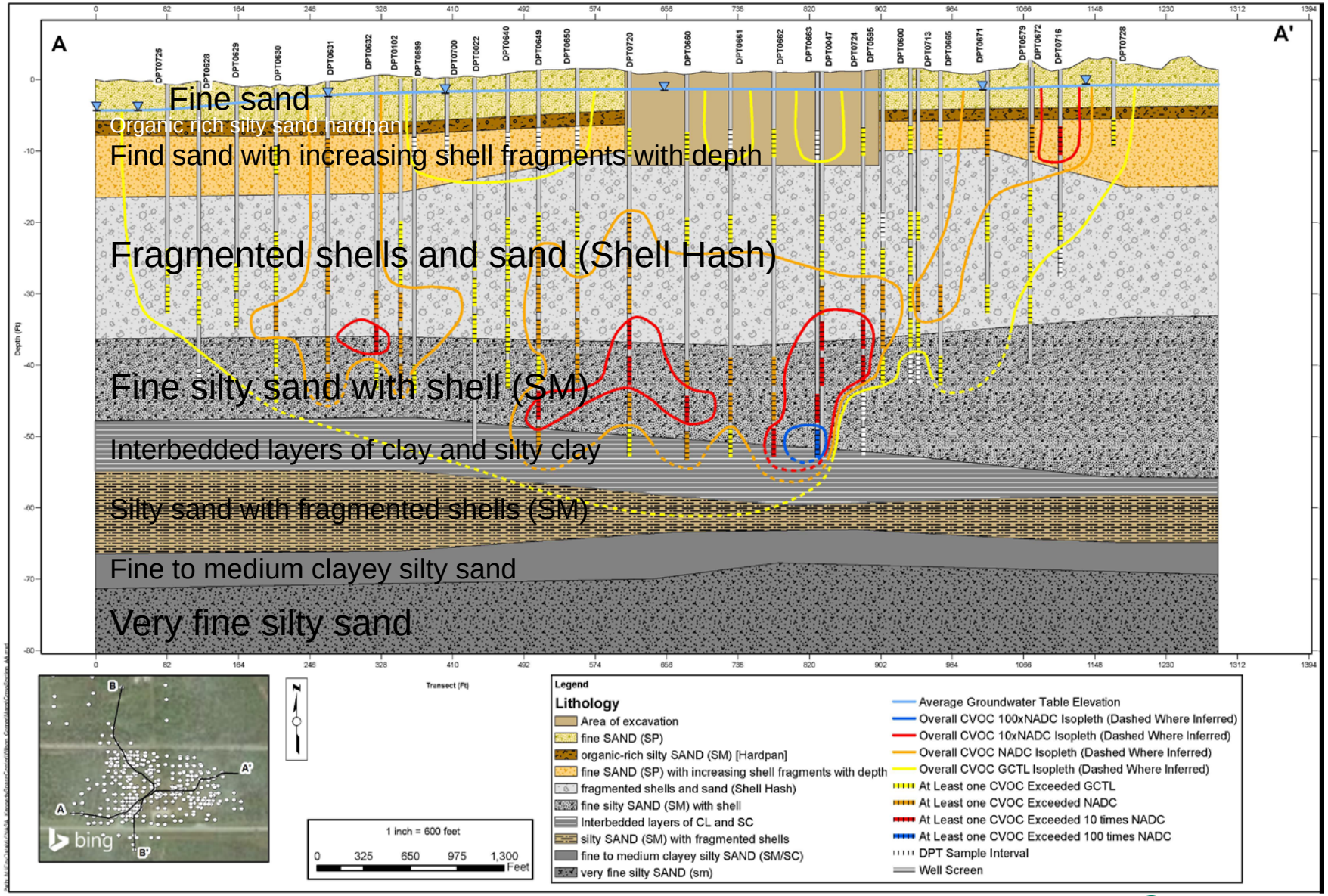
WILC, SWMU 001 Overview

Site-Wide Lithology

- Sands and organic hardpan (shallow), sand and shell fragments (intermediate), and sandy silts/clays (deep)
- Lithologic Cross-Sections reflect 2021 DPT groundwater contour data



Composite Cross Section A-A'

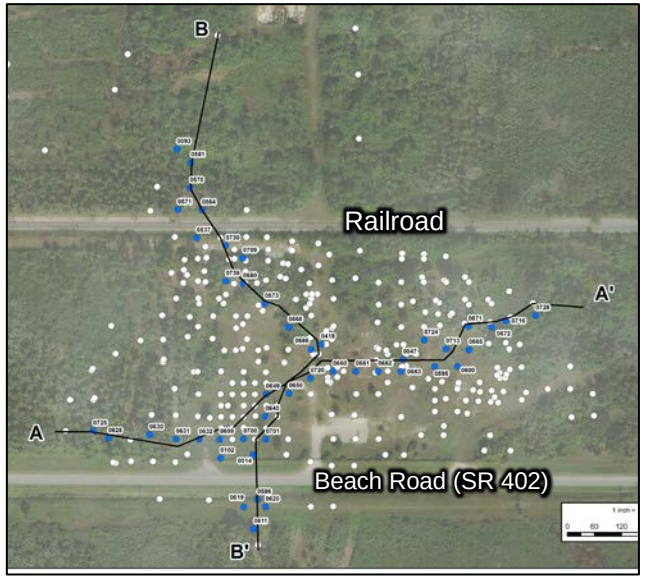


Source: Figure 1-4 from Implementation Work Plan for High Concentration Plume Air Sparge Interim Measure (November 2021, AECOM)

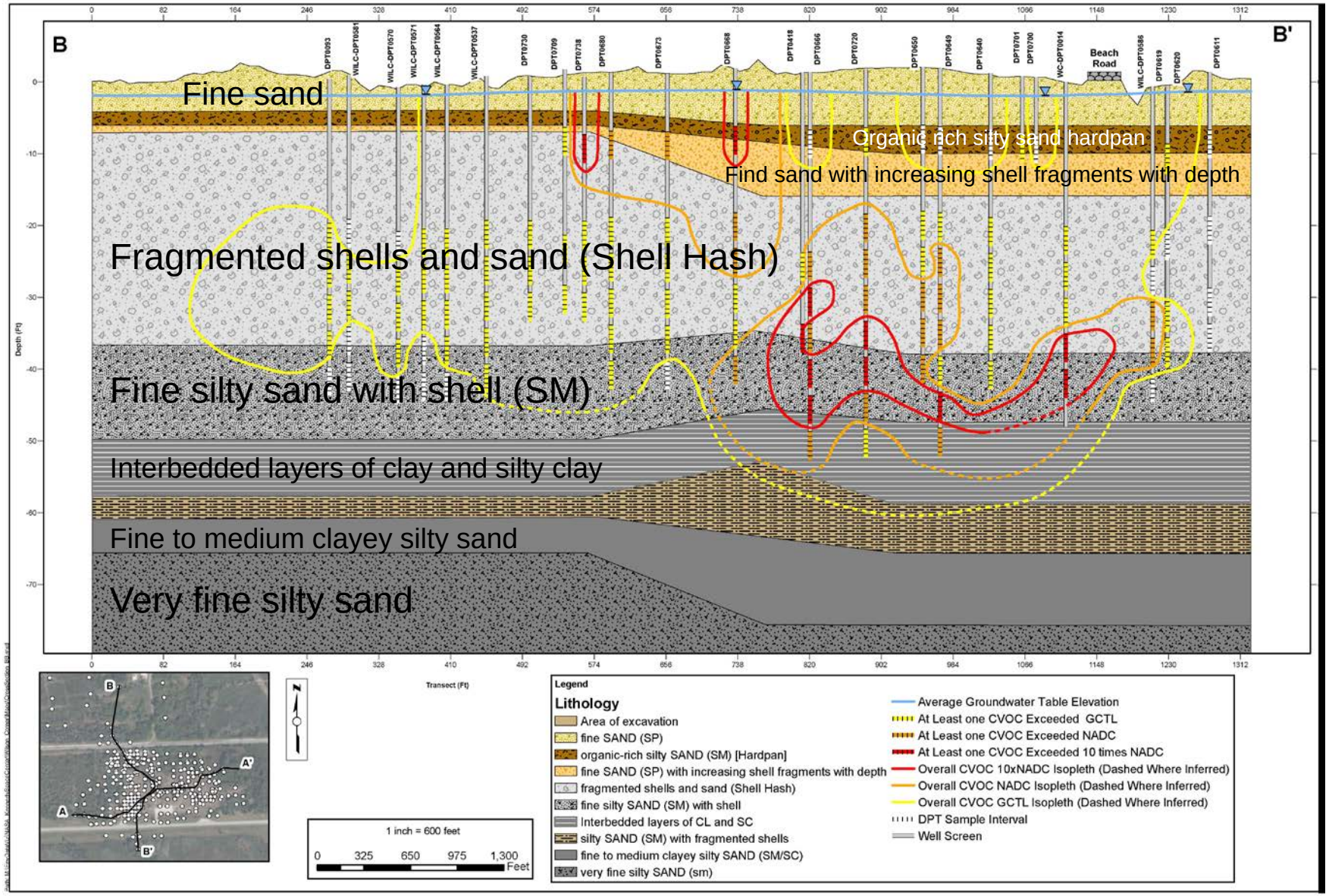
WILC, SWMU 001 Overview

Site-Wide Lithology

- Sands and organic hardpan (shallow), sand and shell fragments (intermediate), and sandy silts/clays (deep)
- Lithologic Cross-Sections reflect 2021 DPT groundwater contour data



Composite Cross Section B-B'



Source: Figure 1-5 from Implementation Work Plan for High Concentration Plume Air Sparge Interim Measure (November 2021, AECOM)

WILC, SWMU 001 Overview

Long-term Groundwater Monitoring

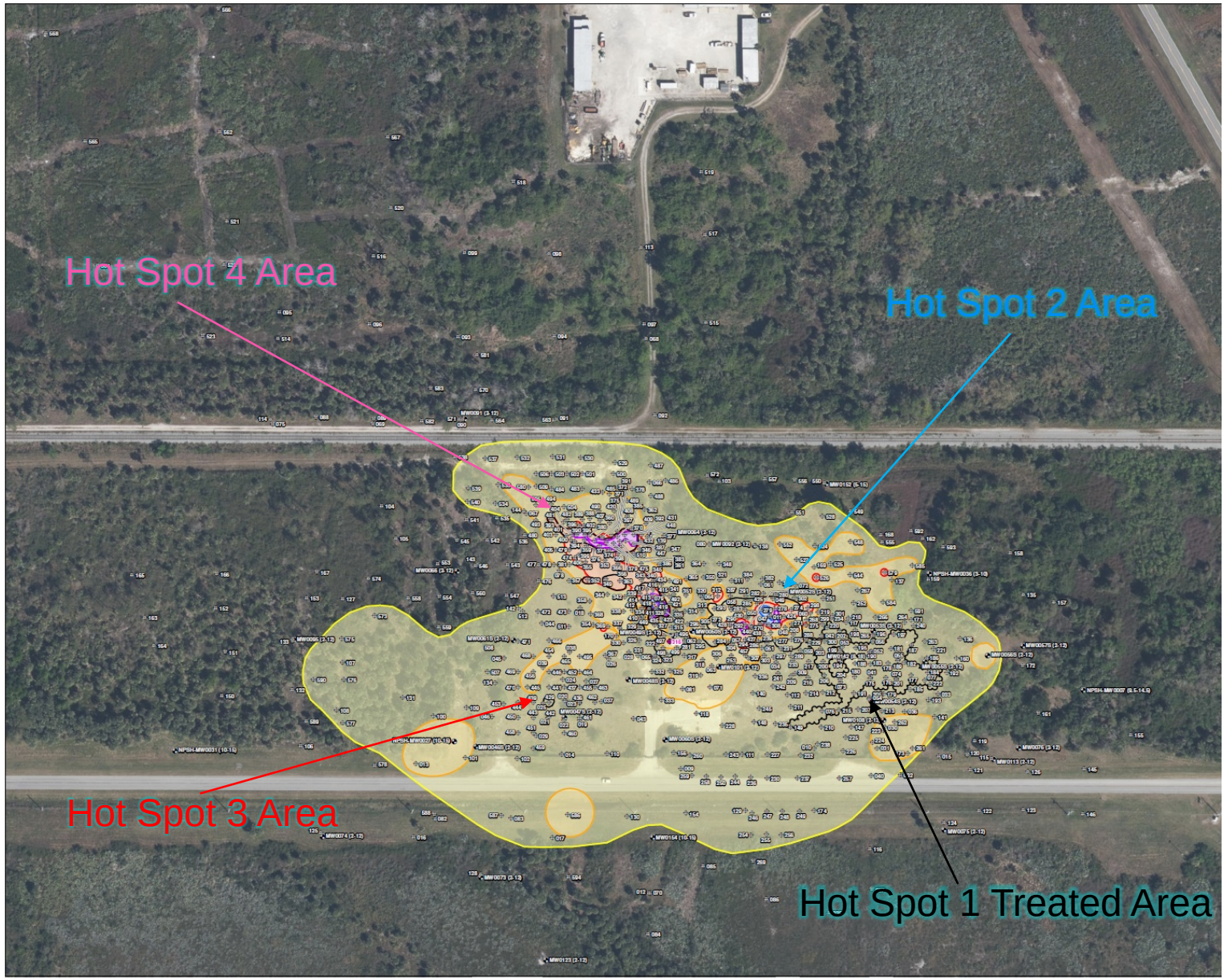
- Long-Term Monitoring
  - Semi-annual groundwater LTM was initiated in February 2005
  - The goal of the LTM program is to:
    - Annually evaluate groundwater flow direction and gradient.
    - Monitor vertical and downgradient monitoring wells with limited sampling of wells internal to the dissolved plume.
    - Every 5 years, upgradient and side-gradient monitoring wells are also sampled to verify delineation in those areas. 2015 was the last 5-year sampling event. 2020 sampling event was replaced with direct push technology as part of evaluation of the high concentration plume prior to installation of the air sparge system.

Legend

- Area of Deep Zone Injection and Pumping Activities
- Former Cleaning Tower Pad
- Former Building
- Hot Spot 1 Treatment Area
- Former Excavation Area

WILC, SWMU 001 Overview

Historical Site Assessment



Groundwater Sampling Results

2 to 15 feet bls

Isopleths consider DPT results through 2017 and 2018 LTM results

Legend

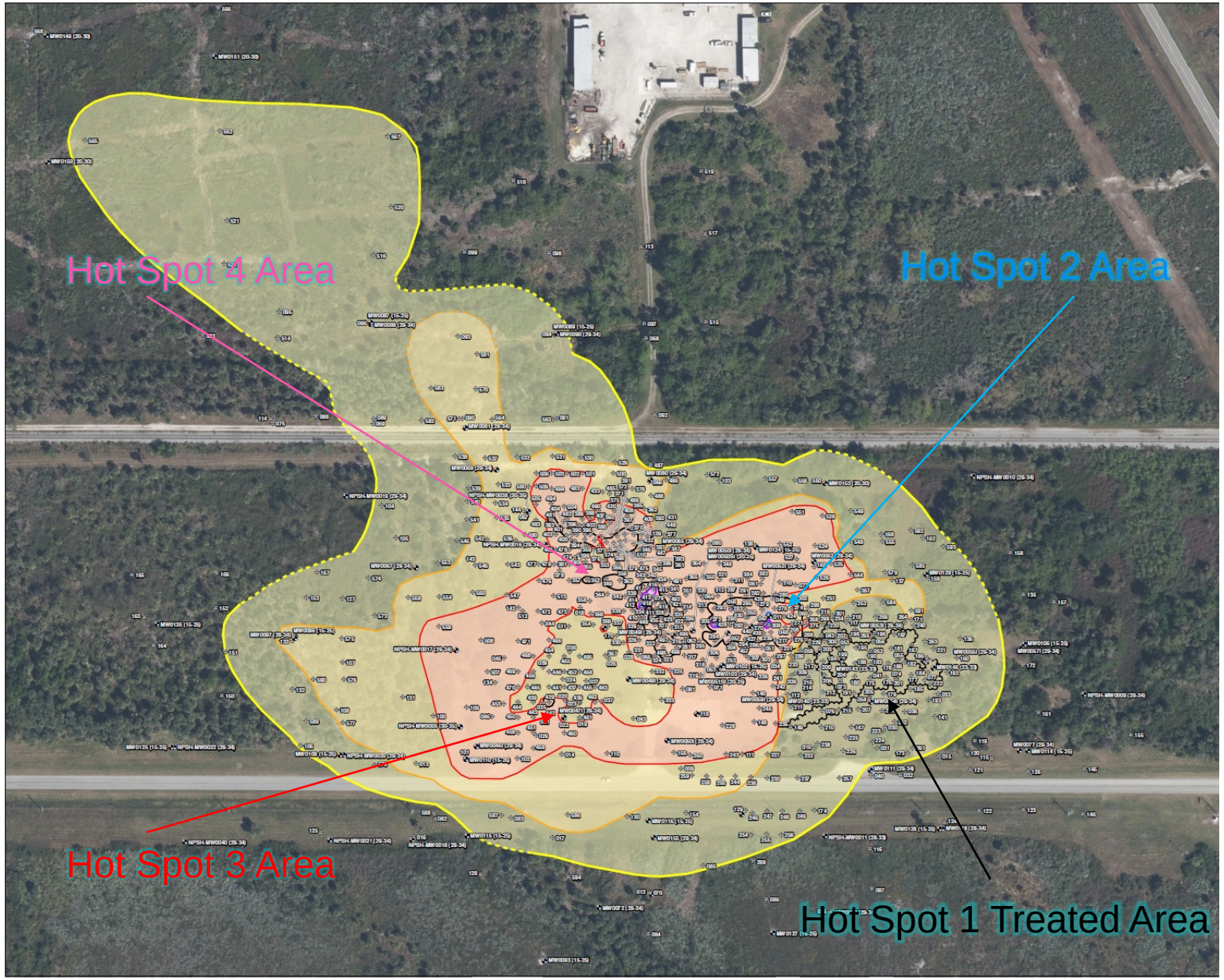
- DPT Sample Location
- DPT Sample location with Freon 113 greater than GCTL (210,000 µg/L)
- 2 to 15 ft BLS Monitoring Well Location showing screen interval (ft BLS)
- Hot Spot Areas
- Overall Extent of CVOC GCTL Isopleth - dashed where inferred (Area: 11.0 Acres/478,777 ft^2)
- Overall Extent of CVOC NADC Isopleth - dashed where inferred (Area: 2.2 Acres/96,338 ft^2)
- Overall Extent of CVOC 10xNADC Isopleth (Area: 0.38 Acres/16,476 ft^2)
- Overall Extent of CVOC 100xNADC Isopleth (Area: 0.02 Acres/933 ft^2)
- TCE Source Area (11,000 µg/L) (Area: 0.06 Acres/2,408 ft^2)

Air sparging of the overall extent of the NADC isopleth will be implemented in 2021

Source: Wilson Corners SWMU 001 – High Concentration Plume Air Sparge Interim Measure Work Plan (Geosyntec Consultants, June 2019)

WILC, SWMU 001 Overview

Historical Site Assessment



Groundwater Sampling Results

15 to 35 feet bls

Isopleths consider DPT results through 2017 and 2018 LTM results

Legend

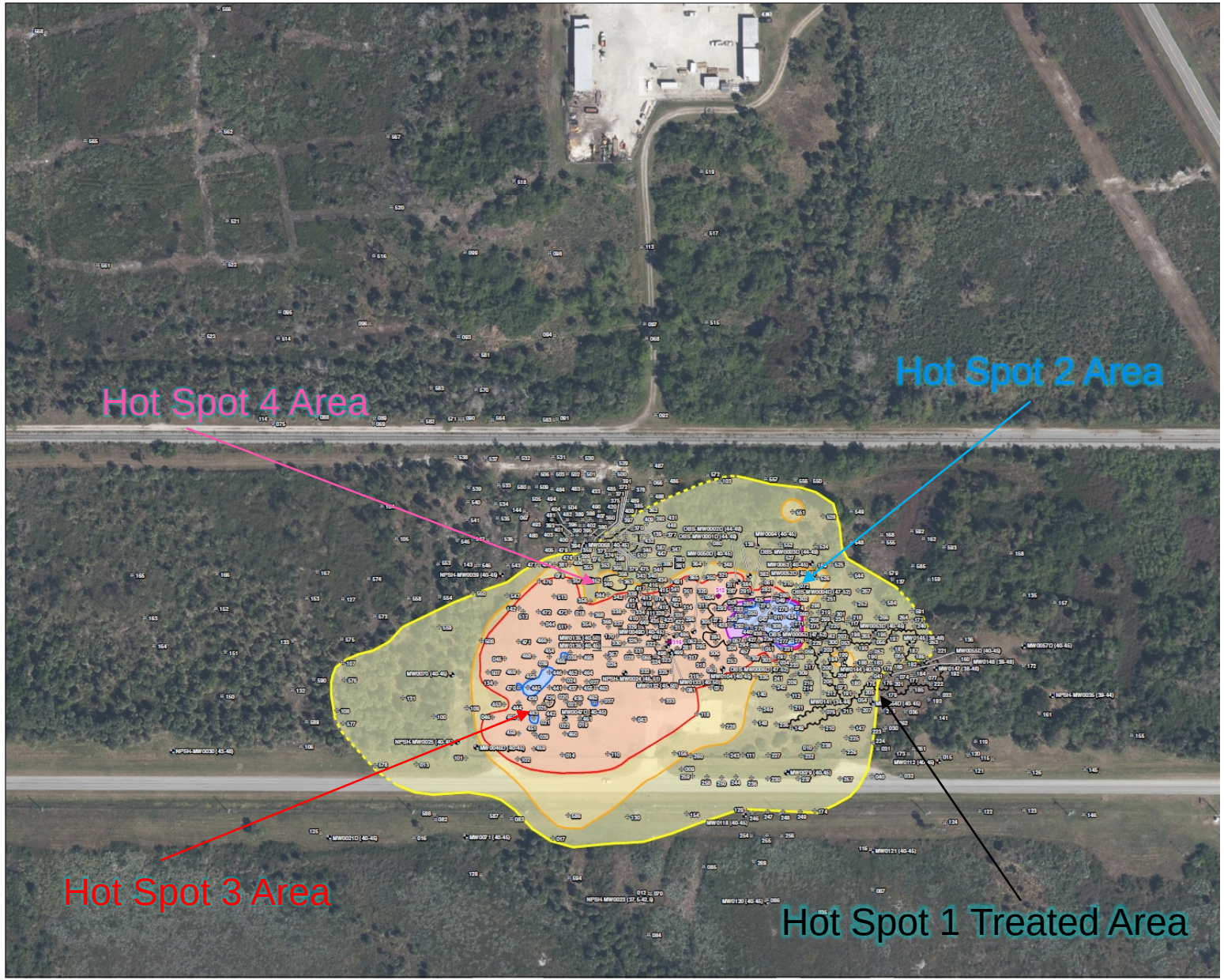
- DPT Sample Location
- 15 to 35 ft BLS Monitoring Well Location showing screen interval (ft BLS)
- Hot Spot Areas
- Overall Extent of CVOC GCTL Isopleth - dashed where inferred (Area: 21.3 Acres/926,738 ft^2)
- Overall Extent of CVOC NADC Isopleth - dashed where inferred (Area: 8.8 Acres/383,951 ft^2)
- Overall Extent of CVOC 10xNADC Isopleth (Area: 4.3 Acres/185,148 ft^2)
- Overall Extent of CVOC 100xNADC Isopleth (Area: 0.01 Acres/328 ft^2)
- TCE Source Area (11,000 µg/L) (Area: 0.02 Acres/786 ft^2)

Air sparging of the overall extent of the NADC isopleth will be implemented in 2021

Source: Wilson Corners SWMU 001 – High Concentration Plume Air Sparge Interim Measure Work Plan (Geosyntec Consultants, June 2019)

WILC, SWMU 001 Overview

Historical Site Assessment



Groundwater Sampling Results

35 to 55 feet bls

Isopleths consider DPT results through 2017 and 2018 LTM results

Legend

- DPT Sample Location
- DPT Sample location with Freon 113 greater than GCTL (210,000 µg/L)
- 35 to 55 ft BLS Monitoring Well Location showing screen interval (ft BLS)
- Hot Spot Areas
- Overall Extent of CVOC GCTL Isopleth - dashed where inferred (Area: 8.7 Acres/377,370 ft^2)
- Overall Extent of CVOC NADC Isopleth - dashed where inferred (Area: 3.7 Acres/161,407 ft^2)
- Overall Extent of CVOC 10xNADC Isopleth (Area: 2.6 Acres/113,279 ft^2)
- Overall Extent of CVOC 100xNADC Isopleth (Area: 0.16 Acres/6,950 ft^2)
- TCE Source Area (11,000 µg/L) (Area: 0.17 Acres/7,473 ft^2)

Air sparging of the overall extent of the NADC isopleth will be implemented in 2021

Source: Wilson Corners SWMU 001 – High Concentration Plume Air Sparge Interim Measure Work Plan (Geosyntec Consultants, June 2019)

WILC, SWMU 001 Overview

Historical Site Assessment

Groundwater Plume

Below ~50 feet bls

DPT sample locations not shown

Legend

Overall Extent of NADC Isopleth
Total Area = 4,369 ft²; 0.1 acres

Overall Extent of GCTL Isopleth
Total Area = 48,116 ft²; 1.1 acres

Interbedded layers of fine sandy clay and clayey sands at ~50 feet bls

Soil mixing with steam and iron planned for Hot Spot 2 due to mass sorbed into the fine-grained unit (Hot Spot 2 Large Diameter Auger with Steam and Zero Valent Iron Interim Measures Work Plan, approved June 15, 2017)

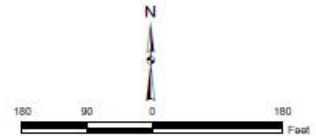
Source: KSC Remediation Program Unfunded Environmental Liability Figure - 2018

WILC, SWMU 001 Overview

Historical Site Assessment

Groundwater Plume – Isopleths consider DPT results through 2017 and 2018 LTM results

Source: KSC Remediation Program Unfunded Environmental Liability Figure - 2018



Legend

- High Concentration Plume (HCP) Total Area = 424,230 ft²; 9.7 acres
- Low Concentration Plume (LCP) Total Area = 1,106,901 ft²; 25.4 acres
- Hot Spot 1 Treatment Area Total Area = 16,343 ft²; 0.4 acres
- Hot Spot 2 Total Area = 12,922 ft²; 0.3 acres
- Hot Spot 3 Total Area = 246 ft²; 0.01 acres
- Hot Spot 4 Total Area = 6,640 ft²; 0.2 acres

High concentration plume is area with concentrations of COCs greater than NADCs

Low concentration plume is area with concentrations of COCs greater than Groundwater Cleanup Target Levels

Notes:
1. ft BLS indicates feet below land surface.
2. UEL indicates unfunded environmental liability.

Figures and Tables

WILC-MW0091 (2 to 12)			
Sample Date	cDCE	TCE	VC
12/15/2015	**0.81 LV**	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/27/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	0.41 U
12/7/2020	0.28 U	0.35 U	0.41 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0048S (2 to 12)			
Sample Date	cDCE	TCE	VC
7/28/2005	0 U	0 U	0 U
12/15/2021	**2.0**	0.89 U	0.71 U

WILC-MW0152 (5 to 15)			
Sample Date	cDCE	TCE	VC
12/27/2017	**500**	**530**	**23**
10/8/2018	0.48 U	**2.6**	0.4 U
5/8/2020	**16.9**	**3.3**	0.41 U
12/4/2020	**447 L**	**236 L**	**18.2**
12/17/2021	**980**	**730**	**27**

WILC-MW0061S (2 to 12)			
Sample Date	cDCE	TCE	VC
7/25/2005	0 U	0 U	0 U
12/15/2021	0.53 U	0.89 U	0.71 U

WILC-MW0095 (2 to 12)			
Sample Date	cDCE	TCE	VC
12/15/2015	**1.1 V**	0.36 U	**1.7**
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	0.41 U
12/10/2020	0.28 U	0.35 U	0.41 U
12/14/2021	**0.85 I**	0.89 U	**1.0**

WILC-NPSH-MW0027 (10 to 15)			
Sample Date	cDCE	TCE	VC
12/15/2015	**62**	3.6 U	**810**
12/21/2016	**38**	0.29 U	**240**
12/26/2017	**20**	0.87 U	**120 J4**
10/9/2018	**38**	0.87 U	**150**
12/19/2019	**351**	1.7 U	**696 Q**
12/8/2020	**356**	1.7 U	**824**
12/14/2021	**480**	8.9 U	**580**

WILC-MW0053S (2 to 12)			
Sample Date	cDCE	TCE	VC
12/8/2009	**10.8**	**0.42 I**	**8.2**
12/15/2021	0.53 U	0.89 U	0.71 U

WILC-MW0074 (2 to 12)			
Sample Date	cDCE	TCE	VC
12/16/2015	**0.97 IV**	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	0.41 U
12/3/2020	0.34 U	0.31 U	0.23 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0154 (5 to 15)			
Sample Date	cDCE	TCE	VC
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	**0.83 I**
12/3/2020	**0.72 I**	0.31 U	**0.56 I**
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0060S (2 to 12)			
Sample Date	cDCE	TCE	VC
8/12/2009	1 U	1 U	1 U
12/15/2021	0.53 U	0.89 U	0.71 U

LTM1 (2-12)
MW00D (2-12)
MW0092
WILC-MW0064 (2-12)
MW0066
WILC-MW0156 (5-15)
NPSH-MW0036
MW0050S
MW0049S
WILC-MW0052S (2-12)
MW0056S
MW0057S
WILC-MW0142 (8-18)
MW0055S
MW0101
NPSH-MW0007
MW0054S
MW0108
MW0047S
MW0046S
MW0076
MW0113
NPSH-MW0031
MW00K (2-12)
MW0075
MW0073

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Indicates that the analyte was undetected
- I = Indicates the analyte was detected but below the reporting limit; therefore, an estimated value
- Q = Results from run #2
- L = Indicates value exceeds calibration range
- V = Indicates the analyte was detected in both the sample and the associated method blank
- **Bold** indicates a detected value
- LF = sample was collected using low-flow techniques
- bls = below land surface
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1-11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS
- Aerial Source: FDOT 2018

N

0 140 280 Feet

FIGURE 1
Groundwater Analytical Results
2 to 15 feet bls
2021
Wilson Corners (WILC)
Solid Waste Management Unit 001
NASA Kennedy Space Center, Florida

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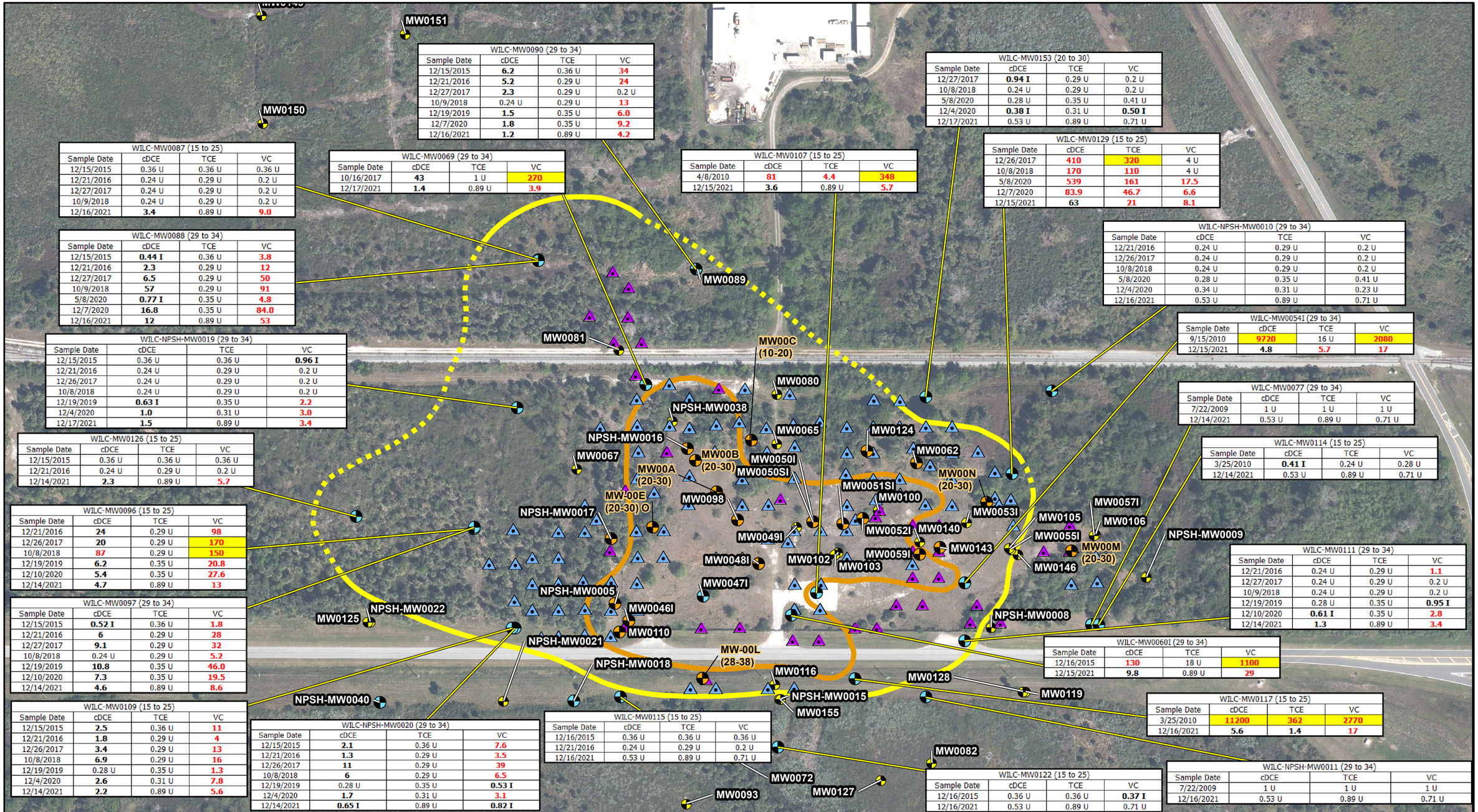

WILC-MW0090 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/15/2015	**6.2**	0.36 U	**34**
12/21/2016	**5.2**	0.29 U	**24**
12/27/2017	**2.3**	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	**13**
12/19/2019	**1.5**	0.35 U	**6.0**
12/7/2020	**1.8**	0.35 U	**9.2**
12/16/2021	**1.2**	0.89 U	**4.2**

WILC-MW0153 (20 to 30)			
Sample Date	cDCE	TCE	VC
12/27/2017	**0.94 I**	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	**0.38 I**	0.31 U	**0.50 I**
12/17/2021	0.53 U	0.89 U	0.71 U

WILC-MW0087 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/16/2021	**3.4**	0.89 U	**9.0**

WILC-MW0069 (29 to 34)			
Sample Date	cDCE	TCE	VC
10/16/2017	**43**	1 U	**270**
12/17/2021	**1.4**	0.89 U	**3.9**

WILC-MW0107 (15 to 25)			
Sample Date	cDCE	TCE	VC
4/8/2010	**81**	**4.4**	**348**
12/15/2021	**3.6**	0.89 U	**5.7**

WILC-MW0129 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/26/2017	**410**	**320**	4 U
10/8/2018	**170**	**110**	4 U
5/8/2020	**539**	**161**	**17.5**
12/7/2020	**83.9**	**46.7**	**6.6**
12/15/2021	**63**	**21**	**8.1**

WILC-MW0088 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/15/2015	**0.44 I**	0.36 U	**3.8**
12/21/2016	**2.3**	0.29 U	**12**
12/27/2017	**6.5**	0.29 U	**50**
10/9/2018	**57**	0.29 U	**91**
5/8/2020	**0.77 I**	0.35 U	**4.8**
12/7/2020	**16.8**	0.35 U	**84.0**
12/16/2021	**12**	0.89 U	**53**

WILC-NPSH-MW0010 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
5/8/2020	0.28 U	0.35 U	0.41 U
12/4/2020	0.34 U	0.31 U	0.23 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-NPSH-MW0019 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	**0.96 I**
12/21/2016	0.24 U	0.29 U	0.2 U
12/26/2017	0.24 U	0.29 U	0.2 U
10/8/2018	0.24 U	0.29 U	0.2 U
12/19/2019	**0.63 I**	0.35 U	**2.2**
12/4/2020	**1.0**	0.31 U	**3.0**
12/17/2021	**1.5**	0.89 U	**3.4**

WILC-MW00541 (29 to 34)			
Sample Date	cDCE	TCE	VC
9/15/2010	**9720**	16 U	**2080**
12/15/2021	**4.8**	**5.7**	**17**

WILC-MW0077 (29 to 34)			
Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0126 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/15/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/14/2021	**2.3**	0.89 U	**5.7**

WILC-MW0114 (15 to 25)			
Sample Date	cDCE	TCE	VC
3/25/2010	**0.41 I**	0.24 U	0.28 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0096 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/21/2016	**24**	0.29 U	**98**
12/26/2017	**20**	0.29 U	**170**
10/8/2018	**87**	0.29 U	**150**
12/19/2019	**6.2**	0.35 U	**20.8**
12/10/2020	**5.4**	0.35 U	**27.6**
12/14/2021	**4.7**	0.89 U	**13**

WILC-MW0111 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/21/2016	0.24 U	0.29 U	**1.1**
12/27/2017	0.24 U	0.29 U	0.2 U
10/9/2018	0.24 U	0.29 U	0.2 U
12/19/2019	0.28 U	0.35 U	**0.95 I**
12/10/2020	**0.61 I**	0.35 U	**2.8**
12/14/2021	**1.3**	0.89 U	**3.4**

WILC-MW0097 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/15/2015	**0.52 I**	0.36 U	**1.8**
12/21/2016	**6**	0.29 U	**28**
12/27/2017	**9.1**	0.29 U	**32**
10/8/2018	0.24 U	0.29 U	**5.2**
12/19/2019	**10.8**	0.35 U	**46.0**
12/10/2020	**7.3**	0.35 U	**19.5**
12/14/2021	**4.6**	0.89 U	**8.6**

WILC-MW0060I (29 to 34)			
Sample Date	cDCE	TCE	VC
12/16/2015	**130**	18 U	**1100**
12/15/2021	**9.8**	0.89 U	**29**

WILC-MW0109 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/15/2015	**2.5**	0.36 U	**11**
12/21/2016	**1.8**	0.29 U	**4**
12/26/2017	**3.4**	0.29 U	**13**
10/8/2018	**6.9**	0.29 U	**16**
12/19/2019	0.28 U	0.35 U	**1.3**
12/4/2020	**2.6**	0.31 U	**7.8**
12/14/2021	**2.2**	0.89 U	**5.6**

WILC-MW0117 (15 to 25)			
Sample Date	cDCE	TCE	VC
3/25/2010	**11200**	**362**	**2770**
12/16/2021	**5.6**	**1.4**	**17**

WILC-NPSH-MW0020 (29 to 34)			
Sample Date	cDCE	TCE	VC
12/15/2015	**2.1**	0.36 U	**7.6**
12/21/2016	**1.3**	0.29 U	**3.5**
12/26/2017	**11**	0.29 U	**39**
10/8/2018	**6**	0.29 U	**6.5**
12/19/2019	0.28 U	0.35 U	**0.53 I**
12/4/2020	**1.7**	0.31 U	**3.1**
12/14/2021	**0.65 I**	0.89 U	**0.82 I**

WILC-MW0115 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	0.36 U
12/21/2016	0.24 U	0.29 U	0.2 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0122 (15 to 25)			
Sample Date	cDCE	TCE	VC
12/16/2015	0.36 U	0.36 U	**0.37 I**
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-NPSH-MW0011 (29 to 34)			
Sample Date	cDCE	TCE	VC
7/22/2009	1 U	1 U	1 U
12/16/2021	0.53 U	0.89 U	0.71 U

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Indicates that the analyte was undetected
- I = Indicates the analyte was detected but below the reporting limit; therefore, an estimated value
- Q = Results from run #2
- **Bold** indicates a detected value
- LF = sample was collected using low-flow techniques
- bls = below land surface
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1-11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS
- Aerial Source: FDOT 2018

N

0 180 360 Feet

FIGURE 2
Groundwater Analytical Results
15 - 34 ft bls
2021
Wilson Corners (WILC)
Solid Waste Management Unit 001
NASA Kennedy Space Center, Florida

WILC-MW0053D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/18/2008	1 U	1 U	**2.1**
7/16/2009	1 U	1 U	1 U
12/15/2021	**0.95 I**	0.89 U	**7.8**

WILC-MW0070 (40 to 45)			
Sample Date	cDCE	TCE	VC
12/8/2009	0.2 U	0.32 U	**0.31 I**
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0055D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/17/2009	**35.3**	**6.8**	**34.8**
12/15/2021	**20**	**1.6**	**64**

WILC-MW0046D (40 to 45)			
Sample Date	cDCE	TCE	VC
12/26/2017	0.72 U	0.87 U	**27**
10/8/2018	**9.9**	0.87 U	**11**
12/19/2019	0.28 U	0.35 U	**3.5**
12/10/2020	0.28 U	0.35 U	**0.89 I**
12/15/2021	**0.61 I**	0.89 U	**1.6**

WILC-MW0054D (40 to 45)			
Sample Date	cDCE	TCE	VC
7/21/2008	**1.2**	1 U	1 U
12/15/2021	**8.1**	**1.1**	**10**

WILC-NPSH-MW0030 (43 to 48)			
Sample Date	cDCE	TCE	VC
9/5/2012	0.36 U	0.36 U	0.36 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0079 (40 to 45)			
Sample Date	cDCE	TCE	VC
7/20/2009	**1.1**	1 U	1 U
12/14/2021	0.53 U	0.89 U	0.71 U

WILC-MW0021D (40 to 45)			
Sample Date	cDCE	TCE	VC
5/18/2005	1 U	1 U	1 U
12/16/2021	0.53 U	0.89 U	0.71 U

WILC-MW0118 (40 to 45)			
Sample Date	cDCE	TCE	VC
12/16/2015	**0.48 I**	0.36 U	**2.4**
12/26/2017	**1.4**	0.29 U	0.2 U
10/8/2018	0.24 UJ	**0.39 I**	0.2 U
12/19/2019	**1.5**	0.35 U	**2.8**
12/3/2020	**1.0**	0.31 U	**1.7**
12/16/2021	**0.88 I**	0.89 U	**1.1**

OBS-MW0002D
MW0094
MW00G (40-45)
OBS-MW0001D
MW0049D
MW00S (40-45)
MW00F (30-40)
MW0050D
MW0145
MW0068
NPSH-MW0039
MW0063
MW0148
MW0147
MW00H (38-48)
MW00O (40-45)
OBS-MW0003D
MW0136
OBS-MW0004D
MW0135
MW0057D
MW00P (40-45)
MW0133
MW0052D
MW0141
NPSH-MW0024
NPSH-MW0035
MW0132
MW0104
MW0144
NPSH-MW0025
MW0047D
OBS-MW0006D
MW00R (40-45)
MW0112
MW00I (38-48)
MW00Q (40-45)
MW0071
MW0121
NPSH-MW0023
MW0120

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)
- Approximate Extent of Groundwater Contamination Exceeding NADCs

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Indicates that the analyte was undetected
- I = Indicates the analyte was detected but below the reporting limit; therefore, an estimated value
- Q = Results from run #2
- J = Analyte concentration detected below the method detection limit
- **Bold** indicates a detected value
- LF = sample was collected using low-flow techniques
- bls = below land surface
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1-11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS
- Aerial Source: FDOT 2018

N

0 180 360 Feet

FIGURE 3
Groundwater Analytical Results
34 - 48 ft bls
2021
Wilson Corners (WILC)
Solid Waste Management Unit 001
NASA Kennedy Space Center, Florida

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WILC-MW0130 (56 to 66)			
Sample Date	cDCE	TCE	VC
12/15/2015	780	8.4	180
12/21/2016	480	5.9	160
12/27/2017	400	2.9 U	150
10/9/2018	300	2.9 U	160
12/19/2019	4.9	0.35 U	20.0
12/10/2020	4.6	0.35 U	21.7
12/15/2021	26	0.89 U	39

WILC-MW0078 (65 to 70)			
Sample Date	cDCE	TCE	VC
12/15/2015	1100	9 U	82
12/21/2016	180	1.2	18
12/26/2017	100	1.4 U	1 U
10/9/2018	97	1.4 U	76
12/19/2019	146	0.83 I	104
12/7/2020	10.3	2.7	19.9
12/15/2021	3.8	1.8	11

MW0086
LTM8. (70-80)
MW0099
MW0052DD
MW0085
MW0083
MW00J (48-53)
NPSH-MW0034
MW0084

Legend

- 2021 DPT Locations
- 2020 DPT Locations
- LTM Well Location
- Performance Monitoring Well Location
- Proposed Long Term Monitoring Well Location 2022
- Proposed Performance Monitoring Well Location 2022
- Approximate Extent of Groundwater Contamination Exceeding GCTLs (Dashed Where Inferred)

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
VC	Vinyl Chloride	1	100

Notes:
- Concentrations are in micrograms per Liter (µg/L)
- U = Indicates that the analyte was undetected
- I = Indicates the analyte was detected but below the reporting limit; therefore, an estimated value
- **Bold** indicates a detected value
- bls = below land surface
- GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
- NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
- NPSH = National Park Service Headquarters
- (1-11) = Monitoring well screen interval in feet below land surface
- Historical data source: RIS
- Aerial Source: FDOT 2018

N

0 180 360 Feet

FIGURE 4
Groundwater Analytical Results
Greater than 48 ft bls
2021
Wilson Corners (WILC)
Solid Waste Management Unit 001
NASA Kennedy Space Center, Florida

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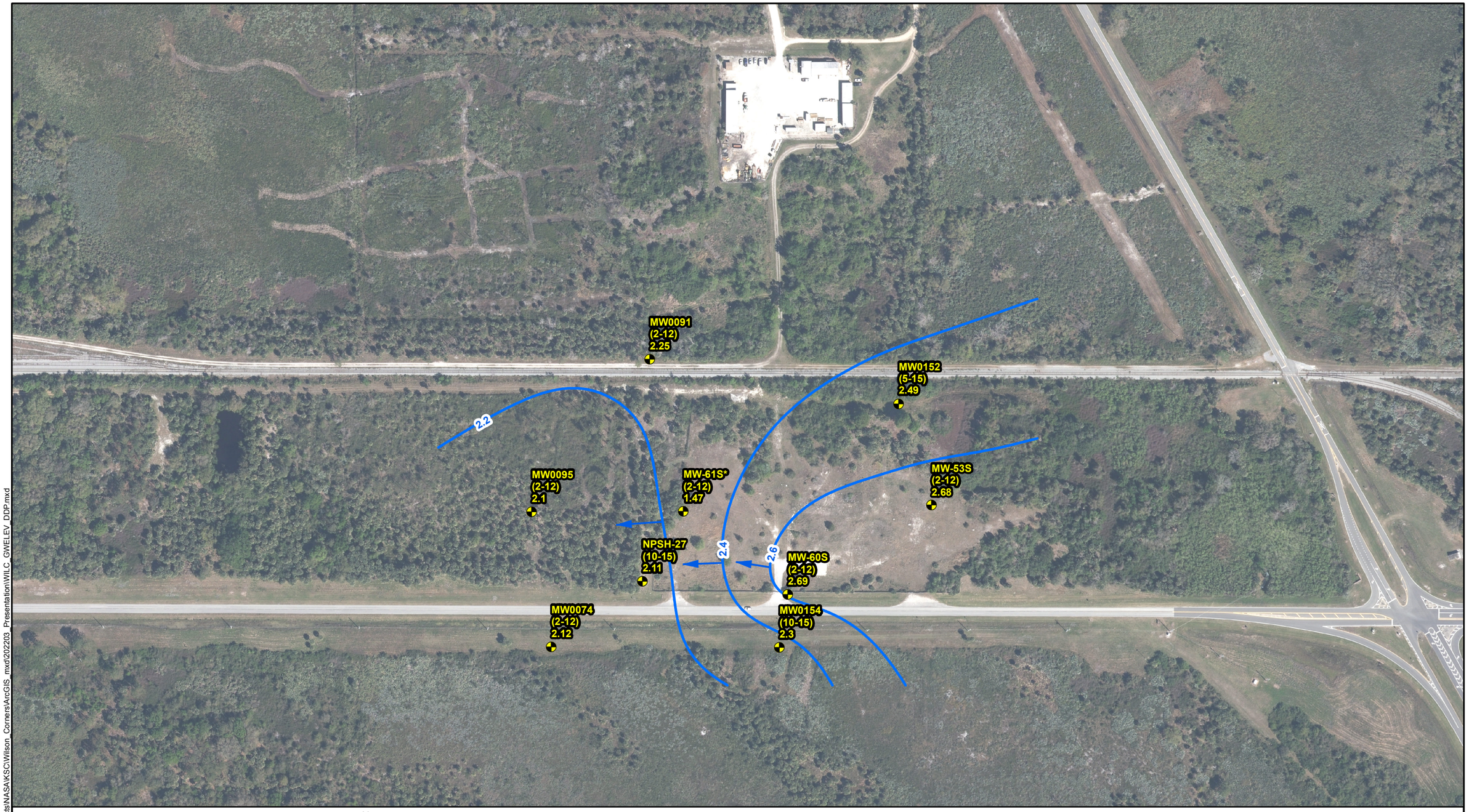

Legend

- Monitoring Well - 2 to 15 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 18, 2019
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- NM = Not Measured
- ft bls = feet below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.
- * = Water level not used in contouring

N

0 180 360 Feet

FIGURE 6
Groundwater Contour Map - December 13, 2021
2-15 ft bls

Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida

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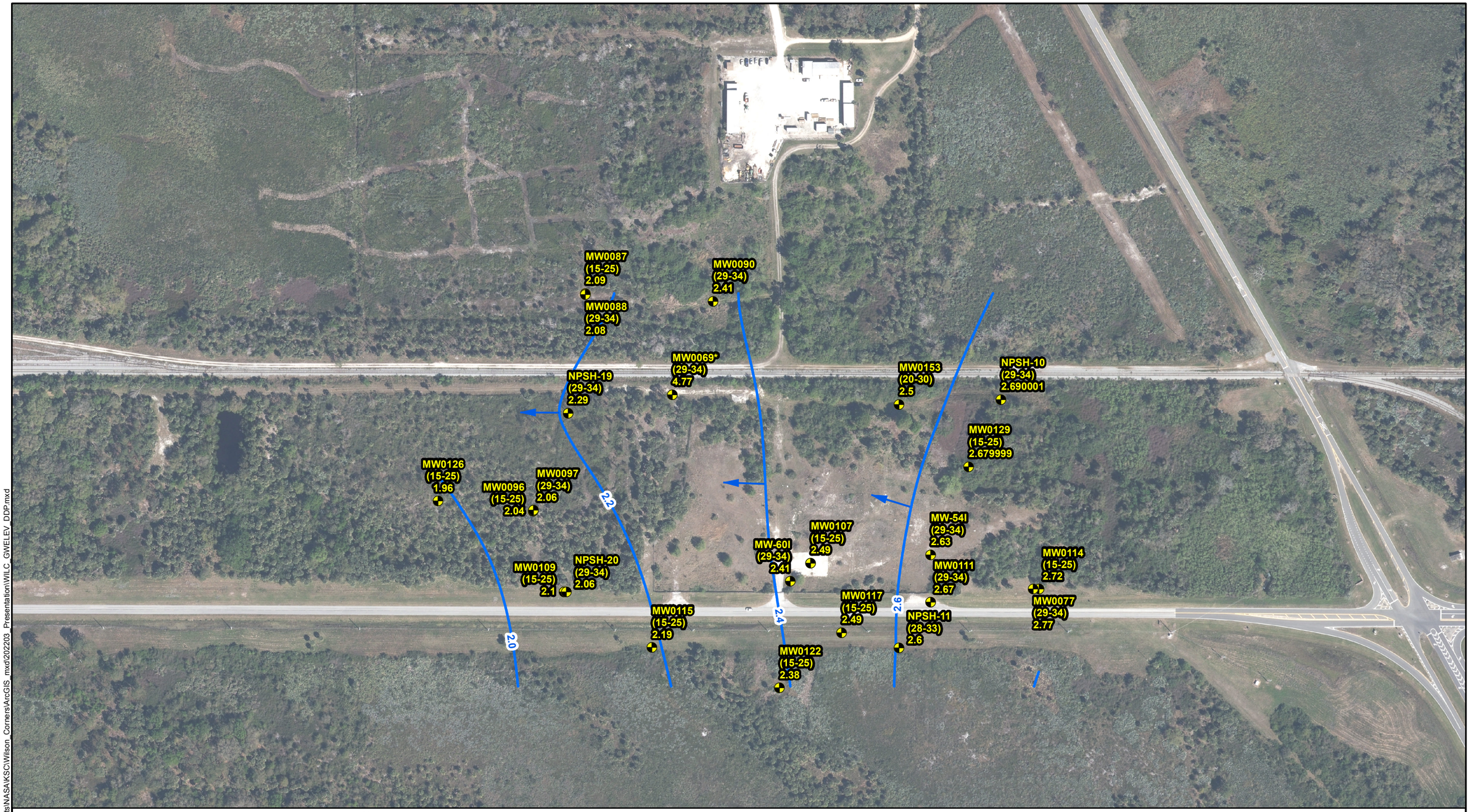

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Legend

- Monitoring Well - 15 to 34 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

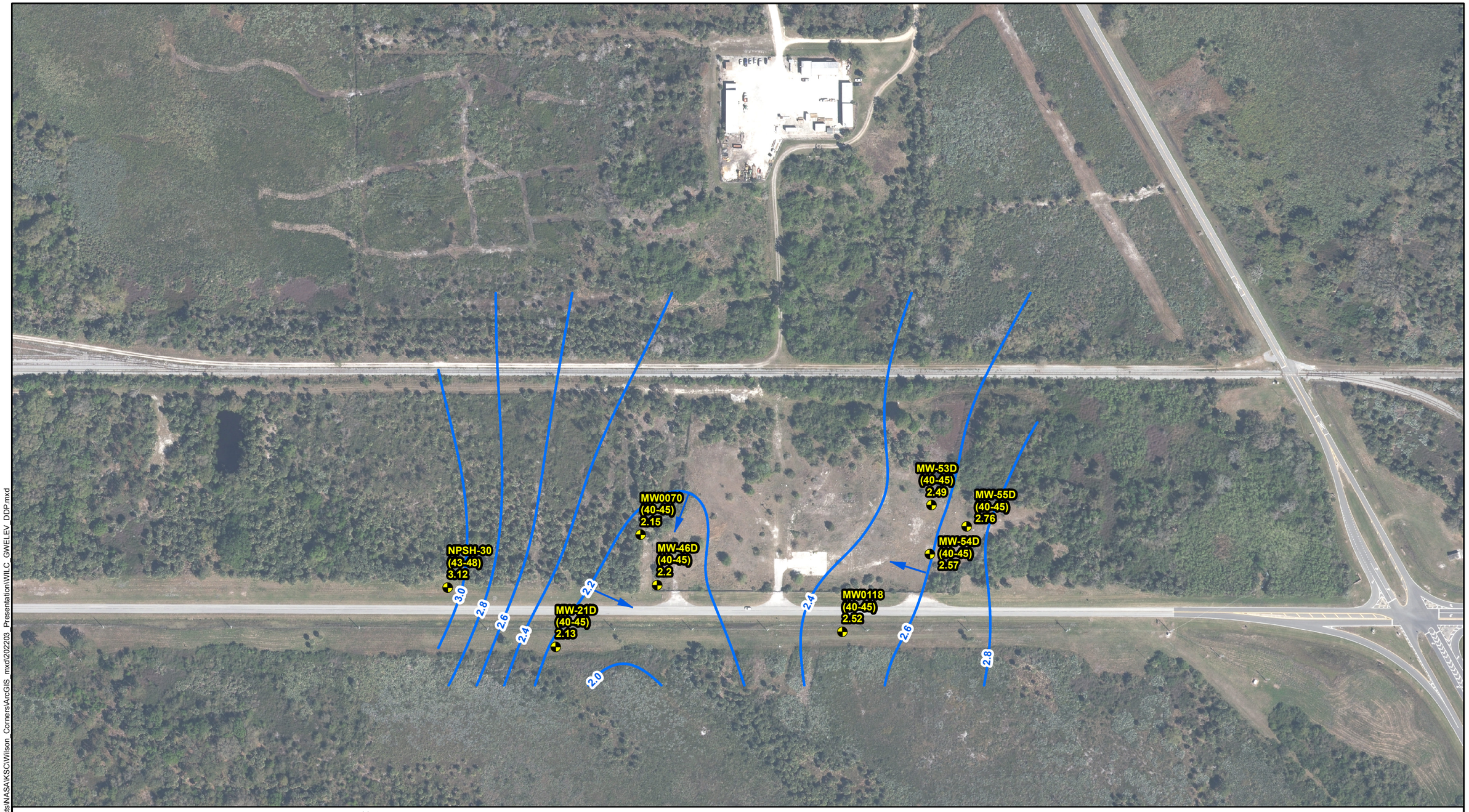
Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 18, 2019
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- NM = Not Measured
- ft bls = feet below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.
- * = Water level not used in contouring

N

0 180 360 Feet

FIGURE 7
Groundwater Contour Map - December 13, 2021
15-34 ft bls

Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida



Legend

- Monitoring Well - 35 to 48 ft bls
- Approximate Direction of Groundwater Flow
- Groundwater Contour (ft NAVD)
- 2.62 Groundwater Elevation (NAVD88 ft.)

Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 18, 2019
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- NM = Not Measured
- ft bls = feet below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Only wells that were gauged are illustrated.

N

0 180 360 Feet

FIGURE 8
Groundwater Contour Map - December 13, 2021
35-48 ft bls

Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida

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Legend

Monitoring Well - > 48 ft bls

2.62 Groundwater Elevation (NAVD88 ft.)

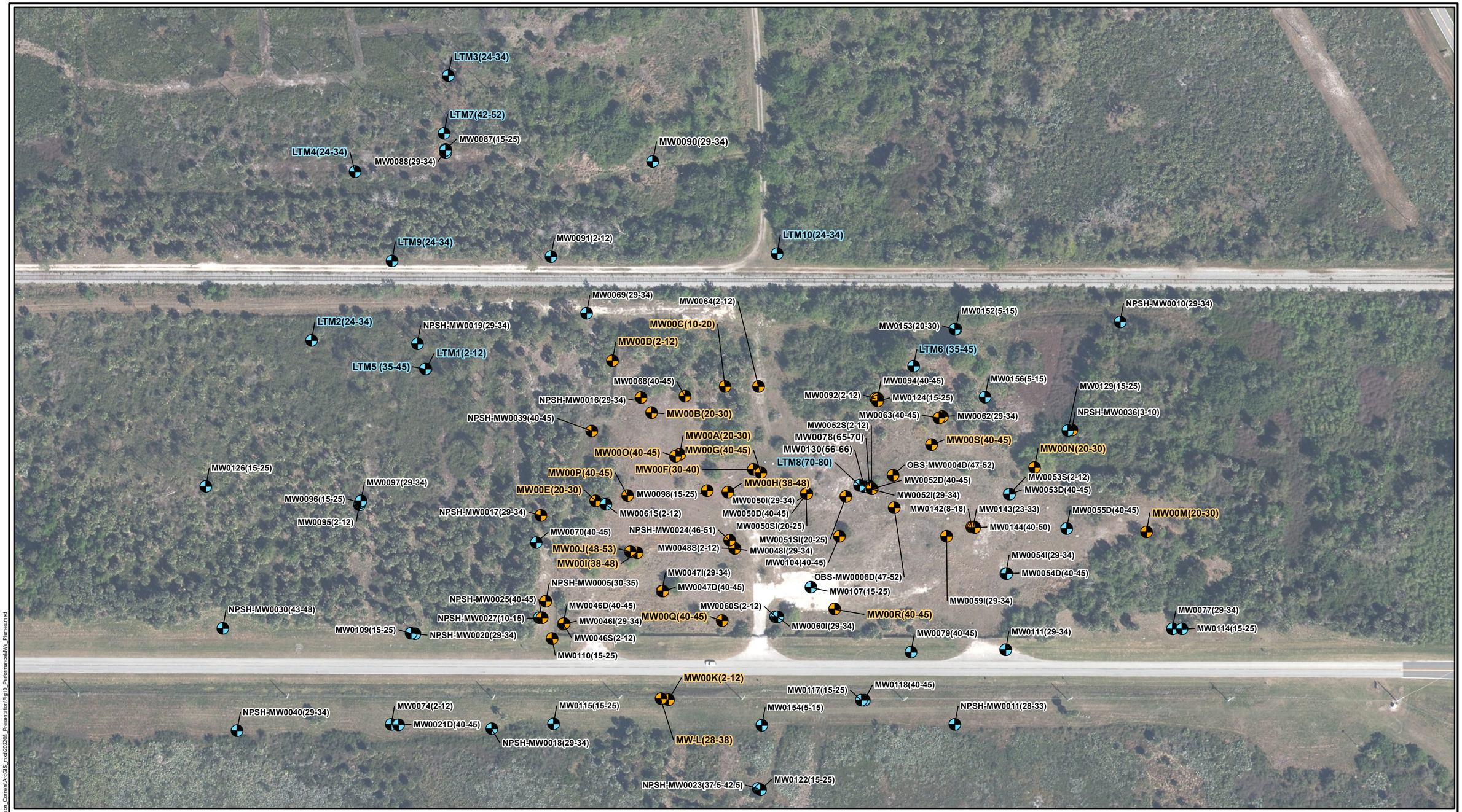
Notes:
- Vertical Datum is NAVD88 (ft)
- Monitoring Wells Were Gauged on December 18, 2019
- Groundwater Contour Interval = 0.20 Ft.
- Aerial Source: FDOT 2018
- NM = Not Measured
- ft bls = feet below land surface
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit
- Groundwater elevation presented only. Insufficient number of wells available to develop contours.

N

0 180 360 Feet

FIGURE 9
Groundwater Contour Map - December 13, 2021
>48 ft bls

Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida



Legend

- LTM Well Location
- Performance Monitoring Well Location

Proposed Long Term Monitoring Well Location 2022
Proposed Performance Monitoring Well Location 2022

Notes:
- Aerial Source: FDOT 2018
- NPSH = National Park Service Headquarters
- SWMU = Solid Waste Management Unit

N

0 125 250 Feet

FIGURE 10
Well Layout

Wilson Corners - SWMU 001
NASA Kennedy Space Center, Florida

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Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-OBS-MW0001D	44 to 49	7/25/2005	0 U	0 U	0 U		0 U	**3700**	
		7/14/2014	15 U	**240**	15 U	12 U	11 U	**2100**	50 U
WILC-OBS-MW0002D	44 to 49	7/25/2005	0 U	**4400**	0 U		0 U	**2400**	
		7/14/2014	0.3 U	**1.7**	**5.7**	0.23 U	0.19 U	**83.3**	1 U
WILC-OBS-MW0004D	47 to 52	5/18/2005	10000 U	**16600**	10000 U		**1310000**	10000 U	
		12/18/2006	20000 U	**13500 I**	20000 U	20000 U	**800000**	20000 U	
		6/12/2007	1000 U	**30500**	1000 U	1000 U	**664000**	**11800**	
		7/22/2008	2700 U	**48000**	3300 U	3600 U	**390000**	**8500 I**	
		7/20/2009	**240 I**	**43000**	**240 I**	500 U	**96000**	**6800**	
		12/7/2009	**1340**	**191000**	**647**	44 U	**294000**	**18800**	
		9/8/2010	**664 I**	**77600**	**468 I**	110 U	**175000**	**28300**	
		9/8/2010	**623 I**	**148000**	**347 I**	110 U	**141000**	**21200**	
		3/16/2011	**725**	**164000**	**375 I**	110 U	**221000**	**17500**	
		9/19/2011	800 U	**200000**	950 U	1100 U	**309000**	**17300**	
		9/6/2012	160 U	**54400**	**470 I**	220 U	**156000**	**6610**	
		3/4/2016	**2400**	**350000**	**800 I**	440 U	**230000**	**75000**	280 U
WILC-OBS-MW0005D	47 to 52	7/25/2005	0 U	**53600**	0 U		**310000**	0 U	
		9/30/2014	**260 I**	**54000**	**460 I**	180 U	**62000**	**22000**	**38000**
		2/29/2016	**270 I**	**89000**	**410 I**	220 U	**50000**	**30000**	**9400**
WILC-NPSH-MW0005	30 to 35	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		9/17/2009	**15 I**	**720**	**13 I**	20 U	**50**	**2100**	
		9/13/2010	16 QU	**1960 Q**	12 QU	11 QU	**60 IQ**	**3300 Q**	
		3/17/2011	**10.4**	**4050**	**19.8**	0.22 U	**115**	**4570**	
		9/19/2011	16 U	**3720**	19 U	22 U	**66 I**	**4990**	
		9/6/2012	8 U	**2140**	**13.5 I**	11 U	18 U	**6090**	
		10/20/2020	1 U	**40**	**7**		1 U	**170**	1 U
WILC-NPSH-MW0007	9.5 to 14.5	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0008	20 to 35	5/19/2005	**1.51**	**631**	**8.62**		**716**	**618**	
		7/25/2005	0 U	**1000**	0 U		**870**	**810**	
		12/19/2006	20 U	**1350**	**14.3 I**	20 U	20 U	**1390**	
		6/12/2007	20 U	**76**	20 U	20 U	**55.9**	**549**	
		7/23/2008	1 U	1 U	**2.6**	1 U	1 U	**5.3**	
		7/22/2009	2 U	**1.3 I**	**2.3**	2 U	**1.4 I**	**2.2**	
		12/8/2009	0.54 U	0.2 U	**3.4**	0.22 U	0.32 U	**0.67 I**	
WILC-NPSH-MW0009	29 to 34	10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0010	29 to 34	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0011	28 to 33	5/18/2005	1 U	**4.94**	1 U		1 U	1 U	
		12/19/2006	1 U	**0.75 I**	1 U	1 U	1 U	**56.6**	
		8/1/2008	0.39 U	**0.32 I**	0.32 U	0.16 U	0.23 U	**0.96**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0013	29 to 34	7/28/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0015	29 to 34	5/18/2005	**4.65**	**346**	**5.67**		**120**	**64.9**	
		7/23/2009	5 U	**160**	5 U	5 U	**13**	**130**	
		12/16/2015	0.16 U	**2.5 V**	**1.1**	0.22 U	0.36 U	**3.6**	

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-NPSH-MW0016	29 to 34	7/27/2005	0 U	560	0 U		13	160	
		8/12/2009	**1.6 I**	530	**9**	5 U	10	1200	
		9/8/2010	1.6 U	325	**2.76 I**	1.1 U	**2.48 I**	821	
		3/16/2011	0.16 U	175	**6.25**	0.22 U	3	1050	
		9/20/2011	1.6 U	278	**3.5 I**	2.2 U	3.6 U	1130	
		9/6/2012	**3.31**	712	**11.9**	0.22 U	**2.93**	3660	
		12/23/2013	1.6 U	110	**5.1 I**	2.2 U	3.6 U	790	
		12/18/2014	**3.7 I**	550	**16**	1.1 U	**2.3 I**	5100	
		12/15/2015	1.6 U	98	**5.7 I**	2.2 U	3.6 U	800	
		12/21/2016	0.18 U	120	**8.2**	0.36 U	0.29 U	570	2.2 U
WILC-NPSH-MW0017	29 to 34	7/27/2005	0 U	**4**	0 U		**1**	0 U	
		8/12/2009	1 U	**5.1**	**6.5**	1 U	**1.3**	36.6	
		12/23/2013	8 U	72	**14 I**	11 U	18 U	4500	
		12/18/2014	8 U	110	9.5 U	11 U	18 U	6000	
		12/15/2015	8 U	320	**15 I**	11 U	18 U	4000	
		12/21/2016	39	**45**	**11**	0.36 U	**1.5**	320	2.2 U
		12/26/2017	1.8 U	**9.2 I**	2 U	3.6 U	2.9 U	99	22 U
		10/9/2018	1.8 U	**7.7 I**	**4.9 I**	3.6 U	2.9 U	44	22 U
		12/19/2019	0.32 U	**16.4**	**6.9**	0.22 U	**1.2**	53.1	0.48 U
		12/8/2020	0.32 U	**12.9**	**3.3**	0.22 U	**2.3**	52	0.48 U
WILC-NPSH-MW0018	29 to 34	5/19/2005	1 U	1 U	1 U		1 U	1 U	
		7/23/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0019	29 to 34	6/12/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.39 U	0.14 U	0.32 U	0.16 U	0.23 U	0.21 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	**0.759 I**	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	**0.30 I**	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	**0.91 I**	**0.68 I**	0.22 U	0.36 U	8.7	
		12/15/2015	0.16 U	0.36 U	**0.66 I**	0.22 U	0.36 U	**0.96 I**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**0.86 I**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	**0.63 I**	**1.5**	0.22 U	0.35 U	2.2	0.48 U
		12/4/2020	0.27 U	**1**	**1.6**	0.30 U	0.31 U	3	0.35 U
		12/17/2021	0.94 U	**1.5**	**2.9**	0.76 U	0.89 U	3.4	0.73 U
WILC-NPSH-MW0020	29 to 34	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	**0.88 I**	
		8/1/2008	0.39 U	**0.61 I**	0.32 U	0.16 U	0.23 U	1.1	
		7/22/2009	1 U	**8.7**	1 U	1 U	1 U	2.4	
		9/15/2010	0.16 U	89.5	**0.66 I**	0.11 U	0.16 U	79.7	
		9/19/2011	0.32 U	**24.3**	**0.70 I**	0.44 U	0.72 U	180	
		9/5/2012	0.16 U	**4.8**	**0.21 I**	0.22 U	0.36 U	45.1	
		12/23/2013	0.16 U	**2**	**1.1**	0.22 U	0.36 U	28	
		12/18/2014	0.16 U	**0.63 I**	**1**	0.22 U	0.36 U	2	
		12/15/2015	0.16 U	**2.1**	**2**	0.22 U	0.36 U	7.6	
		12/21/2016	0.18 U	**1.3**	0.2 U	0.36 U	0.29 U	3.5	2.2 U
		12/26/2017	0.18 U	**11**	**3.3**	0.36 U	0.29 U	39	2.2 U
		10/8/2018	0.18 U	**6**	**0.89 I**	0.36 U	0.29 U	6.5	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.29 I**	0.22 U	0.35 U	**0.53 I**	0.48 U
		12/4/2020	0.27 U	**1.7**	**1.6**	0.30 U	0.31 U	3.1	0.35 U
		12/14/2021	0.94 U	**0.65 I**	0.73 U	0.76 U	0.89 U	**0.82 I**	0.73 U
WILC-MW0021D	40 to 45	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-NPSH-MW0021	29 to 34	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-NPSH-MW0022	29 to 34	8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.64 U	1.44 U	0.48 U	0.44 U	0.64 U	0.88 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/26/2017	0.18 U	**1.1**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
WILC-NPSH-MW0023	37.5 to 42.5	5/18/2005	1 U	1 U	1 U		1 U	1 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		8/1/2008	0.54 U	**3**	0.45 U	0.22 U	0.32 U	**0.70 I**	
		7/21/2009	1 U	**3.8**	1 U	1 U	1 U	**1.3**	
		9/15/2010	0.16 U	**0.49 I**	0.12 U	0.11 U	0.16 U	**0.78 I**	
		9/19/2011	0.16 U	**1.63**	0.19 U	0.22 U	0.36 U	**3.37**	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-NPSH-MW0024	46 to 51	7/25/2005	0 U	**2800**	0 U		0 U	0 U	
		12/20/2006	2 U	**76.7**	**1 I**	2 U	2 U	**189**	
		7/21/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	80 U	**200 I**	**1490**	55 U	80 U	**884**	
WILC-NPSH-MW0025	40 to 45	12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	**1.84**	0.19 U	0.22 U	0.36 U	**4.02**	
		9/5/2012	0.16 U	**1.51**	0.19 U	0.22 U	0.36 U	**3.16**	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/19/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.37 I**	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**1.1**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-NPSH-MW0027	10 to 15	7/27/2005	0 U	**600**	0 U		**26**	**390**	
		12/20/2006	100 U	**4090**	100 U	100 U	100 U	**932**	
		6/13/2007	50 U	**2290**	50 U	50 U	50 U	**498**	
		7/31/2008	5.4 U	**2290**	**10**	2.2 U	**6.3 I**	**741**	
		7/22/2009	5 U	**140**	**12**	5 U	**13**	**490**	
		12/8/2009	1.1 U	**90.8**	**13.2**	0.44 U	**3.4**	**940**	
		9/13/2010	16 U	**4350**	**35.7 I**	11 U	**74.4 I**	**5070**	
		3/17/2011	0.8 U	**284**	**13.9**	1.1 U	**211**	**3400**	
		9/20/2011	3.2 U	**992**	**8.2 I**	4.4 U	7.2 U	**3730**	
		9/6/2012	3.2 U	**1840**	**13.2 I**	4.4 U	7.2 U	**3820**	
		12/23/2013	0.64 U	**46**	**3 I**	0.88 U	1.5 U	**480**	
		12/18/2014	3.2 U	**880**	**13 I**	4.4 U	7.2 U	**3000**	
		12/15/2015	1.6 U	**62**	**2.9 I**	2.2 U	3.6 U	**810**	
		12/21/2016	0.18 U	**38**	**5.3**	0.36 U	0.29 U	**240**	2.2 U
		12/26/2017	0.54 U	**20**	**2.8 I**	1.1 U,J4	0.87 U	**120 J4**	6.4 U
		10/9/2018	0.54 U	**38**	**2.6 I**	1.1 U	0.87 U	**150**	6.4 U
		12/19/2019	1.6 U	**351**	**3.2 I**	1.1 U	1.7 U	**696 Q**	2.4 U
		12/8/2020	1.6 U	**356**	**3.4 I**	1.1 U	1.7 U	**824**	2.4 U
		12/14/2021	9.4 U	**480**	7.3 U	7.6 U	8.9 U	**580**	7.3 U
WILC-NPSH-MW0030	43 to 48	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-NPSH-MW0031	10 to 15	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-NPSH-MW0034	66.5 to 71.5	7/27/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0035	39 to 44	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-NPSH-MW0036	3 to 10	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		8/12/2009	5 U	5 U	5 U	5 U	5 U	5 U	
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	**4.5 I**
WILC-NPSH-MW0037	3 to 10	7/27/2005	0 U	0 U	0 U		0 U	0 U	
WILC-NPSH-MW0038	30 to 35	7/27/2005	0 U	**160**	0 U		0 U	**700**	
		8/12/2009	1 U	**31.8**	**3**	1 U	**1.1**	**110**	
WILC-NPSH-MW0039	40 to 45	12/19/2006	1 U	1 U	1 U	1 U	1 U	**1.2**	
		6/12/2007	1 U	1 U	**0.52 I**	1 U	1 U	**0.82 I**	
		7/31/2008	0.54 U	**0.58 I**	**0.73 I**	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	**0.45 I**	**1**	0.22 U	0.32 U	**1**	
		9/15/2010	0.16 U	**14.4**	**1.28**	0.11 U	0.16 U	**20.5**	
		3/16/2011	0.16 U	**1.55**	**2.76**	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	**1.33**	**3.42**	0.22 U	0.36 U	**1.86**	
		9/5/2012	0.16 U	**0.89 I**	**2.15**	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	**0.75 I**	**0.82 I**	0.22 U	0.36 U	**0.58 I**	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.74 I**	
		12/15/2015	0.16 U	**0.80 I**	**1.1**	0.22 U	0.36 U	**15**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	**1.1**	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**0.26 I**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/3/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
WILC-NPSH-MW0040	29 to 34	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-MW0046D	40 to 45	7/27/2005	0 U	0 U	0 U		0 U	**41**	
		12/26/2017	0.54 U	0.72 U	0.6 U	1.1 U	0.87 U	**27**	6.4 U
		10/8/2018	0.54 U	**9.9**	**0.78 I**	1.1 U	0.87 U	**11**	6.4 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**3.5**	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**0.89 I**	0.48 U
		12/15/2021	0.94 U	**0.61 I**	0.73 U	0.76 U	0.89 U	**1.6**	0.73 U
WILC-MW0046I	29 to 34	5/20/2005	1 U	**1570**	**7.9**		**98.7**	**295**	
		8/12/2009	**33 I**	**2900**	100 U	100 U	**230**	**2600**	
WILC-MW0046S	2 to 12	5/20/2005	1 U	**542**	**2.5**		**17**	**56.3**	
WILC-MW0047D	40 to 45	7/25/2005	0 U	**20900**	0 U		0 U	**1700**	
		7/25/2005	0 U	**22400**	0 U		0 U	**1800**	
		12/21/2006	500 U	**26400**	500 U	500 U	500 U	**1500**	
		6/12/2007	200 U	**30400**	**129 I**	200 U	200 U	**2090**	
		7/31/2008	27 U	**6350**	23 U	11 U	**20.2 I**	**3270**	
		7/21/2009	100 U	**9700**	100 U	100 U	**470**	**1500**	
		12/8/2009	110 U	**15500**	90 U	44 U	64 U	**2940**	
		9/13/2010	160 U	**25200**	120 U	110 U	160 U	**5690**	
		3/17/2011	**28.9**	**14800**	**31**	0.22 U	**22.4**	**5400**	
		9/20/2011	16 U	**14300**	19 U	22 U	36 U	**6690**	
		9/6/2012	**29 I**	**16000**	**24 I**	22 U	**161**	**6570**	

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0047I	29 to 34	7/25/2005	0 U	**3600**	0 U		0 U	**1200**	
		12/20/2006	50 U	**2290**	50 U	50 U	**711**	**2030**	
		6/12/2007	200 U	**1490**	200 U	200 U	**650**	**1830**	
		7/31/2008	11 U	**2390**	**16.1 I**	4.4 U	**557**	**1650**	
		7/22/2009	500 U	**6400**	500 U	500 U	**2100**	**1300**	
		12/8/2009	11 U	**1190**	9 U	4.4 U	**169**	**1740**	
WILC-MW0047S	2 to 12	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
WILC-MW0048I	29 to 34	7/28/2005	0 U	**500**	0 U		**700**	**550**	
		12/20/2006	5 U	**143**	**2.6 I**	5 U	**117**	**1230**	
		6/12/2007	20 U	**1520**	20 U	20 U	**125**	**1840**	
		7/31/2008	**10.4**	**669**	**4.7 I**	2.2 U	**30.9**	**2330**	
		7/22/2009	100 U	**1800**	100 U	100 U	**150**	**890**	
		12/8/2009	54 U	**5590**	45 U	22 U	**33.7 I**	**3650**	
		9/13/2010	8 U	**157**	**12.7 I**	5.5 U	8 U	**5550**	
		3/16/2011	**2.58**	**161**	**13.5**	**0.42 I**	**4.91**	**2360**	
		9/20/2011	3.2 U	**134**	**6.6 I**	4.4 U	7.2 U	**2120**	
		9/5/2012	**0.48 I**	**60.6**	**4.15**	0.22 U	**1.41**	**260**	
WILC-MW0048S	2 to 12	7/28/2005	0 U	0 U	0 U		0 U	0 U	
		12/15/2021	0.94 U	**2.0**	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0049D	40 to 45	12/21/2006	50 U	**1650**	50 U	50 U	**29.4 I**	**4170**	
		6/12/2007	100 U	**1310**	100 U	100 U	**92 I**	**2850**	
		7/23/2008	**22**	**740**	**9.2 I**	7.2 U	**110**	**2300 L**	
		7/20/2009	100 U	**310**	100 U	100 U	**80 I**	**1600**	
		12/8/2009	5.4 U	**379**	**7.5 I**	2.2 U	**64.9**	**2380**	
		9/8/2010	8 U	**711**	6 U	5.5 U	**76.5**	**3100**	
		9/8/2010	8 U	**758**	6 U	5.5 U	**50.1**	**2920**	
		3/17/2011	**1.64**	**912**	**8.97**	0.22 U	**30.4**	**2590**	
		9/20/2011	3.2 U	**801**	**7 I**	4.4 U	**26.8**	**3170**	
		9/5/2012	**4.8 I**	**1470**	**11.4 I**	4.4 U	**493**	**2700**	
		10/27/2016	1.8 U	**420**	2 U	3.6 U	**38**	**1300**	22 U
		3/20/2017	0.18 U	**510 I**	**8.9**	0.36 U	**820 I**	200 U	**69000**
		5/11/2017	0.18 U	120 U	**9.2**	0.36 U	**560**	**1600**	**72000**
WILC-MW0049I	29 to 34	12/21/2006	1 U	**80.1**	**0.91 I**	1 U	**22.3**	**102**	
		7/18/2008	27 U	**290**	33 U	36 U	**100**	**430**	
		7/20/2009	**6.1**	**990**	**12**	5 U	**20**	**1200 L**	
		10/27/2016	**0.97 I**	**390**	**8.4**	0.36 U	0.29 U	**1900**	2.2 U
		3/20/2017	0.18 U	**530**	**7.3**	0.36 U	**280**	**190**	**12000**
		5/11/2017	0.18 U	**770**	**9.6**	0.36 U	**480 I**	**960**	**37000**
WILC-MW0049S	2 to 12	7/28/2005	0 U	**23**	0 U		**8**	**190**	
		12/20/2006	1 U	**14.1**	1 U	1 U	**7**	**26.8**	
		7/23/2008	1 U	**13.5**	1 U	1 U	**2.3**	**12.4**	
		7/20/2009	1 U	**28.8**	1 U	1 U	**11.9**	**5.7**	
		9/13/2010	0.16 U	**8.27**	**0.727 I**	0.11 U	**7.68**	**54.2**	
		9/20/2011	0.16 U	**28**	**1.1**	0.22 U	**9.33**	**25.2**	
		10/27/2016	0.18 U	**16**	0.2 U	0.36 U	**10**	**0.96 I**	2.2 U
		3/20/2017	0.18 U	**42**	**1.6**	0.36 U	**46**	**31**	**2400**
		5/11/2017	0.18 U	**41**	0.2 U	0.36 U	**42**	**29**	**3200**
WILC-MW0050D	40 to 45	7/28/2005	0 U	**5**	0 U		**7**	0 U	
		8/12/2009	100 U	**4500**	100 U	100 U	**4600**	**270**	
		9/30/2014	7 U	**2800**	**16 I**	7.2 U	**770**	**190**	20 U
WILC-MW0050S	2 to 12	7/28/2005	0 U	**41**	**24**		**8**	**110**	
WILC-MW0052D	40 to 45	9/17/2009	100 U	**4100**	**27 I**	100 U	**43 I**	**6900**	
		9/8/2010	**41.1**	**32500**	**29.4**	1.1 U	**41100**	**1090**	
		3/4/2016	13 U	**220**	**30 I**	11 U	**17 I**	**3200**	7 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0052DD	55 to 65	7/22/2008	**6**	**1100**	**10.4**	1 U	**420**	**510**	
		9/19/2011	16 U	**8800**	19 U	22 U	**6550**	**651**	
		9/5/2012	**41 I**	**10000**	**36 I**	22 U	**4700**	**983**	
		12/19/2014	**84**	**26000**	**80**	11 U	**19000**	**5900**	
		12/19/2014	**59**	**21000**	**51**	11 U	**15000**	**3600**	
WILC-MW0052I	29 to 34	7/28/2005	0 U	**1**	0 U		**3**	0 U	
WILC-MW0052S	2 to 12	7/27/2005	0 U	**350**	0 U		0 U	**590**	
		12/21/2006	2000 U	**122000**	2000 U	2000 U	**11000**	**46100**	
		1/15/2007	2000 U	**71700**	2000 U	2000 U	**22200**	**21300**	
		6/13/2007	500 U	**46200**	500 U	500 U	**5650**	**9580**	
		8/1/2008	190 U	**15600**	160 U	79 U	**30200**	**2000**	
		7/22/2009	100 U	**2300**	100 U	100 U	**840**	**390**	
		12/7/2009	11 U	**3200**	**14.4 I**	4.4 U	**1420**	**532**	
		9/8/2010	**30.7 I**	**6360**	12 U	11 U	**6500**	**587**	
		9/8/2010	**25 I**	**4460**	12 U	11 U	**3770**	**476**	
		3/17/2011	**6.84**	**2360**	**13.1**	**0.24 I**	**170**	**187**	
		9/19/2011	8 U	**9100**	**18 I**	11 U	**126**	**1310**	
		9/5/2012	**0.76 I**	**383**	**3.96 I**	0.88 U	**43.1**	**24.7**	
WILC-MW0053D	40 to 45	12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/18/2008	1 U	1 U	1 U	1 U	1 U	**2.1**	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	**0.95 I**	0.73 U	0.76 U	0.89 U	**7.8**	0.73 U
WILC-MW0053I	29 to 34	12/18/2006	1 U	1 U	**2.1**	1 U	1 U	**2.4**	
		10/5/2007	1 U	**3.7**	**1.2**	1 U	1 U	**4.3**	
		7/17/2008	1 U	**3.3**	1 U	1 U	**2.6**	**1.2**	
		7/16/2009	1 U	**1.8**	1 U	1 U	1 U	**1.2**	
WILC-MW0053S	2 to 12	5/19/2005	1 U	**43.4**	**2.78**		1 U	**39.4**	
		12/21/2006	1 U	**3.2**	**3.8**	1 U	**0.93 I**	**12.4**	
		6/13/2007	1 U	**31.4**	**3.1**	1 U	1 U	**51.1**	
		7/18/2008	1 U	**4.3**	**1**	1 U	1 U	**170**	
		7/16/2009	1 U	**6.9**	1 U	1 U	1 U	**3.1**	
		12/8/2009	0.54 U	**10.8**	**1.1**	0.22 U	**0.42 I**	**8.2**	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0054D	40 to 45	10/5/2007	1 U	**40.2**	1 U	1 U	1 U	**27.3**	
		7/21/2008	1 U	**1.2**	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	**8.1**	**0.74 I**	0.76 U	**1.1**	**10**	0.73 U
WILC-MW0054I	29 to 34	10/4/2007	200 U	**18000**	200 U	200 U	**44000**	**2500**	
		7/21/2008	1 U	**96.2**	1 U	1 U	**19.5**	**21.9**	
		9/15/2010	16 U	**9720**	12 U	11 U	16 U	**2080**	
		12/15/2021	0.94 U	**4.8**	**1.1**	0.76 U	**5.7**	**17**	0.73 U
WILC-MW0054S	2 to 12	5/20/2005	1 U	**52.4**	**23**		1 U	**545**	
		10/4/2007	1 U	**13.6**	1 U	1 U	**7.1**	**1.3**	
		7/21/2008	1 U	**1.2**	**1.4**	1 U	**2.7**	1 U	
WILC-MW0055D	40 to 45	7/28/2005	0 U	**7**	0 U		0 U	**200**	
		12/19/2006	1 U	**13.6**	**1.2**	1 U	**2.2**	**58.2**	
		7/17/2008	1 U	**35.8**	**1.1**	1 U	**4.6**	**51.3**	
		7/17/2009	1 U	**35.3**	**1.1**	1 U	**6.8**	**34.8**	
		9/20/2011	0.16 U	**83.4**	**0.82 I**	0.22 U	0.36 U	**71.3**	
		12/15/2021	0.94 U	**20**	0.73 U	0.76 U	**1.6**	**64**	**12**
WILC-MW0055I	29 to 34	10/4/2007	100 U	**2600**	100 U	100 U	**240**	**1000**	
		9/15/2010	1.6 U	**155**	**10.2**	1.1 U	**5.6 I**	**59.4**	
WILC-MW0055S	2 to 12	5/19/2005	1 U	**3.3**	**0.56 J**		1 U	**1.25**	
		10/4/2007	1 U	**1.8**	1 U	1 U	1 U	**1.7**	
		9/7/2012	0.16 U	**4.21**	0.19 U	0.22 U	**1.1**	0.36 U	

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0056S	2 to 12	5/19/2005	1 U	**4280**	**63.7**		1 U	**1410**	
		12/19/2006	10 U	**316**	**12.4**	10 U	10 U	**463**	
		6/13/2007	100 U	**11000**	**128**	100 U	100 U	**6800**	
		10/8/2007	1 U	**1.3**	1 U	1 U	1 U	**6.1**	
		7/31/2008	0.39 U	**29.6**	**1.1**	0.16 U	0.23 U	**62.2**	
		7/22/2009	1 U	**3.5**	**7.8**	1 U	1 U	**95.6**	
		12/8/2009	0.54 U	**7.2**	**13.5**	0.22 U	0.32 U	**101**	
		9/8/2010	0.16 U	**1.16**	0.12 U	0.11 U	0.16 U	**3.12**	
		9/8/2010	3.2 U	**54.6**	**12.3 I**	2.2 U	3.2 U	**630**	
		3/16/2011	**6.23**	**1920**	**73.6**	0.22 U	0.36 U	**1110**	
		9/20/2011	8 U	**6890**	**140**	11 U	**29.5 I**	**760**	
WILC-MW0057D	40 to 45	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		10/8/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/6/2012	**0.37 I**	**77.8**	**0.96 I**	0.22 U	**465**	**5.46**	
		10/25/2012	1 U	1 U	1 U	1 U	1 U	1 U	1 U
		12/15/2015	0.16 U	**0.58 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0057I	29 to 34	7/27/2005	0 U	0 U	0 U	0 U	0 U	0 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.55 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0057S	2 to 12	7/27/2005	0 U	0 U	0 U		0 U	0 U	
		12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	**1.1**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		3/16/2011	0.16 U	**0.74 I**	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	**0.41 I**	0.19 U	0.22 U	0.36 U	0.36 U	
		9/10/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**1.2 V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0059I	29 to 34	12/20/2006	100 U	**394**	100 U	100 U	**375**	**124**	
		6/13/2007	**95 I**	**5990**	100 U	100 U	**4050**	**833**	
		10/4/2007	200 U	**16000**	200 U	200 U	**5400**	**1500**	
		7/31/2008	270 U	**29400**	230 U	110 U	**8810**	**3730**	
		7/22/2009	500 U	**22000**	500 U	500 U	**9100**	**1800**	
		12/7/2009	270 U	**34400**	230 U	110 U	**6390**	**3790**	
		9/8/2010	64 U	**34200**	48 U	44 U	**4780**	**5660**	
		9/8/2010	64 U	**35200**	48 U	44 U	**4800**	**5510**	
		3/17/2011	**39.9**	**29800**	**31.2**	0.22 U	**2810**	**5420**	
		9/20/2011	32 U	**30800**	38 U	44 U	**2850**	72 U	
		9/6/2012	32 U	**21600**	38 U	44 U	**2740**	**7430**	
WILC-MW0060I	29 to 34	7/28/2005	0 U	**1300**	0 U		**330**	**890**	
		12/21/2006	2 U	**123**	2 U	2 U	**10**	**303**	
		7/23/2008	27 U	**5200**	33 U	36 U	**190**	**2400**	
		7/22/2009	100 U	**6700**	100 U	100 U	**260**	**2900**	
		9/15/2010	16 U	**2820**	12 U	11 U	16 U	**4620**	
		3/17/2011	**9.37**	**1880**	**25.2**	**0.39 I**	**14.1**	**6230**	
		9/20/2011	4 U	**74.3**	**21 I**	5.5 U	9 U	**4210**	
		9/5/2012	1.6 U	**188**	**11.1**	2.2 U	3.6 U	**1610**	
		12/16/2015	8 U	**130**	9.5 U	11 U	18 U	**1100**	
		12/15/2021	0.94 U	**9.8**	**4.2**	0.76 U	0.89 U	**29**	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0060S	2 to 12	7/28/2005	0 U	**3**	0 U		0 U	7	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0061S	2 to 12	7/25/2005	0 U	0 U	0 U		0 U	0 U	
		12/15/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0062	29 to 34	2/1/2006	0.5 U	**1.5**	**1.8**	0.5 U	0.5 U	5	
		12/18/2006	1 U	1 U	**3.9**	1 U	1 U	2	
		7/31/2008	0.39 U	0.14 U	**2**	0.16 U	0.23 U	0.21 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/8/2010	0.16 U	0.36 U	**0.246 I**	0.11 U	0.16 U	**0.556 I**	
		3/16/2011	0.16 U	0.36 U	**0.22 I**	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	**0.42 I**	**2.71**	0.22 U	0.36 U	1.89	
		9/5/2012	0.16 U	**0.52 I**	**1.71**	0.22 U	0.36 U	0.36 U	
		12/15/2015	14 I	22000	**23 I**	11 U	1300	2000	
		3/2/2016	52 U	25000	54 U	44 U	1700	2600	**6000**
		10/27/2016	90 U	19000	100 U	180 U	140 U	4100	1100 U
		12/26/2017	3.6 U	2700	**49**	7.2 U	67	2700	**250**
		10/8/2018	3.6 U	560	4 U	7.2 U	5.8 U	660	43 U
		12/19/2019	0.32 U	75.4	**3.7**	0.22 U	**1.6**	381 Q	0.48 U
		12/10/2020	0.32 U	**11.1**	**2.4**	0.22 U	**0.60 I**	49.2	0.48 U
WILC-MW0063	40 to 45	2/1/2006	0.5 U	**3.2**	0.5 U	0.5 U	0.5 U	5	
		12/18/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/24/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/16/2009	1 U	1 U	1 U	1 U	1 U	1 U	
WILC-MW0064	2 to 12	2/1/2006	0.5 U	**1.3**	**2**	0.5 U	0.5 U	2	
		12/19/2006	1 U	**6.4**	**5.2**	1 U	1 U	12.8	
		7/23/2008	1 U	**14.4**	**3.3**	1 U	1 U	23.1	
		7/20/2009	1 U	**7.8**	**1.4**	1 U	1 U	10.3	
		12/19/2014	0.16 U	**26**	**1.2**	0.22 U	4.5	23	
		12/15/2015	0.16 U	**64**	**2.4**	0.22 U	**0.96 I**	37	
		10/27/2016	0.18 U	**13**	0.2 U	0.36 U	0.29 U	17	2.2 U
		12/21/2016	0.18 U	**17**	**2.5**	0.36 U	0.29 U	18	2.2 U
		3/20/2017	0.18 U	**39**	**3.3**	0.36 U	12	5.1	**190**
		5/11/2017	0.18 U	**24**	**2.1**	0.36 U	7.7	23	**45**
		12/26/2017	0.18 U	**31**	**2.1**	0.36 U	**1.6**	8.2	2.2 U
		10/8/2018	0.18 U	**31**	**3.5**	0.36 U	**2.5**	45	2.2 U
		12/19/2019	0.32 U	**0.93 I**	**0.76 I**	0.22 U	0.35 U	1.6	0.48 U
		12/3/2020	0.27 U	**0.78 I**	**1.3**	0.30 U	0.31 U	**0.83 I**	0.35 U
WILC-MW0065	29 to 34	2/1/2006	5 U	5 U	5 U	5 U	5 U	283	
		12/19/2006	2 U	141	**4.5**	2 U	4.3	1070	
		6/13/2007	50 U	123	50 U	50 U	50 U	1670	
		7/23/2008	1 U	**14.3**	**8**	1 U	4.6	450	
		7/20/2009	1 U	**4**	**6.2**	1 U	1 U	16.1	
		12/7/2009	**3.6**	**20.6**	**12.3**	0.22 U	4.4	296	
		9/8/2010	0.64 U	146	**3.45 I**	0.44 U	0.64 U	337	
		9/20/2011	3.2 U	77.4	**9.4 I**	4.4 U	7.2 U	1540	
		9/5/2012	1.6 U	196	**6.3 I**	2.2 U	3.6 U	1090	
		3/14/2014	4 U	160	**10 I**	5.5 U	15 I	2100	
		12/18/2014	3.2 U	78	**14 I**	4.8 I	7.2 U	1700	
		12/15/2015	0.49 U	86 U	**10**	0.22 U	0.68 U	520	
		12/21/2016	0.18 U	**46**	**15**	0.36 U	0.29 U	190	2.2 U
		12/26/2017	1.8 U	**20**	**12**	3.6 U	2.9 U	120	22 U
		10/8/2018	1.8 U	**16**	**4.7 I**	3.6 U	2.9 U	52	22 U
		12/19/2019	0.32 U	**11**	**10.0**	0.22 U	**0.37 I**	38.6	0.48 U
		12/3/2020	0.27 U	**10.8**	**9.2**	0.30 U	**0.36 I**	64.1	0.35 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0066	2 to 12	2/1/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0067	29 to 34	2/1/2006	0.5 U	**0.95 I**	0.5 U	0.5 U	0.5 U	**1.4**	
		12/19/2006	1 U	**1.7**	1 U	1 U	**0.79 I**	**3.2**	
		7/31/2008	0.39 U	0.14 U	**0.92**	0.16 U	0.23 U	**0.55 I**	
		7/21/2009	2 U	**12**	**1.8 I**	2 U	**18**	**1.8 I**	
		8/12/2009	1 U	1 U	**2**	1 U	1 U	**3.1**	
WILC-MW0068	40 to 45	2/1/2006	0.5 U	**9.6**	0.5 U	0.5 U	0.5 U	**33.8**	
		12/19/2006	1 U	**0.70 I**	**1.6**	1 U	**1.3**	**74.3**	
		6/12/2007	1 U	1 U	**1.6**	1 U	**0.59 I**	**0.88 I**	
		8/1/2008	0.54 U	**31.1**	**2.7**	0.22 U	**1.3**	**102**	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		9/8/2010	0.16 U	0.36 U	**0.22 I**	0.11 U	0.16 U	**0.343 I**	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	**2.2**	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	**0.75 I**	0.22 U	0.22 U	0.35 U	**3.4**	0.48 U
		12/3/2020	0.27 U	**0.73 I**	0.26 U	0.30 U	0.31 U	**2.8**	0.35 U
WILC-MW0069	29 to 34	2/1/2006	0.5 U	**20.8**	0.5 U	0.5 U	0.5 U	**22.4**	
		12/19/2006	1 U	**2.5**	1 U	1 U	1 U	**48.4**	
		7/31/2008	0.39 U	**4.9**	**0.45 I**	0.16 U	0.23 U	**61**	
		7/20/2009	1 U	**11.9**	**1.9**	1 U	**1.2**	**28.6**	
		10/16/2017	1 U	**43**	**8**	1 U	1 U	**270**	1 U
		12/17/2021	0.94 U	**1.4**	**3.6**	0.76 U	0.89 U	**3.9**	0.73 U
WILC-MW0070	40 to 45	2/1/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**23.7**	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	**0.79 I**	
		6/12/2007	1 U	1 U	**0.74 I**	1 U	1 U	1 U	
		7/31/2008	0.39 U	**0.87**	**0.48 I**	0.16 U	**0.57 I**	**2**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	**0.47 I**	0.22 U	0.32 U	**0.31 I**	
		12/14/2021	0.94 U	0.53 U	**0.99 I**	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0071	40 to 45	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
WILC-MW0072	29 to 34	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		8/1/2008	0.39 U	**0.79**	0.32 U	0.16 U	0.23 U	0.21 U	
		7/17/2009	1 U	**4.1**	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	**0.93 I**	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	**1.14**	0.19 U	0.22 U	0.36 U	**3.07**	
		9/6/2012	0.16 U	**1.43**	0.19 U	0.22 U	0.36 U	**2.97**	
		12/23/2013	0.16 U	**0.37 I**	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	**0.39 I**	0.19 U	0.22 U	0.36 U	**0.62 I**	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0073	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0074	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	**0.97 IV**	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/3/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	0.23 U	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0075	2 to 12	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		8/12/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		3/17/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	**0.88 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0076	2 to 12	1/31/2006	0.5 U	**0.58 I**	0.5 U	0.5 U	0.5 U	0.5 U	
		12/20/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/23/2008	1 U	**1**	1 U	1 U	1 U	**1.2**	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/15/2010	0.16 U	**0.44 I**	0.12 U	0.11 U	0.16 U	**0.57 I**	
WILC-MW0077	29 to 34	1/31/2006	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	1 U	
		7/23/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/22/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0078	65 to 70	2/1/2006	0.5 U	**8**	0.5 U	0.5 U	**18.5**	**1.8**	
		12/21/2006	1 U	1 U	1 U	1 U	**1.1**	1 U	
		7/22/2008	1 U	1 U	1 U	1 U	1 U	1 U	
		7/20/2009	1 U	1 U	1 U	1 U	**1.8**	1 U	
		9/8/2010	0.16 U	0.36 U	0.12 U	0.11 U	**0.443 I**	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	**0.96 I**	**238**	0.19 U	0.22 U	**16.9**	**31.8**	
		10/25/2012	1 U	**29.8**	1 U	1 U	**3.1**	**1.7**	**110**
		12/23/2013	**9.3**	**1500**	**12**	0.22 U	**28**	**100**	
		1/22/2014	16 U	**3800**	19 U	22 U	36 U	**310**	
		7/14/2014	**6.2 I**	**2200**	**19 I**	4.6 U	**17 I**	**200**	20 U
		12/18/2014	**6.9**	**2300**	**19**	0.22 U	**3.3**	**260**	
		12/15/2015	4 U	**1100**	4.8 U	5.5 U	9 U	**82**	
		12/21/2016	0.18 U	**180**	**15**	0.36 U	**1.2**	**18**	2.2 U
		12/26/2017	0.9 U	**100**	1 U	1.8 U	1.4 U	1 U	11 U
		10/9/2018	0.9 U	**97**	1 U	1.8 U	1.4 U	**76**	11 U
		12/19/2019	0.64 U	**146**	0.44 U	0.43 U	**0.83 I**	**104**	0.96 U
		12/7/2020	0.32 U	**10.3**	0.22 U	0.22 U	**2.7**	**19.9**	0.48 U
		12/15/2021	0.94 U	**3.8**	0.73 U	0.76 U	**1.8**	**11**	0.73 U
WILC-MW0079	40 to 45	2/1/2006	0.5 U	**33.6**	0.5 U	0.5 U	**3.2**	**32.6**	
		12/20/2006	1 U	**0.62 I**	1 U	1 U	1 U	**2.8**	
		10/5/2007	1 U	1 U	1 U	1 U	1 U	1 U	
		7/31/2008	0.39 U	**3.4**	0.32 U	0.16 U	**0.37 I**	**1.6**	
		7/20/2009	1 U	**1.1**	1 U	1 U	1 U	1 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0080	29 to 34	12/21/2006	1 U	**27.7**	**2.7**	1 U	**1.3**	**564**	
		6/12/2007	1 U	**21.3**	**3.2**	1 U	**1.8**	**463**	
		7/31/2008	0.39 U	**0.84**	0.32 U	0.16 U	0.23 U	**16.4**	
		7/20/2009	1 U	1 U	**1.2**	1 U	1 U	1 U	
		12/7/2009	0.54 U	0.2 U	**4.5**	0.22 U	0.32 U	0.3 U	
		3/14/2014	4 U	**64**	**13 I**	5.5 U	9 U	**2000**	
		12/19/2014	**0.96 I**	**190**	**13**	0.22 U	**0.40 I**	**2500**	
		12/15/2015	0.8 U	**130**	**18**	1.1 U	1.8 U	**1500**	
		12/21/2016	0.18 U	**21**	**19**	0.36 U	0.29 U	**150**	2.2 U
		12/26/2017	0.18 U	**1.4**	**12**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**18**	0.36 U	0.29 U	0.2 UJ	2.2 U
		12/19/2019	0.32 U	0.28 U	**4.0**	0.22 U	0.35 U	**4.4**	0.48 U
		12/3/2020	0.27 U	**4.1**	**10.2**	0.30 U	0.31 U	**20.2**	0.35 U
WILC-MW0081	29 to 34	12/21/2006	1 U	**2.4**	1 U	1 U	1 U	**4.6**	
		6/12/2007	1 U	**4.7**	1 U	1 U	1 U	**7.3**	
		7/24/2008	1 U	**3.2**	1 U	1 U	1 U	**30.6**	
		7/17/2009	1 U	**5.8**	1 U	1 U	1 U	**35.2**	
		12/8/2009	0.54 U	**10.6**	**1.2**	0.22 U	**1.1**	**83.2**	
		12/23/2013	0.16 U	**1.5**	**3.5**	0.22 U	0.36 U	**7.2**	
		12/18/2014	0.16 U	**0.88 I**	**0.38 I**	0.22 U	0.36 U	**12**	
WILC-MW0082	29 to 34	10/12/2007	0.23 U	0.28 U	0.2 U	0.25 U	0.38 U	0.34 U	
		7/31/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
		7/21/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		12/8/2009	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	0.3 U	
WILC-MW0083	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0084	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0085	71 to 76	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0086	66 to 71	9/17/2009	1 U	1 U	1 U	1 U	1 U	1 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0087	15 to 25	4/7/2010	0.29 U	**0.38 I**	0.34 U	0.44 U	0.24 U	**1.3**	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	**1.5**	**0.21 I**	0.22 U	0.36 U	**20**	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/16/2021	0.94 U	**3.4**	**1.5**	0.76 U	0.89 U	**9.0**	0.73 U
WILC-MW0088	29 to 34	4/7/2010	0.29 U	**0.93 I**	0.34 U	0.44 U	0.24 U	**2.1**	
		9/19/2011	0.16 U	**1.5**	0.19 U	0.22 U	0.36 U	**6.62**	
		9/5/2012	0.16 U	**1.67**	0.19 U	0.22 U	0.36 U	**9.04**	
		12/23/2013	0.16 U	**1.7**	**0.20 I**	0.22 U	0.36 U	**7.6**	
		12/18/2014	0.16 U	**5.5**	**2.6**	0.22 U	0.36 U	**130**	
		12/15/2015	0.16 U	**0.44 I**	0.19 U	0.22 U	0.36 U	**3.8**	
		12/21/2016	0.18 U	**2.3**	0.2 U	0.36 U	0.29 U	**12**	2.2 U
		12/27/2017	0.18 U	**6.5**	**2.7**	0.36 U	0.29 U	**50**	2.2 U
		10/9/2018	0.18 U	**57**	**3.5**	0.36 U	0.29 U	**91**	2.2 U
		5/8/2020	0.32 U	**0.77 I**	**0.29 I**	0.22 U	0.35 U	**4.8**	0.48 UJ
		12/7/2020	0.32 U	**16.8**	**3.9**	0.22 U	0.35 U	**84.0**	0.48 U
		12/16/2021	0.94 U	**12**	**3.3**	0.76 U	0.89 U	**53**	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUOROETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0089	15 to 25	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	**0.79 I**	
		12/19/2014	0.16 U	**0.38 I**	0.19 U	0.22 U	0.36 U	**28 I**	
		12/15/2015	0.16 U	**1.6**	0.19 U	0.22 U	0.36 U	**0.99 I**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/7/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
WILC-MW0090	29 to 34	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	**9.5**	
		9/19/2011	0.16 U	**4.4**	**1.33**	0.22 U	**0.85 I**	**27.5**	
		9/5/2012	0.16 U	**5.35**	**0.84 I**	0.22 U	0.36 U	**32.8**	
		12/23/2013	0.16 U	**2200**	**8.7**	0.22 U	**57**	**600**	
		1/22/2014	8 U	**1200**	9.5 U	11 U	**24 I**	**370**	
		12/18/2014	0.16 U	**4.7**	**0.68 I**	0.22 U	0.36 U	**42**	
		12/15/2015	0.16 U	**6.2**	**1**	0.22 U	0.36 U	**34**	
		12/21/2016	0.18 U	**5.2**	0.2 U	0.36 U	0.29 U	**24**	2.2 U
		12/27/2017	0.18 U	**2.3**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**1.3**	0.36 U	0.29 U	**13**	2.2 U
		12/19/2019	0.32 U	**1.5**	**2.1**	0.22 U	0.35 U	**6.0**	0.48 U
		12/7/2020	0.32 U	**1.8**	**3.3**	0.22 U	0.35 U	**9.2**	0.48 U
		12/16/2021	0.94 U	**1.2**	**3.5**	0.76 U	0.89 U	**4.2**	0.73 U
WILC-MW0091	2 to 12	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.81 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/7/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0092	2 to 12	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.41 I**	
		9/20/2011	0.16 U	**0.75 I**	**1.62**	0.22 U	0.36 U	**2.45**	
		9/5/2012	0.16 U	**0.95 I**	0.19 U	0.22 U	0.36 U	**3.26**	
WILC-MW0093	15 to 25	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0094	40 to 45	4/7/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.68 I**	
		12/15/2015	0.16 U	**0.50 I,V**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0095	2 to 12	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**2.5**	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**1.1 V**	0.19 U	0.22 U	0.36 U	**1.7**	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/14/2021	0.94 U	**0.85 I**	0.73 U	0.76 U	0.89 U	1.0	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0096	15 to 25	3/25/2010	0.29 U	**16.1**	**1.2**	0.44 U	0.24 U	**113**	
		9/15/2010	0.64 U	**7.68**	0.48 U	0.44 U	0.64 U	**84.6**	
		9/20/2011	0.32 U	**41.6**	**1.12 I**	0.44 U	0.72 U	**247**	
		12/21/2016	0.18 U	**24**	**4.2**	0.36 U	0.29 U	**98**	2.2 U
		12/26/2017	0.18 U	**20**	**5**	0.36 U	0.29 U	**170**	2.2 U
		10/8/2018	0.18 U	**87**	**6.8**	0.36 U	0.29 U	**150**	2.2 U
		12/19/2019	0.32 U	**6.2**	**1.7**	0.22 U	0.35 U	**20.8**	0.48 U
		12/10/2020	0.32 U	**5.4**	**2.2**	0.22 U	0.35 U	**27.6**	0.48 U
		12/14/2021	0.94 U	**4.7**	**2.6**	0.76 U	0.89 U	**13**	0.73 U
WILC-MW0097	29 to 34	3/25/2010	0.29 U	**8.2**	0.34 U	0.44 U	**0.25 I**	**15.7**	
		3/17/2011	0.16 U	**3.35**	0.19 U	0.22 U	**19.3**	**1.17**	
		9/20/2011	0.32 U	**51.8**	**0.80 I**	0.44 U	0.72 U	**181**	
		9/5/2012	0.32 U	**21**	**1.02 I**	0.44 U	0.72 U	**282**	
		12/23/2013	0.32 U	**6.1**	**1.3 I**	0.44 U	0.72 U	**160**	
		12/18/2014	0.32 U	**4.8**	**1.8 I**	0.44 U	0.72 U	**21**	
		12/15/2015	0.16 U	**0.52 I**	**0.68 I**	0.22 U	0.36 U	**1.8**	
		12/21/2016	0.18 U	**6**	**3.3**	0.36 U	0.29 U	**28**	2.2 U
		12/27/2017	0.18 U	**9.1**	**4.2**	0.36 U	0.29 U	**32**	2.2 U
		10/8/2018	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	**5.2**	2.2 U
		12/19/2019	0.32 U	**10.8**	**5.7**	0.22 U	0.35 U	**46.0**	0.48 U
		12/10/2020	0.32 U	**7.3**	**7.9**	0.22 U	0.35 U	**19.5**	0.48 U
		12/14/2021	0.94 U	**4.6**	**7.2**	0.76 U	0.89 U	**8.6**	0.73 U
WILC-MW0098	15 to 25	3/25/2010	58 U	**12200**	68 U	88 U	**4270**	**6500**	
		9/8/2010	8 U	**4500**	**11.3 I**	5.5 U	**917**	**5410**	
		3/17/2011	**49**	**27300**	**26.4**	**1.3**	**49900**	**8440**	
		9/20/2011	32 U	**17700**	38 U	44 U	**4070**	**7670**	
		9/5/2012	16 U	**7500**	19 U	22 U	**1870**	**1390**	
		2/29/2016	65 U	**2400**	68 U	55 U	**810**	**490**	**21000**
WILC-MW0099	55 to 65	4/7/2010	2.9 U	**88.1**	3.4 U	4.4 U	**56.9**	**66.4**	
		9/8/2010	**0.522 I**	**73.6**	**0.395 I**	0.11 U	**47.3**	**58.6**	
		9/19/2011	1.6 U	**128**	1.9 U	2.2 U	**36**	**166**	
		9/5/2012	**0.54 I**	**44.1**	0.38 U	0.44 U	**16.1**	**154**	
WILC-MW0100	15 to 25	4/7/2010	**101 I**	**13800**	85 U	110 U	**21100**	**5500**	
		3/16/2011	**79.7**	**9630**	**106**	0.22 U	**3840**	**9290**	
		9/19/2011	**160 I**	**31900**	**146 I**	44 U	**27200**	**12500**	
		9/5/2012	**118 I**	**15800**	**124 I**	44 U	**6990**	**7760**	
		2/29/2016	**5.4 I**	**930**	**35**	4.4 U	**19 I**	**1800**	**24**
WILC-MW0101	2 to 12	3/25/2010	0.29 U	**9.8**	**0.40 I**	0.44 U	0.24 U	**10.9**	
WILC-MW0102	15 to 25	3/25/2010	**2.2**	**176**	**7.7**	0.44 U	**3.3**	**708**	
WILC-MW0103	29 to 34	3/25/2010	29 U	**6500**	34 U	44 U	24 U	**2470**	
WILC-MW0104	40 to 45	3/25/2010	0.29 U	**1160**	**9.5**	0.44 U	**30.2**	**3280**	
		9/20/2011	3.2 U	**147**	3.8 U	4.4 U	7.2 U	**1870**	
WILC-MW0105	15 to 25	3/25/2010	15 U	**1500**	17 U	22 U	**862**	**1140**	
		9/20/2011	0.16 U	**1.13**	0.19 U	0.22 U	0.36 U	**0.81 I**	
		9/5/2012	0.16 U	**1.08**	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0106	15 to 25	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/16/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/20/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	**0.98 I**	0.19 U	0.22 U	0.36 U	**0.40 I**	
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0107	15 to 25	4/8/2010	**0.32 I**	**81**	**10.9**	0.44 U	**4.4**	**348**	
		9/19/2011	0.16 U	**9.95**	**3.17**	0.22 U	**3.8**	**71.8**	
		12/15/2021	0.94 U	**3.6**	**1.8**	0.76 U	0.89 U	**5.7**	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUORO ETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0108	2 to 12	4/8/2010	2.9 U	896	**5.9 I**	4.4 U	209	168	
		9/19/2011	3.2 U	2360	**19.6 I**	4.4 U	113	331	
WILC-MW0109	15 to 25	3/26/2010	0.29 U	**39.8**	**0.51 I**	0.44 U	0.24 U	21.8	
		9/19/2011	0.64 U	93.2	**2.16 I**	0.88 U	1.44 U	514	
		9/5/2012	0.16 U	**23.9**	**1.45**	0.22 U	0.36 U	896	
		12/23/2013	0.64 U	**51**	**2.4 I**	0.88 U	1.5 U	830	
		12/18/2014	0.64 U	**4.6**	**2.6 I**	0.88 U	1.5 U	28	
		12/15/2015	0.16 U	**2.5**	**1.6**	0.22 U	0.36 U	11	
		12/21/2016	0.18 U	**1.8**	**1.8**	0.36 U	0.29 U	4	2.2 U
		12/26/2017	0.18 U	**3.4**	**2.6**	0.36 U	0.29 U	13	2.2 U
		10/8/2018	0.18 U	**6.9**	**0.65 I**	48	0.29 U	16	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.39 I**	0.22 U	0.35 U	1.3	0.48 U
		12/4/2020	0.27 U	**2.6**	**1.1**	0.30 U	0.31 U	7.8	0.35 U
		12/14/2021	0.94 U	**2.2**	**1.5**	0.76 U	0.89 U	5.6	0.73 U
WILC-MW0110	15 to 25	4/7/2010	15 U	3690	**17.5 I**	22 U	167	3630	
		3/17/2011	7.83	6200	**18.6**	0.22 U	164	2930	
		9/20/2011	32 U	3130	38 U	44 U	112 I	2610	
WILC-MW0111	29 to 34	3/25/2010	0.29 U	**0.35 I**	**3.4**	0.44 U	0.24 U	3	
		12/21/2016	0.18 U	0.24 U	**1.2**	0.36 U	0.29 U	1.1	2.2 U
		12/27/2017	0.18 U	0.24 U	**1.1**	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	**1.3**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.82 I**	0.22 U	0.35 U	**0.95 I**	0.48 U
		12/10/2020	0.32 U	**0.61 I**	**0.78 I**	0.22 U	0.35 U	2.8	0.48 U
		12/14/2021	0.94 U	**1.3**	**1.2**	0.76 U	0.89 U	3.4	0.73 U
WILC-MW0112	40 to 45	3/25/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0113	2 to 12	3/25/2010	0.29 U	**4.6**	**0.34 I**	0.44 U	0.24 U	8.4	
WILC-MW0114	15 to 25	3/25/2010	0.29 U	**0.41 I**	0.34 U	0.44 U	0.24 U	0.28 U	
		12/14/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0115	15 to 25	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		3/17/2011	0.16 U	**24.3**	0.19 U	0.22 U	**2.65**	36.1	
		9/19/2011	0.32 U	85.9	0.38 U	0.44 U	**2.66**	112	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0116	15 to 25	3/26/2010	**1.8 I**	105	**13.4**	0.88 U	**1.4 I**	1860	
		9/19/2011	8 U	1110	**29 I**	11 U	18 U	3260	
		9/6/2012	6.4 U	1090	**21.6 I**	8.8 U	14.4 U	2870	
		12/23/2013	0.16 U	**9.9**	**5.6**	0.22 U	0.36 U	64	
		12/18/2014	0.16 U	**6.1**	**3**	0.22 U	0.36 U	100	
		12/16/2015	0.16 U	**31**	**2.4**	0.22 U	**0.43 I**	140	
		12/21/2016	0.18 U	**45**	**6.7**	0.36 U	0.29 U	440	2.2 U
		12/26/2017	1.8 U	**19**	2 U	3.6 U	2.9 U	150	22 U
		10/8/2018	0.36 U	0.48 U	**4.7**	0.72 U	0.58 U	11	4.3 U
		12/19/2019	0.32 U	**3.4**	**4.2**	0.22 U	**0.52 I**	12.0	0.48 U
		12/3/2020	0.27 U	**1.4**	**3.6**	0.30 U	0.31 U	5.0	0.35 U
WILC-MW0117	15 to 25	3/25/2010	58 U	11200	68 U	88 U	362	2770	
		3/17/2011	14.6	10600	**20.5**	0.22 U	598	3650	
		9/19/2011	0.16 U	**4.45**	**0.36 I**	0.22 U	0.36 U	6.3	
		9/6/2012	**0.42 I**	**60.8**	**3.89**	0.22 U	0.36 U	130	
		12/16/2021	0.94 U	**5.6**	**4.6**	0.76 U	**1.4**	17	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0118	40 to 45	3/25/2010	0.29 U	**82.6**	**0.66 I**	0.44 U	**3.6**	**210**	
		9/19/2011	0.16 U	**6.11**	**0.34 I**	0.22 U	0.36 U	**62.1**	
		9/6/2012	0.16 U	**2.63**	**0.38 I**	0.22 U	**0.38 I**	**26.7**	
		12/23/2013	0.16 U	**0.74 I**	0.19 U	0.22 U	0.36 U	**8**	
		12/18/2014	0.16 U	**1.4**	**0.50 I**	0.22 U	0.36 U	**9.3**	
		12/16/2015	0.16 U	**0.48 I**	0.19 U	0.22 U	0.36 U	**2.4**	
		12/26/2017	0.18 U	**1.4**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 UJ	**0.27 I**	0.36 U	**0.39 I**	0.2 U	2.2 U
		12/19/2019	0.32 U	**1.5**	0.22 U	0.22 U	0.35 U	**2.8**	0.48 U
		12/3/2020	0.27 U	**1.0**	0.26 U	0.30 U	0.31 U	**1.7**	0.35 U
		12/16/2021	0.94 U	**0.88 I**	0.73 U	0.76 U	0.89 U	**1.1**	0.73 U
WILC-MW0119	29 to 34	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0120	40 to 45	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0121	40 to 45	3/26/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
WILC-MW0122	15 to 25	3/26/2010	0.29 U	**4.7**	0.34 U	0.44 U	0.24 U	**11.5**	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**6.89**	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.66 I**	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/16/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.37 I**	
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0123	2 to 12	5/4/2010	0.29 U	0.32 U	0.34 U	0.44 U	0.24 U	0.28 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		9/6/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0124	15 to 25	5/4/2010	0.29 U	0.32 U	**3.4**	0.44 U	0.24 U	**1.5**	
WILC-MW0125	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		3/17/2011	0.16 U	**1.51**	0.19 U	0.22 U	0.36 U	**0.40 I**	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/19/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	**0.54 I**	
		12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/4/2020	0.27 U	0.34 U	0.26 U	0.30 U	0.31 U	**0.41 I**	0.35 U
WILC-MW0126	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/5/2012	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/23/2013	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/18/2014	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/15/2015	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
		12/21/2016	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/14/2021	0.94 U	**2.3**	**1.2**	0.76 U	0.89 U	**5.7**	0.73 U
WILC-MW0127	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
WILC-MW0128	15 to 25	9/13/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	0.22 U	
		9/19/2011	0.16 U	0.36 U	0.19 U	0.22 U	0.36 U	0.36 U	
WILC-MW0129	15 to 25	9/13/2010	0.16 U	**2.3**	**0.228 I**	0.11 U	0.16 U	**1.51**	
		3/16/2011	0.16 U	**0.55 I**	**0.20 I**	0.22 U	0.36 U	**0.68 I**	
		9/20/2011	0.16 U	**30.6**	**1.22**	0.22 U	**2.71**	**7.15**	
		12/26/2017	3.6 U	**410**	4 U	7.2 U	**320**	4 U	**1700**
		10/8/2018	3.6 U	**170**	4 U	7.2 U	**110**	4 U	**410**
		5/8/2020	3.2 U	**539**	2.2 U	2.2 U	**161**	**17.5**	**615 J**
		12/7/2020	**0.71 I**	**83.9**	**3.6**	0.22 U	**46.7**	**6.6**	**200**
		12/15/2021	4.7 U	**63**	3.6 U	3.8 U	**21**	**8.1**	**290**

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0130	56 to 66	10/26/2012	20 U	**9 I**	20 U	20 U	6.6 UI	**12 I**	**340**
		8/13/2014	3 U	**88**	2.9 U	2.3 U	**11**	**320**	10 U
		12/19/2014	0.16 U	**11**	0.19 U	0.22 U	**6.7**	**150**	
		12/15/2015	**2.1 I**	**780**	0.95 U	1.1 U	**8.4**	**180**	
		12/21/2016	**2**	**480**	**38**	0.36 U	**5.9**	**160**	2.2 U
		12/27/2017	1.8 U	**400**	**7.8 I**	3.6 U	2.9 U	**150**	22 U
		10/9/2018	1.8 U	**300**	2 U	3.6 U	2.9 U	**160**	22 U
		12/19/2019	0.32 U	**4.9**	0.22 U	0.22 U	0.35 U	**20.0**	0.48 U
		12/10/2020	0.32 U	**4.6**	0.22 U	0.22 U	0.35 U	**21.7**	0.48 U
		12/15/2021	0.94 U	**26**	0.73 U	0.76 U	0.89 U	**39**	0.73 U
WILC-MW0131	58 to 68	10/26/2012	50 U	**1300**	50 U	50 U	**6300**	16 UI	50 U
		12/10/2012	100 U	**4400**	100 U	100 U	**1500**	**85 I**	**910**
		7/16/2013	**86 I**	**16000**	**30 I**	22 U	**20000**	**88 I**	
		12/23/2013	0.16 U	**8.3**	0.19 U	0.22 U	**0.79 I**	**28**	
		1/22/2014	**0.87 I**	**250**	**1.2**	0.22 U	**5.9**	**78**	
WILC-MW0132	45 to 50	10/24/2016	0.18 U	**4000**	**51**	0.36 U	**2100**	**600**	**130000**
		3/20/2017	0.18 U	**300**	**4.6**	0.36 U	**410**	**12**	**20000**
		5/11/2017	0.18 U	**410**	**17**	0.36 U	**520**	**11**	**19000**
WILC-MW0133	40 to 50	10/24/2016	0.18 U	**4900**	**39**	0.36 U	**290**	**3300**	**24000**
		3/20/2017	0.18 U	**1100**	**14**	0.36 U	**730**	**94**	**97000**
		5/11/2017	0.18 U	**1100**	**37**	0.36 U	**600**	**81**	**82000**
WILC-MW0134	10 to 20	10/27/2016	0.36 U	**25**	**10**	0.72 U	**7.7**	**14**	**270**
		3/20/2017	0.18 U	**86**	**2.9**	0.36 U	**37**	**73**	**9500**
		5/11/2017	0.18 U	24 U	**3.3**	0.36 U	29 U	**53**	**5600**
WILC-MW0135	40 to 50	10/24/2016	0.18 U	**2500**	**18**	0.36 U	**3400**	**240**	**140000**
		3/20/2017	0.18 U	**1700**	**20**	0.36 U	**5200**	**23**	**35000**
		5/11/2017	0.18 U	**1700**	**48**	0.36 U	**8100**	**20**	**60000**
WILC-MW0136	40 to 45	10/27/2016	36 U	**2600**	40 U	72 U	**2600**	**380**	**88000**
		3/20/2017	0.18 U	**410**	**4.5**	0.36 U	**1400**	**4.9**	**39000**
		5/11/2017	0.18 U	120 U	**8.2**	0.36 U	**1800**	**7.6**	**59000**
WILC-MW0137	10 to 20	10/27/2016	0.18 U	**40**	**2.6**	0.36 U	**3.7**	**14**	2.2 U
		3/20/2017	0.18 U	**31**	0.2 U	0.36 U	**160**	**51**	**7300**
		5/11/2017	0.18 U	12 U	0.2 U	0.36 U	**22**	**25**	**1800**
WILC-MW0138	10 to 20	10/27/2016	18 U	**18000**	20 U	36 U	**18000**	**1400**	**26000**
		3/20/2017	0.18 U	**690**	**4.8**	0.36 U	**88**	**6**	**100**
		5/11/2017	0.18 U	**1400**	**13**	0.36 U	**70**	**15**	110 U
WILC-MW0139	10 to 20	10/27/2016	18 U	**1500**	20 U	36 U	**2200**	**120**	**11000**
		3/20/2017	0.18 U	**85**	**3.8**	0.36 U	**28**	**15**	**1000**
		5/11/2017	**4.1**	**1500**	**7.7**	0.36 U	**230**	**27**	**850**
WILC-MW0140	23 to 33	12/29/2016	4.7 U	**33**	3.6 U	3.8 U	4.4 U	**400**	3.6 U
		12/26/2017	0.54 U	**8.3**	0.6 U	1.1 U	0.87 U	**250**	6.4 U
		10/9/2018	0.54 U	**30**	**0.96 I**	1.1 U	**1.9 I**	**300**	6.4 U
		12/18/2019	0.32 U	**8.6**	**0.78 I**	0.22 U	0.35 U	**94.8**	0.48 U
		12/3/2020	0.27 U	**4.1**	**0.65 I**	0.30 U	0.31 U	**55.4**	0.35 U
WILC-MW0141	34 to 44	12/29/2016	4.7 U	**58**	3.6 U	3.8 U	**5**	**280**	3.6 U
		12/26/2017	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	**8.4**	4.3 U
		10/9/2018	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	**3.3**	4.3 U
		12/18/2019	0.32 U	**0.83 I**	0.22 U	0.22 U	0.35 U	**9.3**	0.48 U
		12/3/2020	0.27 U	**9.7**	**0.42 I**	0.30 U	0.31 U	**75.6**	0.35 U
WILC-MW0142	8 to 18	12/29/2016	4.7 U	**430**	3.6 U	3.8 U	**81**	3.6 U	3.6 U
		12/27/2017	0.9 U	**340**	**9.1**	1.8 U	**20**	**9.2**	11 U
		10/8/2018	0.9 U	**240**	**3.1 I**	1.8 U	**15**	**24**	11 U
		12/18/2019	0.32 U	**78.1 Q**	**3.5**	0.22 U	**6.9**	**25.0**	0.48 U
		12/18/2019	0.32 U	**79.4**	**3.2**	0.22 U	**5.3**	**43.7**	0.48 U
		12/3/2020	0.27 U	**9.8**	**6.3**	0.30 U	**1.0**	**10.4**	0.35 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			1,1-DICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	TETRACHLOROETHENE	TRICHLOROETHENE	VINYL CHLORIDE	1,1,2-TRICHLOROTRIFLUOROETHANE
GCTLs (µg/L)			7	70	100	3	3	1	210000
NADCs (µg/L)			70	700	1000	300	300	100	2100000
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0143	23 to 33	12/29/2016	9.4 U	580	7.3 U	7.6 U	190	22	**51**
		12/27/2017	0.36 U	**29**	0.4 U	0.72 U	**1.5 I**	170	4.3 U
		10/8/2018	0.36 U	**26**	0.4 U	0.72 U	0.58 U	98	4.3 U
		12/18/2019	0.32 U	**43.3**	0.22 U	0.22 U	**2.9**	40.9	0.48 U
		12/18/2019	0.32 U	**41.8**	0.22 U	0.22 U	**2.8**	34.9	0.48 U
		12/3/2020	0.27 U	**14.0**	0.26 U	0.30 U	**1.0**	15.6	0.35 U
WILC-MW0144	40 to 50	12/29/2016	19 U	1000	15 U	15 U	210	1100	15 U
		12/27/2017	1.8 U	1100	**20**	3.6 U	83	720	22 U
		10/8/2018	1.8 U	2000	**5.6 I**	3.6 U	110	1000	22 U
		12/18/2019	1.6 U	3780 Q	**3.6 I**	1.1 U	337	622 Q	2.4 U
		12/18/2019	1.6 U	3100 Q	**7.4**	1.1 U	266	555 Q	2.4 U
		12/3/2020	**3.3 I**	2390	**5.2**	1.5 U	197	719	**16.5**
WILC-MW0145	38 to 48	12/30/2016	0.94 U	**14**	0.73 U	0.76 U	44	0.71 U	**260**
		12/27/2017	0.54 U	**9.5**	0.6 U	1.1 U	0.87 U	15	6.4 U
		10/8/2018	0.54 U	**11**	0.6 U	1.1 U	0.87 U	17	6.4 U
		12/18/2019	0.32 U	**2.7**	0.22 U	0.22 U	0.35 UQ	12.9	0.48 U
		12/18/2019	0.32 U	**3.4**	0.22 U	0.22 U	0.35 U	14.6	**3.5**
		12/10/2020	0.32 U	**2.6**	0.22 U	0.22 U	0.35 U	8.4	**7.2**
WILC-MW0146	23 to 33	12/30/2016	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
		12/27/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
		12/10/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
WILC-MW0147	38 to 48	12/30/2016	0.94 U	**13**	0.73 U	0.76 U	9	2.5	**1.7**
		12/26/2017	0.54 U	**4.2**	0.6 U	1.1 U	0.87 U	0.6 U	6.4 U
		10/8/2018	0.54 U	**6.8**	0.6 U	1.1 U	**1.4 I**	0.6 U	6.4 U
		12/19/2019	0.32 U	**4.9**	**0.41 I**	0.22 U	**1.5**	8.6	0.48 U
		12/10/2020	0.32 U	**2.1**	0.22 U	0.22 U	**1.1**	5.7	0.48 U
WILC-MW0148	38 to 48	12/30/2016	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
		12/27/2017	0.36 U	0.48 U	0.4 U	0.72 U	0.58 U	0.4 U	4.3 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0149	20 to 30	12/27/2017	0.18 U	**2.4**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	49	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	**0.44 I**	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/7/2020	0.32 U	**0.98 I**	0.22 U	0.22 U	0.35 U	0.41 U	0.48 U
WILC-MW0150	20 to 30	12/27/2017	0.18 U	**1.2**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0151	20 to 30	12/27/2017	0.18 U	**1.4**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/9/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
WILC-MW0152	5 to 15	12/27/2017	1.8 U	500	**19**	3.6 U	530	23	22 U
		10/8/2018	0.36 U	0.48 U	0.4 U	0.72 U	**2.6**	0.4 U	4.3 U
		5/8/2020	0.32 U	**16.9**	0.22 U	0.22 U	3.3	0.41 U	0.48 UJ
		12/4/2020	**1.5**	447 L	**10.2**	0.30 U	236 L	18.2	0.35 U
		12/17/2021	9.4 U	980	**23**	7.6 U	730	27	0.73 U
WILC-MW0153	20 to 30	12/27/2017	0.18 U	**0.94 I**	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		5/8/2020	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	0.41 U	0.48 UJ
		12/4/2020	0.27 U	**0.38 I**	**0.38 I**	0.30 U	0.31 U	**0.50 I**	0.35 U
		12/17/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U
WILC-MW0154	5 to 15	12/26/2017	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	0.2 U	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	0.22 U	0.22 U	0.35 U	**0.83 I**	0.48 U
		12/3/2020	0.27 U	**0.72 I**	0.26 U	0.30 U	0.31 U	**0.56 I**	0.35 U
		12/16/2021	0.94 U	0.53 U	0.73 U	0.76 U	0.89 U	0.71 U	0.73 U

Table 1
Groundwater Analytical Results
Wilson Corners (SWMU 001)

Category			*Volatile Organic Compounds (VOCs)*						*Freon*
Analyte			**1,1-DICHLOROETHENE**	**CIS-1,2-DICHLOROETHENE**	**TRANS-1,2-DICHLOROETHENE**	**TETRACHLOROETHENE**	**TRICHLOROETHENE**	**VINYL CHLORIDE**	**1,1,2-TRICHLOROTRIFLUORO ETHANE**
GCTLs (µg/L)			**7**	**70**	**100**	**3**	**3**	**1**	**210000**
NADCs (µg/L)			**70**	**700**	**1000**	**300**	**300**	**100**	**2100000**
Location ID	**Screened Interval (ft bls)**	**Sample Date**							
WILC-MW0155	29 to 34	12/26/2017	0.18 U	0.24 U	**1.6**	0.36 U	0.29 U	0.2 U	2.2 U
		10/8/2018	0.18 U	0.24 U	**1.9**	0.36 U	0.29 U	0.2 U	2.2 U
		12/19/2019	0.32 U	0.28 U	**0.74 I**	0.22 U	0.35 U	**0.74 I**	0.48 U
		12/3/2020	0.27 U	0.34 U	**0.32 I**	0.30 U	0.31 U	**0.41 I**	0.35 U
WILC-MW0156	5 to 15	5/8/2020	0.32 U	**73.3**	**8.6**	0.22 U	**85.3**	**9.8**	**79.6**
		12/8/2020	0.32 U	**63.3**	**9.8**	0.22 U	**89.9**	**24.7**	**46.9**
WILC-PW-MW1515	10 to 15	5/19/2005	1 U	1 U	1 U		1 U	1 U	
		12/19/2006	1 U	1 U	1 U	1 U	1 U	**3.2**	
		8/1/2008	0.54 U	0.2 U	0.45 U	0.22 U	0.32 U	**3.5**	
		7/17/2009	1 U	1 U	1 U	1 U	1 U	**1.2**	
		9/15/2010	0.16 U	0.36 U	0.12 U	0.11 U	0.16 U	**1.02**	

Notes:
Bolded results indicate the presence of an analyte at the specified concentration
Red font indicates an exceedance of FDEP GCTLs or Site Approved Target Levels for UIC Sampling
Yellow Highlighted cell indicates an exceedance of FDEP NADCs
Blank cells indicate the analyte was not analyzed for that specific well
ft bls = feet below land surface
GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
I = Indicates that the analytical result was greater than or equal to the method detection limit, but less than the practical quantitation limit
J = Indicates an estimated value
NADC = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (2005)
Q = Indicates that the sample was analyzed beyond hold time
SWMU = Solid Waste Manangement Unit
1,1,2-Trichlorotrifluoromethane is also known as Freon 113 or CFC-113
U = Indicates the analyte was not detected
µg/L = micrograms per liter

Meeting Minutes Report

Attendees:

Full KSCRT Partnering Meeting (Virtual Teams Meeting) for April 2021

Meeting Date From: 4/28/2021 To: 4/29/2021

Meeting ID: 2104

Location Description: Kennedy Space Center-FL

Meeting Type: Full Partnering Team Meeting

Meeting Topic:	**FDEP Program Update, April 2021**		
Minute: 2104-M2	**Site:**	**Goal:**	**Discussion:**
Presenter: Moore, Bruce	KSC REMEDIATION TEAM MEETINGS	The objective is to summarize the changes at FDEP and provide pertinent news since the last Kennedy Space Center (KSC) Remediation Team (KSCRT) meeting.	Bruce Moore provided a quick update on the program. The passing of Kirk Johnson was addressed. Kirk managed KSC, Homestead, Cape Canaveral Space Force Station, and Patrick Space Force Base (PSFB) and he will be missed and not easily replaced. Brian Taylor joined the FDEP team on April 19th. Amanda Lanphere's last day was April 16th. Additional FDEP team support was requested for KSC document reviews, and FDEP is discussing options internally to help fill the gaps. Laura, Kirk, and Brian were all back in the office as of April 19th, with the beginning of the phased return to work for FDEP. Bruce will be back in the office by May 24th. Partnering meetings remain virtual at the installation and manager level. Travel is still limited at this point, but Bruce will seek travel approval as deemed necessary. Lessons learned for closures, on Site Rehabilitation Completion Requests (SRCRs), we noticed some things to bring up. Some items that we see that are requiring additional work and time are ensuring certain aspects of a Solid Waste Management Unit (SWMU) are appropriate for closure. For example, items closed under a portion of a site years ago are often relegated to an appendix. If you include all historical information pertinent to the closure of the site in the text of the report and do not point to an appendix, the review goes faster. Submit and follow up with closure requests as soon as possible after meeting closure requirements. Chapter 62-780, F.A.C., requires a Site Rehabilitation Completion Report be submitted, and we also ask you to include a Memorandum of Decision. The MOD is an executive summary for the SRCR. FDEP may attach the MOD to the SRCO. The SRCR and MOD should tell the cleanup story well, be clear and concise, explain other/non-discharge related hits and why these contaminants/results were carried forward or not, with the appropriate supporting documentation/lines of evidence.

Presenter: Cady, Carol	LH2 STORAGE SHED (PRL 238)	The purpose of this presentation was to summarize the PRL 238 site history, present the CS activities and findings, and obtain consensus on recommendation for No Further Action (NFA) without institutional controls under Florida Administrative Code	respective FDEP GCTLs. Based on the results of the CS investigation, HGL recommended NFA without institutional controls under FAC 62-780.680(1) RMO I for PRL 238. FDEP inquired if HGL will send the report requesting NFA? HGL confirmed that they would. The presentation was made first in case questions came up that needed to be addressed before the report went out.
Decision:30	The Team reached consensus for NFA for site soils and groundwater without institutional controls under FAC 62-780.680(1) RMO I for LH2 Storage Shed site, PRL 238, KSC, FL.		

Meeting Topic:	**Wilson Corners (SWMU 001) Long-Term Monitoring (LTM) Results, April 2021**		
Minute: 2104-M8	**Site:**	**Goal:**	**Discussion:**
Presenter: Joyal, Jennifer	WILSON CORNERS (SWMU 001)	The purpose of this document is to provide a brief background for the site and a summary of work performed in December 2020.	A brief site background was provided. NASA clarified on Slide 17 that MW0052DD was abandoned when it was realized that it was screened across multiple lithologies, complicating data evaluation. The 2020 monitoring program included measurement of water levels from 49 monitoring wells in December 2020 to determine groundwater flow direction, and the collection of groundwater samples from 43 monitoring wells in December 2020 via low flow pumping. The samples were analyzed for select volatile organic compounds (VOCs): tetrachloroethene, trichloroethene (TCE), cis-1,2-dichloroethene (cDCE), trans-1,2-dichloroethene (tDCE), vinyl chloride (VC), 1,1-dichloroethene and Freon 113. Groundwater flow directions at the site in December 2020 generally agree with historical evaluations. From 2 to 15 feet below land surface (ft bls), groundwater flows west-southwest. From 15 to 34 ft bls, groundwater flow is west with northerly component on the west side and southerly component on the east side. From 34 to 48 ft bls, groundwater flows west-southwest. Analytical results indicate one or more of the key site constituents of concern (TCE, cDCE and VC) were above Groundwater Cleanup Target Levels (GCTL) in 29 of the 43 monitoring wells sampled, and above Natural Attenuation Default Concentrations (NADC) in two monitoring wells. Mann-Kendall trend analysis for recent data (2015 through 2020) from select monitoring wells indicated stable to decreasing concentrations in 16 wells, and no trend in 12 wells. Freon was not detected above the GCTL in any samples. On Slide 36, NASA pointed out on the west side we had a GCTL exceedance in MW96 (result was 27.6 vinyl chloride). MW96 is intended to be a downgradient edge well. Further west is MW126. We will clear vegetation in order to add MW126 to the

Presenter: Joyal, Jennifer	WILSON CORNERS (SWMU 001)	The purpose of this document is to provide a brief background for the site and a summary of work performed in December 2020.	sampling program to confirm the edge of the low concentration plume. NASA stated that direct push technology (DPT) groundwater sampling is being conducted in the Hot Spot 2 (HS2) area and is focused on the NADC exceedances. We are refining that area to support the installation of an air sparge (AS) system that is under contract. We are not redefining the whole plume area at this time. In these recent DPT sampling, we observed orders of magnitude decrease in contaminant levels at some locations. The Team will be briefed on findings and there will be further discussion on the interim measure for HS2. The Wilson Corners groundwater monitoring program is evaluated annually. As noted, one or more downgradient wells are needed. There may be a need for a vertical extent well in the HS3 area. Recommendation for the 2021 sampling and analysis program will be made following completion of the ongoing DPT sampling.
Decision:31	The Team reached consensus to modify the sampling plan based on the findings from the October 2020 and April 2021 DPT drilling events.		
Decision:32	The Team reached consensus on the installation of new monitoring wells, if needed.		
Decision:33	The Team reached consensus to present recommendations from the ongoing DPT sampling findings to the KSC Remediation Team in late summer/early fall 2021.		
Decision:34	The Team reached consensus for the next site-wide monitoring well sampling event to be conducted in December 2021.		

Revision 1 Meeting Minutes for May 3rd & 4th, 2022

Attendees:

1. Bruce Moore/FDEP
2. Ryan O'Meara/NASA
3. Deda Johansen/NASA
4. Anne Chrest/NASA
5. Natasha Darre/NASA
6. Michelle Moore/NEMCON
7. Mark Speranza/Tetra Tech
8. Mark Jonnet/Tetra Tech
9. Chris Pike/Tetra Tech
10. Jennifer Buel/Tetra Tech
11. Sarah Damphousse/Tetra Tech
12. Jason Bublitz/Tetra Tech
13. Jennifer Joyal/AECOM
14. Linnea King Clark/AECOM
15. Richard Smith/HGL
16. Carol Cady/HGL
17. Bradley Mitchell/HGL
18. Howard Fowler, HGL
19. Cindy Crane, HGL

2205-M01 Michelle Moore/NEMCON

Meeting Minutes and Miscellaneous Items

Team consensus was reached that Revision 1 of the meeting minutes and action/decision items for the March 2022 Team meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public as part of a final report at a later date **(2205-D01).**

Open action items were reviewed and updated. The following action items were closed:

Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) (PRL #237) Phase III Solid Waste Management Unit Site Assessment and Confirmatory Sampling Report Summary, January 2022: NASA will update the summary table for KARS Park I and email back out to the Team. This was addressed in the meeting minutes that followed the Kennedy Space Center Remediation Team (KSCRT) meeting **(2201-A02).**

Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022: The Florida Department of Environmental Protection (FDEP) requested that HydroGeologic, Inc. (HGL) provide information regarding the number of sample points necessary for Mann-Kendall

statistical analysis. HGL provided the requested information to FDEP in a follow up email on March 8, 2022 **(2203-A01).**

GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022: FDEP requested a synoptic figure of the last two clean sampling events of the two wells. AECOM provided a figure to FDEP on March 9, 2022 **(2203-A04).**

CAMP Deliverables Look-Ahead and Document Requirements, March 2022: FDEP inquired if the Corrective Action Management Plan (CAMP) document being presented is the document sent around March 1? NASA confirmed that it was, but that it was revised since then. For PRL 237, there were two errors on dates (inadvertently switched), but will send this after the meeting. NASA followed up after the meeting and provided the updated CAMP to the KSCRT members **(2203-A06).**

Results: Decision Item 2205-D01

2205-M02 Bruce Moore /FDEP

FDEP Program Update, May 2022

Goal: The objective is to summarize any changes at the Florida Department of Environmental Protection (FDEP) and provide pertinent news since the last Kennedy Space Center (KSC) Remediation Team (KSCRT) meeting.

Discussion: Bruce Moore provided a quick update on the program.

As an update to partners, FDEP has three staff vacancies: Professional Geologist II, Professional Engineer II, and an OPS Government Analyst II. FDEP has six fulltime project managers. If the additional requested slots are approved, FDEP will have a total of 10 full time project managers.

FDEP will continue utilizing Geosyntec and Arcadis for technical reviews, and recently added CDM Smith for these as well. These are necessary to help FDEP manage the increasing workload and to train new team members.

Florida Legislative session was held January 11th through March 12th and the CS/SB 7012 (2022) Cleanup of Per- and Polyfluoroalkyl

Recommendations were made to conduct additional CS activities to delineate provisional GCTL and provisional surface water screening level exceedances.

Recommend five direct push technology (DPT) groundwater locations with samples collected at three depth intervals at each location: 12.5 ft bls, 30 ft bls, and 40 ft bls. The depth intervals were selected to match mid-point of screened intervals in landfill monitoring wells; locations may be adjusted depending on access.

Recommend analytical method compliant with Table B-15 of the Department of Defense Quality System Manual version 5.3 or later; PFAS compound list presented in the FDEP Dynamic Plan, August 2021.

Recommend CS data from this ADP and the additional CS activities to be included in a stand-alone document.

The Team reached consensus to conduct additional confirmation sampling activities under PRL #237a, Center-Wide PFAS Location of Concern #18, as proposed on Slide 19 **(2205-D28).**

Results: Decision Items 2205-D28

2205-M08 Linnea King Clark

Wilson Corners (SWMU #001) 2021 Annual Long-Term Monitoring Update, May 2022

Goal: The goal is to provide the results of the 2021 annual long-term monitoring (LTM) results and test consensus on a path forward.

Discussion: Based on evaluation of 2020 and 2021 direct push technology (DPT) data and 2020 LTM event results, the 2021 LTM Plan was updated to include: the sampling of 49 existing monitoring wells and 10 proposed monitoring wells (59 total) and the collection of groundwater elevation readings from an additional 12 existing monitoring wells and 10 proposed monitoring wells (71 total).

The 2021 field activities included the collection of water levels from only the wells sampled and accessible (42) at the time of water level gauging per approval by NASA Remediation Project Manager (RPM) and groundwater sampling via low flow sampling of 44

existing wells for selected volatile organic compounds (VOCs) including Freon 113. The select VOCs analyzed were: 1,1-dichloroethene (1,1-DCE), cis-1,2-dichloroethene (c-DCE), trans-1,2-dichloroethene (t-DCE), Freon 113, tetrachloroethene (PCE), trichloroethene (TCE), and vinyl chloride (VC). Four wells (NPSH-MW0018, NPSH-MW0023, NPSH-MW0040, and MW0156) could not be located and 1 well (MW0047I) could not be sampled due to active beehive under its stick-up cap.

Depth to groundwater at the site ranges between 3 to 5 feet bls. Groundwater flow direction is generally to the west at all intervals. A deviation from historical flow was observed at the 34 to 48 feet below land surface (bls) interval, with southwest and southeast flow components.

Freon 113 is also known as 1,1,2-trichlorotrifluoroethane. Freon 113 concentrations were historically highest in the Former Hot Spot 1 Area of the Site. Freon 113 was analyzed in 44 monitoring wells (5 wells were not accessible), and concentrations were below the GCTL of 210,000 µg/L in all monitoring wells, with the highest detection at MW0129, located north of the Hot Spot 1 area, at 290 micrograms per liter (µg/L).

The Florida Department of Environmental Protection (FDEP) inquired how many wells were we short on the planned total 71 water level measurements. Were there supposed to be more wells sampled? AECOM explained that wells anticipated to be installed this past year were delayed, so wo there were fewer water level measurements and samples than in the 2021 plan.

FDEP stated that VOC concentrations are increasing to the west but the natural attenuation default concentrations (NADC) footprint hasn't changed much. AECOM confirmed that was correct. Based predominantly on DPT data, the existing wells are appropriate for the extent of the low-concentration plume (LCP). The performance monitoring wells are more on the interior of the plume and will give us a better idea of what is going on with the high concentration plume (HCP).

FDEP inquired what the vertical head difference of the zones are that are being referred to. AECOM will look into this question and provide the information **(2205-A02).** *Note*: AECOM provided vertical head data for 2019, 2020 and 2021 to FDEP on May 5, 2022.

removal of loadout area lime rock. The final site walk occurred on February 11, 2022, in which task completion was acknowledged.

During excavation operations, HGL observed railroad ties outside of excavation areas and within the pond (former borrow pit). During IM operations HGL removed and disposed of observed railroad ties outside of excavation limits that were easily accessible. IM activities will be documented in a Soil IM Report with Corrective Action Management Plan (CAMP) date of July 30, 2022.

Further evaluation of pond water quality and ecological risks of potential contaminated sediments in wetland/pond areas of PRL #229 is underway.

FDEP inquired if the source of contamination is the railroad ties. NASA confirmed that it was. FDEP mentioned that there were more ties discovered outside of the area and inquired how confident are you that you have a complete picture of the contamination that was there if any were discovered outside the defined area. NASA responded that there is no guarantee that there is nothing left but they walked the site and looked very hard. There are some in the pond that we could not reach with the equipment we had. FDEP is looking forward to seeing the interim measure report on this.

2205-M10 Howard Fowler/HGL

Un-Numbered Operational Areas (PRL #229) Pond Confirmatory Sampling Report Addendum Update, May 2022

Goal: The objective of the ADP is to summarize the PRL 229 Pond site history, present the Confirmation Sampling Report Addendum (CSRA) activities, present the Screening Level Ecological Risk Assessment (SLERA) results, and obtain consensus on the recommendation to perform food web modelling.

Discussion:
A Solid Waste Management Unit (SWMU) Assessment of PRL 229 was prepared in 2015. Confirmation Sampling of soil and groundwater was performed at the railroad tie disposal area (RTDA) between September 2018 and April 2019.

2205-M11 Anne Chrest/CAMP

CAMP Deliverables Look-Ahead and Document Requirements, March 2022

Goal: To provide an update on the CAMP submittal look-ahead.

Discussion: An updated CAMP submittal look-ahead was emailed out to the team. An opportunity was provided during the meeting to follow up with any questions on what was provided. If any questions or concerns after the fact, please reach out.

2201-M12 KSCRT

Miscellaneous Discussion

2022 Meeting Dates
June 28-29th, 2022 (planned in person)
September 13-14th, 2022
November 15-16th, 2022

Agenda Topics for June 2022 Meeting

AECOM

1. None at this time

Tetra Tech

1. LC 34 OMMR Update (Jonnet) 60 minutes
2. LC 34 AS Pilot Study (Jonnet) 75 minutes

HGL

1. FSRA GWM Update
2. PRL #227 LOC 3 CS Report Addendum and Work Plan
3. Child Development Center (TBD) 45 minutes

FDEP

15-20-minute FDEP update by Program Manager

Jennifer Joyal is the team leader next meeting so email topics to her after the meeting is over.

May 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2205-D01	2205-M01	**Meeting Minutes and Miscellaneous Items:** Team consensus was reached that Revision 1 of the meeting minutes and action/decision items for the March 2022 Team meeting will become final. Team members acknowledged and did not object to the fact that these meeting minutes may become public as part of a final report at a later date.
2205-D02	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to migrate the interim groundwater monitoring of IWs 35, 71, 72, 73, 74, 75, 76, 77, and 78 into the annual Performance Monitoring reporting for the upcoming air sparging Interim Measure. Well locations are shown on Slide 15.
2205-D03	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue annual sampling of wells 01, 02, 71D, 44, 45, and 46.
2205-D04	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to install and sample a vertical delineation well screened 60 to 65 ft bls at IW07ID.
2205-D05	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue operation of the sparging wells operated in 2021 (former Hot Spot area) to prevent upgradient contamination from impacting treated zone.
2205-D06	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** MW21 is compromised based on DPT0177 results. Therefore, the team reached consensus to abandon MW21 and re-install a monitoring well with a screen interval from 60 to 70 ft bls.
2205-D07	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** For the former Hot Spot area, the Team reached consensus to continue annual sampling of wells 09, 10, 11, 12, 20, 49, 71, and 72.
2205-D08	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue biennial sampling of wells 04, 05, 06, 47, 48, 73, and 74 in the former 516S Hot Spot area.
2205-D09	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** For the eastern 516S area between the former Hot Spot and MW54, the Team reached consensus to continue annual sampling of wells 13, 14, 15, 19, 22, 50, 51, 70, 75, 76, and replacement well at MW21.
2205-D10	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue semi-annual sampling of wells 16, 18, 54, 59, 60, 61, 77, 78 and surface water locations 06, 07,and 08 to support evaluation of the effectiveness of sparging barrier to be protective of OFW.
2205-D11	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue operation of the eastern OFW sparging barrier.
2205-D12	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue annual sampling of wells 23, 24, 25, 27, 29, 30, 37, 38, 39, 40, 41, and 42.

May 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2205-D13	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to install a well screened 55 to 60 ft bls at MW42 based on results less than detection limits in samples 55, 60, 65 ft bls at DPT 0182 and adding it to annual monitoring.
2205-D14	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus that a well installation is not warranted in the grassy area between Crawlerway lanes based on low level DPT VC results.
2205-D15	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue semi-annual sampling of wells 31, 32, 33, 35, 36, 63, 68, 69, 79, 80 and surface water locations 03, 04, 05 to support effectiveness of sparging barrier.
2205-D16	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to add two surface water samples east of 05 to aid in determining if the western OFW sparging barrier needs to be extended.
2205-D17	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The Team reached consensus to continue operation of the western OFW sparging barrier.
2205-D18	2205-M03	**Annual Update on the Interim Measure Operation, Maintenance, and Monitoring at Area South of K7-516 and Interim Groundwater Monitoring of 516S and Eastern Components Cleaning Facility, May 2022:** The team reached consensus to sample IW14ID and IW02ID (if DNAPL not present) every five years to monitor 1,4-dioxane.
2205-D19	2205-M04	**Hydrocarbon Burn Facility (SWMU #007) Interim Groundwater Monitoring, May 2022:** The Team reached consensus to install three monitoring wells north of IW0067 cluster to delineate northern extent of LCP; two eastern wells screened in the shallow interval (1-11 ft bls), and a western well screened in the deep interval (30-40 ft bls).
2205-D20	2205-M04	**Hydrocarbon Burn Facility (SWMU #007) Interim Groundwater Monitoring, May 2022:** The Team reached consensus to install two monitoring wells east of IW080 cluster to delineate eastern plume boundary; shallow (1-11 ft) and deep (30-40ft bls).
2205-D21	2205-M04	**Hydrocarbon Burn Facility (SWMU #007) Interim Groundwater Monitoring, May 2022:** The Team reached consensus to install one monitoring well at IW0041 cluster to vertically delineate 1,4-dioxane GCTL exceedances in the 20 to 30 ft bls interval (screen in the deep interval is 30-40 ft bls).
2205-D22	2205-M04	**Hydrocarbon Burn Facility (SWMU #007) Interim Groundwater Monitoring, May 2022:** The Team reached consensus to sample six new monitoring wells during the 2022 IGWM event and analyze for select VOCs.
2205-D23	2205-M04	**Hydrocarbon Burn Facility (SWMU #007) Interim Groundwater Monitoring, May 2022:** The Team reached consensus to continue interim groundwater monitoring with a total of 39 wells to be sampled during 2022 IGWM (33 existing and 6 new).
2205-D24	2205-M05	**Corrosion Atmospheric Exposure Facility (PRL #239) Confirmatory Sampling, May 2022:** The Team reached consensus on the confirmation sampling results and conclusions.
2205-D25	2205-M05	**Corrosion Atmospheric Exposure Facility (PRL #239) Confirmatory Sampling, May 2022:** The Team reached consensus on the path forward for soil interim measure and groundwater sampling at LOC 1.
2205-D26	2205-M05	**Corrosion Atmospheric Exposure Facility (PRL #239) Confirmatory Sampling, May 2022:** The Team reached consensus on the path forward for a Statement of Basis and LUCIP for LOC 1 and LOC 2.

May 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2205-D27	2205-M05	**Corrosion Atmospheric Exposure Facility (PRL #239) Confirmatory Sampling, May 2022:** The Team reached consensus that no additional action is required at LOC 3 and LOC 4.
2205-D28	2205-M07	**Schwartz Rd Landfill PFAS Confirmatory Sampling Results, (PRL #237a) Center-wide PFAS Location of Concern #18, May 2022:** The Team reached consensus to conduct additional confirmation sampling activities under PRL #237a, Center-Wide PFAS Location of Concern #18, as proposed on Slide 19.
2205-D29	2205-M08	**Wilson Corners (SWMU #001) 2021 Annual Long-Term Monitoring Update, May 2022:** The Team reached consensus to perform the next LTM sampling event concurrently with interim measure (IM) baseline sampling prior to air sparge system installation.
2205-D30	2205-M08	**Wilson Corners (SWMU #001) 2021 Annual Long-Term Monitoring Update, May 2022:** The Team reached consensus that once the AS system install and start-up is complete, select wells from the LTM program will transition to performance monitoring and performance monitoring will be performed quarterly. The monitoring well network will be evaluated following the first performance monitoring event.
2205-D31	2205-M08	**Wilson Corners (SWMU #001) 2021 Annual Long-Term Monitoring Update, May 2022:** The Team reached consensus that the 2022 LTM plan will include 12 additional wells for water level gauging.
2205-D32	2205-M08	**Wilson Corners (SWMU #001) 2021 Annual Long-Term Monitoring Update, May 2022:** The Team reached consensus that the planned 2021 list of wells will be sampled in 2022. The list of wells and their screening intervals are provided on Slide 27.
2205-D33	2205-M10	**Un-Numbered Operational Areas (PRL #229) Pond Confirmatory Sampling Report Addendum Update, May 2022:** The Team reached consensus to proceed with PRL#229 food web modeling for birds exposed to PAHs as follows: Evaluate three avian receptors (dunlin to represent benthic invertebrate consumers, green heron to represent consumers of both invertebrates and fish (minnows were observed in the pond) and osprey to represent piscivore. Food web modeling will include an estimate of chemical intake based on maximum detections as well as calculations of no observed adverse effects level (NOAEL)-based quotients.
2205-D34	2205-M10	**Un-Numbered Operational Areas (PRL #229) Pond Confirmatory Sampling Report Addendum Update, May 2022:** The Team reached consensus that refined food web modeling will be completed for COPCs with NOAEL-based quotients greater than 1. In the refined food webs, chemical intake will be estimated based on the mean of detections and the site area relative to foraging area will be incorporated. The chemical intake will be compared to NOAELs and lowest observed adverse effects levels (LOAELs).
2205-D35	2205-M10	**Un-Numbered Operational Areas (PRL #229) Pond Confirmatory Sampling Report Addendum Update, May 2022:** The Team reached consensus on the receptors, exposure assumptions, NOAELs, LOAELs, etc. that are proposed for the food web modeling. Those parameters were developed in accordance with the Launch Complex 39 Area ERA and were included in Attachment A for Team review and consensus.

KSCRT Status of Open Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Comments
1712-A01	1712-M07	Team	If a document contains materials controlled under EAR99 (as determined by Export Control), the following clause shall be included on the first page (Action item): "EAR99 – NO LICENSE REQUIRED This information or item is controlled under the Export Administration Regulations (EAR) as EAR99. It may be exported without a license, expect to embargoed/designated countries (General Provision Six) or entities of concern. The designation of EAR99 does not constitute public release. Per Lori Ray, Reference STI TN#### NASA KSC Export Control Office, 321-867-9209."	Open	Standing Open Item
1810-A01	1810-M01	Team	NASA legal is concerned about copyright infringement regarding the inclusion of lab reports in documents. Reach out to labs to get release statements from them for the lab reports.	Open	Standing Open Item
2002-A03	2002-M10	A&Es	NASA requests that all A&E firms please large file transfer the .pdf and PowerPoint versions of the ADPs being presented so they can be uploaded to the folder and utilized for the team meeting. Cover letters should summarize the goal of the ADPs and the consensus statements should be provided for the minutes.	Open	Standing Open Item
2102-A09	2102-M13	Team	General Comment: FDEP observed that, based on the current monitoring network and plume depiction, one could think the plume is not delineated. Trepidations exist about making decisions without understanding how MNA has progressed. For clarity moving forward, the NASA lead requested that future documents include the end point assessment map that shows that we have plume delineation at a site, as well as a cross-section reference (e.g., what was the last map that brought us to the point of LTM, and where are we now [all the circa data circa]).	Open	Standing Open Item
1810-A02	1810-M04	NASA (RPO)	Launch Complex 39B (LC39B) (SWMU 009) - revisit team consensus 1810-D13 on weir installation based on permits date expiration and Year 2 PM results. (Team consensus reached to suspend the weir installation since CVOC concentrations adjacent to the pond are below their respective GCTLs and to re-evaluate the need for the weir prior to the SJRWMD and USACE permit expiration (11 July 2023).	Open	The Team reached consensus to evaluate Action Item 1810-M04, 1810-A02 in 2022 to re-evaluate the need for a weir near OFW. This item will remain open pending that evaluation.
2102-A07	2102-M13	NASA (RPO)	Industrial Area LTM, February 2021 (ORSY Site): FDEP inquired about past results for monitoring well ORSY-DRM-MW0001I. NASA stated they will look into the historical sampling results and get back with the Team.	Open	Findings and recommendations were submitted to FDEP.
2102-A08	2102-M13	NASA (RPO)	Industrial Area LTM, February 2021 (EHF Site): FDEP and NASA discussed the site. NASA stated that the MNA program is routinely optimized, but this site was never included in an engineering evaluation process. Mounding takes place at this location, and a building was removed in the past few years. NASA took an action item to review the sampling data in the RFI for this location.	Open	Findings and recommendations were submitted to FDEP.
2102-A10	2102-M13	NASA (RPO)	Industrial Area LTM, February 2021 (M7-505 Site): NASA took an action item to investigate if there are deeper data points around the location of MW0033.	Open	Findings and recommendations were submitted to FDEP.
2102-A11	2102-M13	NASA (RPO)	Industrial Area LTM, February 2021 (GSSP Site): FDEP inquired if this site was delineated to the northwest of the lake, and if we have vertical delineation at this location. NASA stated a site characterization was performed in 2012. In 2009, DPT55 was placed on the west side of the pond (west of MW0035) and DPT56 was located on the east side of the pond (20ft NW of the location of monitoring wells MW0033, MW0034, and MW0035). On the west side there were no detections, and on the east side there were low detections. Surface water was also sampled here. NASA took an action item to provide this data to FDEP for reference following the meeting.	Open	Findings and recommendations were submitted to FDEP.

KSCRT Status of Open Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Comments
2102-A12	2102-M13	NASA (RPO)	Industrial Area LTM, February 2021 (KARS Park 1 Site): FDEP inquired if this was a skeet range previously? NASA stated there was a rifle/pistol range with a skeet range to the west (reference slide 154). FDEP inquired on the groundwater in the rifle/pistol range area? NASA stated that the groundwater was not monitored in that area. Tetra Tech pulled up the old wells in a previous presentation figure during the meeting. The only well shown in the area of discussion was in the lead shot area (KP1-MW0007). FDEP stated they would like to know what happened west of LOC 9 if NASA can provide that data. NASA took an action item to look into this.	Open	Findings and recommendations were submitted to FDEP.
2106-A01	2106-M03	NASA/FDEP	NASA Remediation Program Updates, June 2021: FDEP stated that, regarding the existing Statement of Basis template being acceptable, it would be best for FDEP and NASA to have a follow up meeting to review the current template. FDEP and NASA can decide from there.	Open	
2106-A02	2106-M03	NASA/FDEP	NASA Remediation Program Updates, June 2021: Regarding updating the Statement of Basis (SB) for a site after an IM has taken place (post initial SB publication), FDEP agrees that this is an administrative item and it does have significance. For the Federal Facilities Branch, it may not be critical to see the change in SB post IM, but the RCRA Program may have a different perspective. We need an understanding of what are considered significant changes on the permit, what triggers public notification, etc. That is a conversation NASA and FDEP should have to provide firmer ground on what is required going forward.	Open	
2201-A01	2201-M04	NASA	Center-Wide Per- and Polyfluoroalkyl Substances (PRL #237) Phase III Solid Waste Management Unit Site Assessment and Confirmatory Sampling Report Summary, January 2022: NASA stated that the red boundary (PFAS LOC) in the figure on slide 90 is for the fire station, and not for Central Supply. NASA will gather together the figures they are investigating, and provide to FDEP.	Open	NASA met with Michelle to create figures. Revision to the maps are needed and once completed, NASA will provide the maps to FDEP.
2201-A03	2201-M04	NASA	Center-Wide Per- and Polyfluoroalkyl Substances (PRL #237) Phase III Solid Waste Management Unit Site Assessment and Confirmatory Sampling Report Summary, January 2022: NASA owes FDEP an update on Q6 Radar Station (SWMU #112), so they will put together an ADP to review the RFI they completed.	Closed	contract was modified and NASA will present results for this in a future presentation

KSCRT Closed Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Date Closed	Closure Comments
1906-A01	1906-M01	NASA (Ryan O'Meara)	Per FDEP correspondence letter dated (March 22, 2019) RPM Ryan O'Meara will provide a site history of the Visitor Center Maintenance Area (SWMU 099) at a future team meeting.	Closed	10/2/2019	Discussion earlier this month with FDEP
1906-A02	1906-M11	FDEP	Discuss with FDEP Management to ensure Alternative Soil Cleanup Target Levels approved for use by Cape Canaveral Air Force Station for barium and copper may be applies to Kennedy Space Center sites.	Closed	8/8/2019	FDEP indicated that the ASCTLs that have been approved for use at CCAFS by the University of Florida can be referenced and applied to KSC sites. FDEP sent the Team an email on this subject on 6/27/19.
1908-A01	1908-M03	NASA Remediation Program wide	An action item was added for the NASA Remediation Program to begin adding a references section in all new and revised LUCIP documents moving forward.	Closed	2/6/2020	FDEP approved the use of a site-specific document reference within the NASA LUCIPs that states, "Site-specific documentation is available for review by contacting the Environmental Assurance Branch at telephone number (321)867-6971", moving forward.
1908-A02	1908-M04	FDEP	FDEP will check with their records department to add language that requires the preferred submission method of a report cover page with the CD only for report submittals moving forward.	Closed	10/23/2019	No FDEP mentioned record - this submittal method is acceptable.
1910-A01	1910-M02	NASA & TetraTech	Launch Complex (LC) 34 (SWMU CC054): DNAPL Source Zone Site Characterization Engineering Evaluation and Remedial Alternatives Evaluation (RAE) for the DSZ discussed the MWs in Layer 8 vertically delineating the TCE (four existing and four newly installed wells were sampled). The Team discussed the Layer 8 wells and recommended they be sampled as part of the next annual plume-wide sampling event scheduled in Dec 2020. An action item for NASA was added to work with Tetra Tech to make sure the deep wells get incorporated into the sampling program accordingly.	Closed	4/16/2020	These wells have been incorporated
2002-A01	2002-M07	A&Es	NASA requests that any updates to the PFAS six questionnaires be provided to Mark Speranza with Tetra Tech so he can utilize those same questions at other sites where Tetra Tech is investigating PFAS.	Closed	4/16/2020	No updates to questionnaires
2002-A02	2002-M07	FDEP	FDEP to look into the review and responses of the following document "White Paper: Development of Surface Water Criteria for PFOA and PFOS based on the protection of aquatic receptors" published by the Center for Environmental & Human Toxicology at the University of Florida , and provide input back to the Team.	Closed	6/18/2020	John Winters looked into and provided response on 05/22/2020 to the Team.
2008-A01	2008-M02	AECOM	Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building Area (MLP/VAB), Solid Waste Management Unit (SWMU #056) Corrective Measures Implementation (CMI) and Interim Measures (IM) Update, August 2020: There seems to be a gap of treatment with regards to wells IS1, 1D and 6IR and if the HS2 area is turned off, is there a concern of contaminants slipping through? AECOM clarified that these sparge wells are spaced closely but not operating at the same time. The ROI distance and spacing in the expansion was based on what was learned from the original system design. Looking at DO and ORP, and performance monitoring, AECOM is not seeing data that this area is not being treated. NASA inquired if the wells 1S, 1D, and 6IR are being sampled? AECOM stated these are not being sampled, but they will take an action to research why and come back with an explanation to FDEP.	Closed	10/8/2020	Teams meeting with AECOM on 8/27/20 - The recently observed ROI of the BS system overlaps at the space between treatment barrier walls, therefore there is not gap in treatment. IW0006IR was not sampled because collective data from previous DPT investigations indicated VOCs > 100 ug/L was not present at the 6IR location and that the ROI of treatment wells was treating the targeted >100 VC plume as designed. IW0001S was not sampled because it is not within the treatment interval. Conclusion: IW0001D and IW0006IR will be included in the upcomming September 2020 sampling event. IW0006IR will continue to be monitored for VOC and dissolved oxygen (DO) during OM&M events.
2008-A03	2008-M02	AE Firms	Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building Area (MLP/VAB), Solid Waste Management Unit (SWMU #056) Corrective Measures Implementation (CMI) and Interim Measures (IM) Update, August 2020: NASA asked the AE firms to query their teams to find out what sites are sampling using PDBs.	Closed	10/8/2020	HGL and Tetra Tech are not using PDBs at any of their sites. AECOM to look into the sites where this may be used and will report back to NASA. AECOM followed up with NASA that two sites were planned for use of PDBs to include Wilson Corners and the VAB LTM. Per NASA's request, PDBs will no longer be used in sampling moving forward, but the preferred "low-flow" sampling will be used from this point on.

KSCRT Closed Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Date Closed	Closure Comments
2008-A04	2008-M03	AECOM	GSRY Reclamation Yard (SWMU #0010) - An April 2020 approval letter from FDEP regarding UIC at the site statied that since Provect-OX was applied to the saturated subsurface in multiple LDA/caisson excavation cells, monitoring for appropriate Underground Injection Control (UIC) parameters was recommended for a subset of wells, and should be analyzed for the iron, manganese, and sodium. After one year, sampling frequency and locations should be assessed. This means that the Team would need one additional sampling round to meet that year timeframe. AECOM will take an action to update the presentation prior to uploading to RIS for the records	Closed	10/8/2020	AECOM's Jennifer Joyal confirmed this presentation was updated prior to uploading to RIS.
2008-A05	2008-M07	FDEP	FDEP stated that the department has been doing a pilot project beginning with listing out dry cleaner and other cleanup sites. This PFAS tracking spreadsheet has minimal data and link to the reports associated with them, and the state is really trying to identify the max concentrations by media type. It is interesting to see what is coming up. AECOM inquired if the state has a list issued for the hazardous waste sites? AECOM did locate the dry-cleaning list. FDEP stated there are links in the spreadsheet to all different facilities to include landfills and electroplaters. There is an updated version of the tracking sheet, and FDEP will send out a copy to the Team.	Closed	10/8/2020	Laura Barrett (FDEP) provided the latest version of the tracking sheet to the Team.
1906-A03	1906-M09	NASA (Deda Johansen)	Component Refurbishment and Chemical Analysis (CRCA) facility (SWMU 041) Follow-up with NASA Compliance to determine if piping/sumps within the main CRCA building (K6-1696) and adjacent hazardous storage building are double-lined and compliant with Spill Prevention, Control, and Countermeasure (SPCC) requirements.	Closed	12/10/2020	NASA reached out to Jeff Bobersky (NASA Compliance SPCC) on this topic, and was referred to Albert Gibson (NASA Compliance Haz Materials/ Haz Waste) for answers. This piping is not subjec to SPCC double-lined requirements, and should be discussed from a hazardous materials/haz waste compliance standpoint. Project has been reassigned from Ryan O'Meara to Deda Johansen
2010-A01	2010-M02	NASA	Components Refurbishment and Chemical Analysis (CRCA) Solid Waste Management Unit (SWMU) #041, Year 1 Operations Maintenance and Monitoring: NASA took an action item to transition MW0032 to quarterly monitoring.	Closed	12/10/2020	MW0032 has been transitioned to quarterly monitoring
2010-A02	2010-M02	NASA (Deda Johansen)	Components Refurbishment and Chemical Analysis (CRCA) Solid Waste Management Unit (SWMU) #041, Year 1 Operations Maintenance and Monitoring: NASA took the action to present a basket item after the next two rounds of quarterly groundwater data, which will take place in October 2020 and January 2021.	Closed	12/10/2020	Tetra Tech presented groundwater data in a basket item at the 12/10/2020 KSCRT meeting to update FDEP on the October sample results for monitoring well CRCA-MW0032, and propose installation of MW0033 to monitor the downgradient plume edge west of MW0032
2010-A03	2010-M3	NASA (Anne Chrest)	KSC Headquarters Building Area (KHQA) (SWMU #104) Perimeter Soil IM Completion: NASA will provide a copy of the Interim Measure Work Plan for LOC 2D and 2E to FDEP	Closed	12/10/2020	Anne provided after meeting - FYI only and previously submitted and approved by FDEP earlier regime.
2010-A04	2010-M04	Tetra Tech	LC34 DNAPL Source Zone Remediation Alternative Evaluation (RAE) Discussion and Proposed Pilot Study, October 2020: Aquifer testing was conducted in 2019 for Layer 7. During the test, an upward gradient was observed in well pairs screened in Layers 6 and 8, suggesting an upward gradient. FDEP inquired if the Team recalls how much of a gradient was observe? TetraTech will take an action to provide that information following the meeting to FDEP.	Closed	12/10/2020	Mark Jonnet (Tetra Tech) provided the requested information to Kirk Johnson (FDEP) by email on 10/9/2020. Water level elevations at the paired wells differed by 0.7 to 0.8 ft and the average vertical gradient was 0.02 ft/ft.
2008-A02	2008-M02	AECOM & NASA	Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building Area (MLP/VAB), Solid Waste Management Unit (SWMU #056) Corrective Measures Implementation (CMI) and Interim Measures (IM) Update, August 2020: An action item was assigned to NASA and AECOM to convene and review past data and devise a plan to present to the state regarding the data gap in the northwest portion of the site, and the downgradient wells that serve as the points of compliance, where the vinyl chloride results have recently exceeded its groundwater cleanup target level (1 µg/L) and show signs of increasing.	Closed	2/17/2021	AECOM is under contract to conduct additional groundwater assessment and installation of wells to the east of the biosparge barrier and railroad tracks. Up to 10 monitoring wells will be installed based on the results of the groundwater assessment.

KSCRT Closed Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Date Closed	Closure Comments
2012-A01	2012-M02	NASA (Deda Johansen)	Maintenance and Operations (M&O) Building (SWMU #014) Confirmation Sampling Work Plan for Soil Land Use Control Implementation Plan (LUCIP) Removal, December 2020: NASA (Deda Johansen) took an action item to look more into the site history for data from the prior investigation	Closed	2/17/2021	A bibliography with brief descriptions of document content was prepared. It will be included in HGL's upcoming Confirmatory Sampling Work Plan for Soil LUCIP Close-out
2012-A02	2012-M03	NASA (Mike Deliz)	Review of Site Status and Deliverables, December 2020: FDEP inquired if NASA will be going over the outstanding CAMP documents later on, or if a list could be provided. NASA (Mike Deliz) took an action item to consolidate and send the outstanding document summary to FDEP	Closed	2/17/2021	A consolidation of the outstanding CAMP documents was provided to FDEP following the meeting
2102-A01	2102-M05	NASA (DJ)	Contractors Road Heavy Equipment Area (SWMU #055) 2020 Annual Groundwater Monitoring, February 2021: FDEP asked about the TDS and sodium results in the bioremediation area that are above Class GII groundwater standards. NASA responded that the sodium and TDS are compared to the KSC background levels, and took an action to provide the approved plan and data to FDEP for future reference.	Closed	4/28/2021	Completed - NASA sent both the background study and the approval letter to FDEP on 2/19/2021. A follow-up meeting was held between NASA, FDEP and HGL on 3/1/2021. FDEP requested a copy of the Decision Process Document, and as a follow-on later requested a copy of the actual background study. On 4/18/2021, FDEP recommended that NASA identify a suite of wells at the site that can be used to generate site-specific background information. NASA will follow that recommendation.
2102-A02	2102-M05	NASA (DJ)	Contractors Road Heavy Equipment Area (SWMU #055) 2020 Annual Groundwater Monitoring, February 2021: FDEP inquired if NASA has an UIC approval order to identify what NASA is using? NASA stated UIC monitoring was approved as part of the IM work plans that will be provided to FDEP .	Closed	4/28/2021	NASA provided FDEP with the 2016 and 2018 Bioremediation Work Plans that included the UIC Notifications as an appendix in each.
2102-A03	2102-M05	NASA (DJ)	Contractors Road Heavy Equipment Area (SWMU #055) 2020 Annual Groundwater Monitoring, February 2021: FDEP inquired if the Team resampled for benzene and chloroform at the site, and found these not to be a risk? NASA performed a real-time investigation during the KSCRT meeting of past data and did not find resampling of benzene. Since no soil benzene source was identified in soil or groundwater, and the detections did not exceed the commercial level, NASA submitted these sampling results to the NASA Industrial Hygiene Office for review. FDEP would like to see the email to help understand the resampling and rationale of the dropping of these chemicals off the sampling list. NASA will provide this benzene data to FDEP and have a discussion to review the data and also the UIC information from May/June 2014.	Closed	4/28/2021	NASA sent the Vapor Intrusion Memorandum to FDEP on 2/19/2021. A follow-up meeting was held between NASA, FDEP and HGL on 3/1/2021. FDEP's primary concern was that the sub-slab vapor results would be acted on if needed. NASA explained that KSC's Industrial Hygienist was consulted about the findings which FDEP had concerns about and found no need for action, and that vapor sampling results will continue to be provided to KSC's Environmental and Occupational Health organization.
2102-A04	2102-M10	NASA (DJ)	GSA Reclamation Yard (SWMU#010), DPT Results, February 2021: FDEP pointed out that the iron in monitoring well MW0071 exceeded the secondary standard. What is the basis for not including monitoring well MW0071? NASA responded that the results for iron were within the range of background values for KSC, and will provide documentation. FDEP stated that site-specific background data may be needed at some point. NASA took an action item to look at the RFI for that data, and provide to FDEP.	Closed	4/28/2021	The RFI and CMS groundwater metals data for GSRY were reviewed. The majority of the data are from the upper horizon of the aquifer (30 ft. or shallower), while the zone treated with Provect-OX™ was 40-50 ft below ground surface. In the 2021 wet season groundwater sampling event, samples for iron will be collected from a site well outside the treated area.
2102-A05	2102-M13	NASA (RO)	needs to be a downgradient well establishing the extent of the plume at FSA1 (PRL #157). Do we have one? AECOM took an action item to look into that request.	Closed	4/28/2021	NASA will be installing a downgradient well.
2102-A06	2102-M13	NASA (RO)	Industrial Area LTM, February 2021 (FSA1 Site): NASA stated they will take a look into the prior DPT data to see if we need to install that well and provide the Team with an update and make a recommendation	Closed	4/28/2021	NASA will be installing a downgradient well.
2104-A01	2104-M04	NASA (AMC)	Area South of K7-0516 and Eastern Component Cleaning Facility (SWMU #030) Interim Measure, Operation, Maintenance, & Monitoring, and Performance Monitoring and Interim Groundwater Monitoring, April 2021: An action item to incorporate surface water sampling into the CCF monitoring program was assigned to NASA and Tetra Tech.	Closed	6/22/2021	This surface water sampling was incorporated in the barge canal sampling program moving forward.

KSCRT Closed Action Items

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Date Closed	Closure Comments
2012-A03	2012-M03	NASA (MD)	Review of Site Status and Deliverables, December 2020: Mike will summarize the look ahead and send a detailed version to FDEP that will provide site histories, what NASA has completed, and where they are going (plume maps, the works). FDEP inquired if they could also obtain a copy of the slides being presented today. NASA confirmed they would provide the slides via large file transfer.	Closed	9/15/2021	Look ahead and maps have been provided to FDEP by NASA
2104-A02	2104-M04	NASA (AMC)	Area South of K7-0516 and Eastern Component Cleaning Facility (SWMU #030) Interim Measure, Operation, Maintenance, & Monitoring, and Performance Monitoring and Interim Groundwater Monitoring, April 2021: FDEP requested that the sampling plans for 2021 be documented in a letter since there will not be a report submitted this year for this site. NASA stated they would put a memo together and provide the work plan for the next year of monitoring.	Closed	9/15/2021	FDEP referenced the April 2021 advance data package (ADP) in their review letters dated May 11, 2021 (for CCF, SWMU #030) and May 12, 2021 (for 516S, SWMU #100). Both letters state additional groundwater assessment activities will be conducted in 2021. This work has been delayed and will now occur in early 2022. The proposed sampling plans were presented in the April 2021 ADP. Revisions to the CCF East sampling plan will be presented at the September Team meeting. This meets the intent of this action item.
2106-A03	2106-M03	NASA	NASA Remediation Program Updates, June 2021: FDEP received a request from Florida Today requesting documents associated with PFAS on KSC. NASA stated they will provide the Oculus document/report names to FDEP to assist with the inquiry.	Closed	9/15/2021	NASA assisted FDEP with this inquiry
2012-A04	2012-M04	NASA (MD)	Firex Water Tank (SWMU #069) Confirmation Sampling Work Plan for Soil LUCIP Removal, December 2020: NASA (Mike Deliz) took an action item to see what NASA can find out on these discharge reports.	Closed	11/9/2021	Internal discharge records were located and saved to the NASA shared drive. No additional spill records have been located for the release(s). The site entered the RCRA process through a SWMU Assessment and was added to KSC's RCRA Permit Appendix A. A Discharge Report Form does not appear to have been filed.
2109-A02	2109-M09	NASA (MJD)	KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021: NASA has conducted sampling in the Indian River for PFAS. NASA to provide FDEP with the surface water sample results from the Indian River.	Closed	11/9/2021	Sample results provided to FDEP
2109-A01	2109-M09	NASA (AC)	Wilson Corners (SWMU 001) High Concentration Plume Site Characterization and Revised AS System Layout, September 2021: NASA will send historic groundwater sampling data to FDEP.	Closed	1/11/2022	This data was provided to FDEP on November 9, 2021, during the KSCRT meeting.
2109-A03	2109-M14	NASA (DJ)	General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021: NASA asked that the pre-Interim Measure UIC sample results be added to the applicable figure and requested that AECOM update the table with pre-treatment results in the ADP and get that back to the Team for the records.	Closed	1/11/2022	The pre-Interim Measure UIC results were included in the UIC discussion in the annual groundwater monitoring report that was submitted in November 2021.
2201-A02	2201-A02	NASA	Center-Wide Per- and Polyfluoroalkyl Substances (PRL #237) Phase III Solid Waste Management Unit Site Assessment and Confirmatory Sampling Report Summary, January 2022**:** NASA will update the summary table for KARS Park I and email back out to the Team.	Closed	5/3/2022	addressed in the meeting minutes
2203-A01	2203-A01	NASA	Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022: FDEP requested that HGL provide information regarding the number of sample points necessary for Mann-Kendall statistical analysis.	Closed	5/3/2022	HGL provided the requested information to FDEP in a follow up email on March 8, 2022 to FDEP.
2203-A04	2203-A04	NASA	GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022: FDEP requested a synoptic figure of the last two clean sampling events of the two wells.	Closed	5/3/2022	AECOM provided figure to FDEP on March 9, 2022
2203-A06	2203-A06	NASA	CAMP Deliverables Look-Ahead and Document Requirements, March 2022: FDEP inquired if the CAMP document being presented is the document sent around March 1? NASA confirmed that it was, but that it was revised since then. For PRL 237, there were two errors on dates (inadvertently switched), but will send this after the meeting.	Closed	5/3/2022	NASA provided the updated CAMP to team members

APPENDIX B

FIELD NOTES AND FIELD LOGS
(PROVIDED IN THE ELECTRONIC COPY ONLY)

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0715 - Dustin Slater & Madan Pursotam onsite -
Weather: Sunny, high 85°F.
0720 - H&S meeting -
0730 - Begin opening wells for stabilization
1000 - Start collecting water levels
↳ See water level log for data collected -
- Some wells were unable to be located
WILC-MW0356
WILC-MW0040 & WILC-NPSH-MW0018
WILC-NPSH-MW0023
WILC-MW0079
- Will bring metal detector and try to find them again -
- Also WILC-MW0047I has a huge bee hive under cap on stickup -
We couldn't get to that one -
1345 - finished collecting water levels on the wells we could find -
- Begin looking for the ones we couldn't again -
1530 - Still couldn't locate wells. Will bring metal detector tomorrow and search again -
1545 - Offsite -

DS

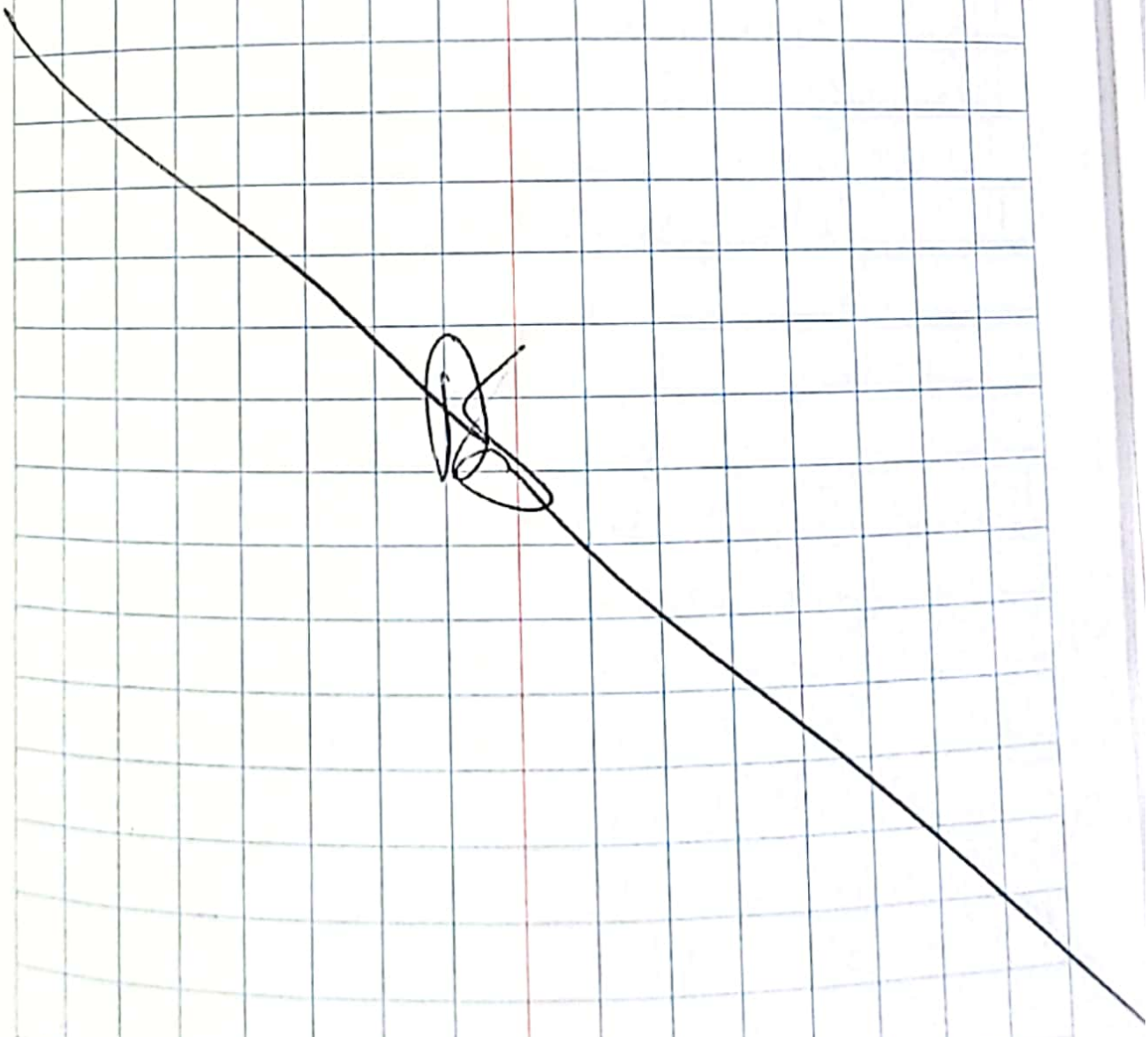
12/14/21 Wilson Corners DS/MP

p. 2 of 8

0715 - Dustin Slater & Madalyn Pannotan onsite -
Weather: Light rain, 72°F.
H&S meeting -
0730 - Begin looking for wells with metal detector.
0755 - Call Linnea to ask about wells & see if we should start sampling -
0815 - Start calibrating -
0845 - Move to first wells to begin sampling.
0931 - Collect WILC-MW0126-020.0-20211214
0953 - Collect WILC-NPSH-MW0030-045.5-20211214
1028 - Collect WILC-NPSH-MW0020-031.5-20211214
1031 - Collect WILC-MW0109-020.0-20211214
1115 - Collect WILC-MW0070-042.5-20211214
1118 - Collect WILC-NPSH-MW0027-012.5-20211214
1206 - Collect WILC-MW0096-020.0-20211214
1220 - Collect WILC-MW0095-005.5-20211214
1244 - Collect WILC-MW0097-031.5-20211214
1317 - Collect WILC-MW0077-031.5-20211214
1321 - Collect WILC-MW0114-020.0-20211214
1359 - Collect WILC-MW0079-042.5-20211214 & WILC-MW0111-031.5-20211214
1410 - Sampling complete for the day.

DS

1430- Pack coolers for lab pickup. Fill out COC-
1455- Head to badging office to meet ENCO-
1515- Samples picked up by ENCO-
1520- Head to CCF to dump water out.
1545- Water put in drums-
1600- Work complete for the day - Offsite-

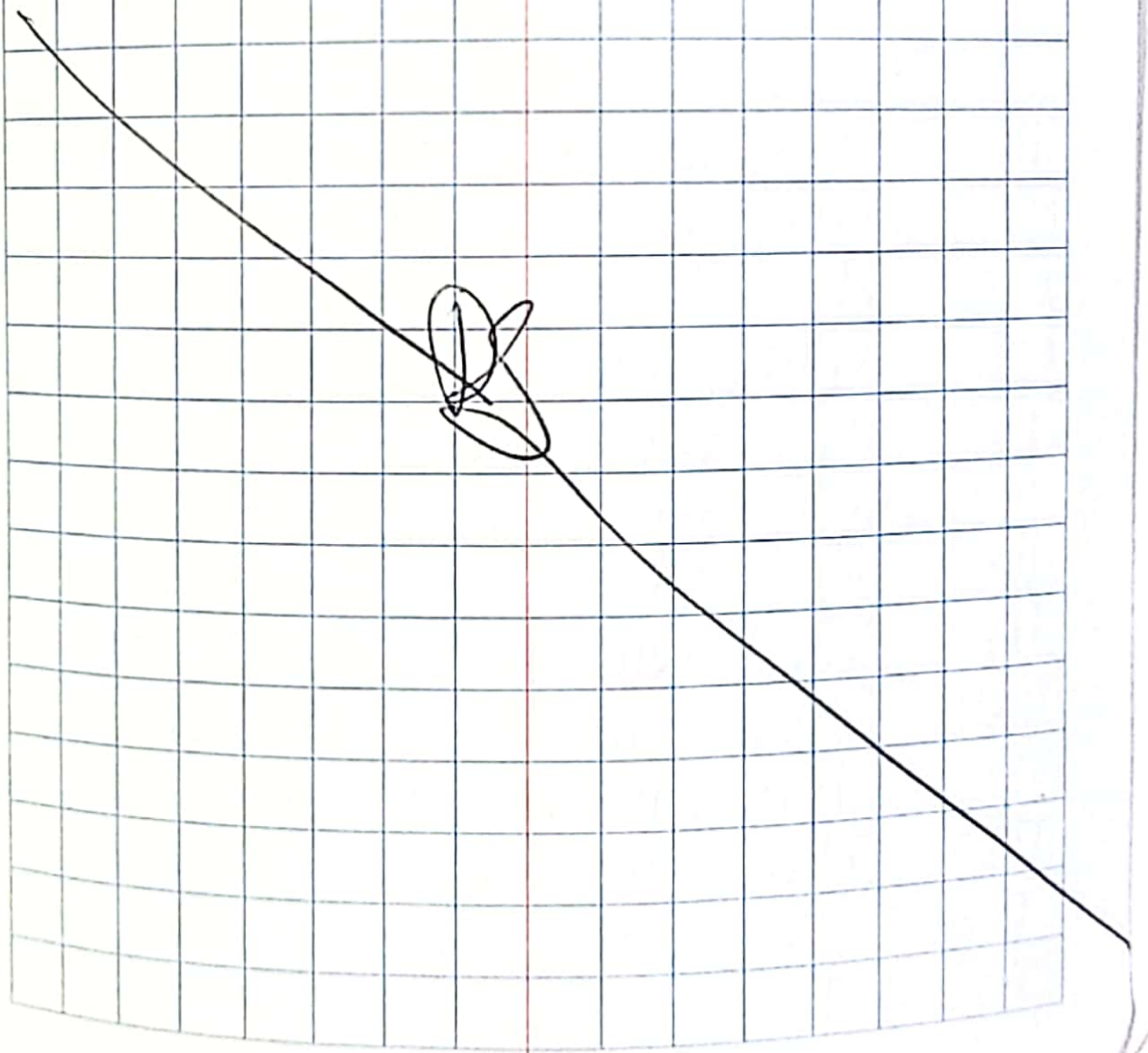


0730 – Dustin Slater onsite –
Weather: Overcast, 68°F –
– Begin at WILC-MW00460
0848 – Collect WILC-MW00460-042.5-20211215
0905 – Begins Raining Really hard –
0938 – Collect WILC-MW00485-007.0-20211215
1018 – Collect WILC-MW0107-020.0-20211215
1025 – Rains slows to a light sprinkle.
1030 – Madam Pyrsotama onsite.
1053 – Collect WILC-MW00615-007.5-20211215
1128 – Collect WILC-MW00685-008.0-20211215 &
WILC-MW00601-031.5-20211215
– Rain picks up again to a heavy downpour.
1256 – Collect WILC-MW0054I-031.5-20211215
1300 – Rain stops –
1340 – Collect WILC-MW00540-042.5-20211215
1349 – Collect WILC-MW00535-006.5-20211215
1425 – Collect WILC-MW00530-042.5-20211215
1419 – Collect WILC-MW0078-067.5-20211215
1455 – Collect WILC-MW0132-061.0-20211215
1515 – Collect WILC-MW0055D-042.5-20211215
1534 – Collect WILC-MW0129-020.0-20211215

12/15/21 Wilson Corners 05/4P

p. 5 of 8

1540- Sampling complete -
- Pack cooler & fill out COC.
1600- Madam offsite to bring samples to ENCO.
1605- Austin brings purge water to the CCF to put into drum.
1630- Water dumped into drum.
- Austin offsite.



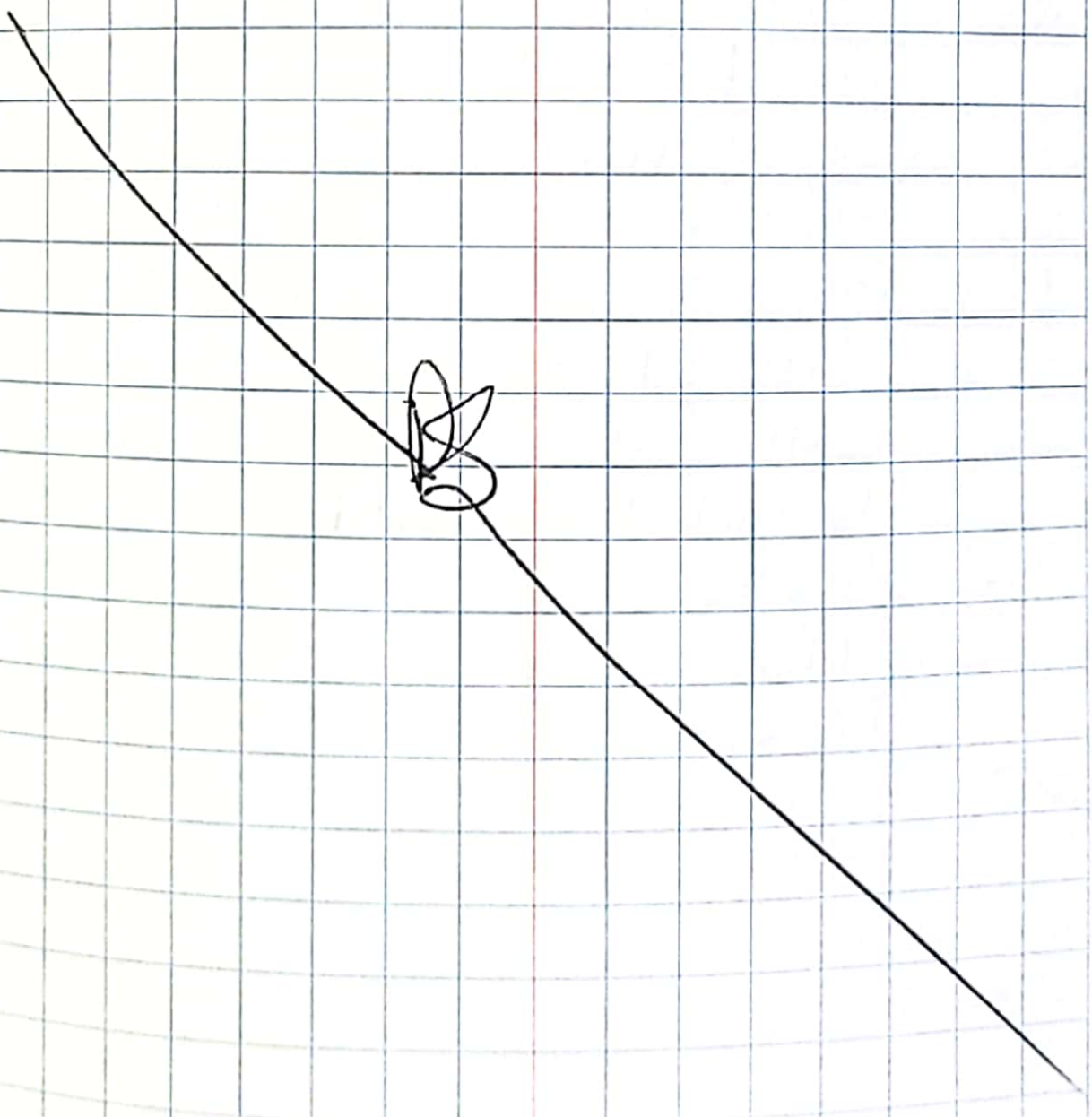
0645 - Austin Slater & Madam Parsafan onsite.
Weather: Light rain, 69°F.
- More rain expected in the morning -
- H&S meeting
0745 - Begins to rain heavier.
0800 - Madam heads to wells near maintenance facility.
- Austin moves to wells across the street.
0831 - Collect WILC-NPSH-MW0011-030.5-20211216
0851 - Collect WILC-MW0087-020.0-20211216
0908 - Collect WILC-MW0117-020.0-20211216
0926 - Collect WILC-MW0088-031.5-20211216
1019 - Collect WILC-MW0090-031.5-20211216
1041 - Collect WILC-MW0154-010.0-20211216
1105 - Collect WILC-MW0091-004.0-20211216
1126 - Collect WILC-MW0122-020.0-20211216
1254 - Collect WILC-MW0115-020.0-20211216
1318 - Collect WILC-NPSH-MW0010-031.5-20211216
1339 - Collect WILC-MW0074-004.5-20211216
1008 - Collect WILC-MW0118-042.5-20211216
1421 - Collect WILC-MW0210-042.5-20211216

MS

1435- Head to CCF to dump water into drums.

1500- Offsite.
Dustin brings cooler to ENCO to drop off.

1545- Samples dropped off at lab.



12/17/21 Wilson Corners DS/MP

p- 8 of 8

0645- Dustin Slater & Madam Parsotan onsite.
Weather: Sunny, some clouds, 70°F.
0810 - Begin sampling.
0839 - Collect WILG NPSH-MW0019-031.5-20211217
0852- Collect WILG-MW0152-010.0-20211217
0921 Collect WILG-MW0069-031.5-20211217
0929- Collect WILG-MW0153-025.0-20211217
- Head to CCF to dump water & collect IDW samples.
0945- Collect IDW01-20211217 pH= 7.32
1000- Collect IDW02-20211217 pH= 7.29
IDW01 ID = 222845 80% full
IDW02 ID = 222846 40% full
Clamshell ID = 222841
1030- Offsite.
Madam will take coolers to ENCO.

Wilson Corners LTM Sampling

Date 12/13/24

	Well ID	Screen Interval	DTW	Tubing depth
1	WILC-NPSH-MW0027	10 to 15	2.82	12.5 ✓
2	WILC-MW0048S	2 to 12	probe stuck at 5.25	7.0 – Roots on probe ✓
3	WILC-MW0053S	2 to 12	5.78	7.0 ✓
4	WILC-MW0060S	2 to 12	6.07	7.0 ✓
5	WILC-MW0061S	2 to 12	6.30	7.0 ✓
6	WILC-MW0074	2 to 12	4.86	7.0
7	WILC-MW0091	2 to 12	4.84	7.0
8	WILC-MW0095	2 to 12	4.12	7.0 ✓
9	WILC-MW0152	5 to 15	1.38	10.0
10	WILC-MW0154	5 to 15	2.28	10.0
✗ 11	WILC-MW0156	5 to 15		10.0
12	WILC-NPSH-MW0010	29 to 34	5.70	31.5
13	WILC-NPSH-MW0011	28 to 33	5.94	31.5
✗ 14	WILC-NPSH-MW0018	29 to 34		31.5 Destroyed
15	WILC-NPSH-MW0019	29 to 34	3.52	31.5
16	WILC-NPSH-MW0020	29 to 34	4.82	31.5 ✓
✗ 17	WILC-MW0040	29 to 34		31.5 CNL
✗ 18	WILC-MW0047I	29 to 34		31.5 lots of bees under cap
19	WILC-MW0054I	29 to 34	5.98	31.5 ✓
20	WILC-MW0060I	29 to 34	5.95	31.5 ✓
21	WILC-MW0069	29 to 34	2.41	31.5
22	WILC-MW0077	29 to 34	5.62	31.5 ✓
23	WILC-MW0087	15 to 25	6.15	20.0
24	WILC-MW0088	29 to 34	6.21	31.5
25	WILC-MW0090	29 to 34	5.60	31.5
26	WILC-MW0096	15 to 25	4.28	20.0 ✓
27	WILC-MW0097	29 to 34	4.27	31.5 ✓
28	WILC-MW0107	15 to 25	3.42	20.0 ✓
29	WILC-MW0109	15 to 25	5.02	20.0 ✓
30	WILC-MW0111	29 to 34	3.00	31.5 ✓
31	WILC-MW0114	15 to 25	6.86	20.0 ✓
32	WILC-MW0115	15 to 25	4.98	20.0
33	WILC-MW0117	15 to 25	5.82	20.0
34	WILC-MW0122	15 to 25	4.62	20.0
35	WILC-MW0126	15 to 25	6.03	20.0 ✓
36	WILC-MW0129	15 to 25	~~8.22~~ 8.22	20.0
37	WILC-MW0153	20 to 30	1.38	25.0
38	WILC-MW0021D	40 to 45	3.87	42.5
✗ 39	WILC-NPSH-MW0023	37.5 to 42.5		40.0 – Destroyed
40	WILC-NPSH-MW0030	43 to 48	3.36	45.5 ✓
41	WILC-MW0046D	40 to 45	4.95	42.5 ✓
42	WILC-MW0053D	40 to 45	5.88	42.5 ✓

Wilson Corners LTM Sampling

Date 12/13/24

	Well ID	Screen Interval	DTW	Tubing depth
43	WILC-MW0054D	40 to 45	5.60	42.5 ✓
44	WILC-MW0055D	40 to 45	5.00	42.5
45	WILC-MW0070	40 to 45	4.71	42.5 ✓
46	WILC-MW0079	40 to 45		42.5 ✓
47	WILC-MW0118	40 to 45	5.91	42.5
48	WILC-MW0078	65 to 70	5.87	67.5 ✓
49	WILC-MW0130	56 to 66	5.10	61.0 ✓

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0021D-042.5-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0021D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	3.54
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	13:54			0	3.54									
12/16/2021	14:14	0.05	1	1	3.64	6.91	2439.8	0.08	1.74	24.00	40.3	1.27		
12/16/2021	14:16	0.05	0.1	1.1	3.64	6.90	2464.1	0.08	2.54	23.61	35.2	1.29		
12/16/2021	14:18	0.05	0.1	1.2	3.64	6.90	2447.3	0.08	1.74	23.54	34.4	1.28		
12/16/2021	14:20	0.05	0.1	1.3	3.64	6.90	2461.3	0.07	3.94	23.53	33.8	1.28		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:54	14:20	26	1.3	6.90	2461.3	0.07	3.94	23.53	33.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0046D-042.5-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0046D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	4.93
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	8:13			0	4.93									
12/15/2021	8:33	0.05	1	1	4.97	6.98	3900.0	0.12	23.95	23.17	-4.4	2.09		
12/15/2021	8:43	0.05	0.5	1.5	4.97	6.97	3935.7	0.10	18.86	23.28	-1.1	2.11		
12/15/2021	8:45	0.05	0.1	1.6	4.97	6.96	3924.5	0.11	17.55	23.28	-0.9	2.10		
12/15/2021	8:47	0.05	0.1	1.7	4.97	6.96	3927.5	0.10	16.85	23.30	-0.9	2.10		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:13	8:47	34	1.7	6.96	3927.5	0.10	16.85	23.30	-0.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0048S-007.0-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0048S Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	0
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	9:02			0	N/A									
12/15/2021	9:22	0.05	1	1	N/A	6.56	435.8	0.11	2.00	23.39	-52.8	0.21		
12/15/2021	9:27	0.05	0.25	1.25	N/A	6.55	434.8	0.11	1.67	23.39	-54.8	0.21		
12/15/2021	9:32	0.05	0.25	1.50	N/A	6.55	434.7	0.11	2.15	23.48	-55.6	0.21		
12/15/2021	9:37	0.05	0.25	1.75	N/A	6.55	434.5	0.10	1.64	23.48	-55.7	0.21		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:02	9:37	35	1.75	6.55	434.5	0.10	1.64	23.48	-55.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0053D-042.5-20211215 Sampler: Madan Parsotan

Well ID: WILC-MW0053D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	5.37
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	13:58			0	5.37									
12/15/2021	14:18	0.05	1	1	5.41	6.64	3004.5	0.05	27.38	26.23	49.7	1.58		
12/15/2021	14:20	0.05	0.1	1.1	5.41	6.63	3040.7	0.05	15.26	26.21	50.8	1.61		
12/15/2021	14:22	0.05	0.1	1.2	5.71	6.64	2995.2	0.04	17.77	26.20	50.4	1.58		
12/15/2021	14:24	0.05	0.1	1.3	5.71	6.64	3013.0	0.04	14.88	26.20	49.8	1.59		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:58	14:24	26	1.3	6.64	3013.0	0.04	14.88	26.20	49.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0053S-006.5-20211215 Sampler: Madan Parsotan

Well ID: WILC-MW0053S Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	5.56
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	13:22			0	5.56									
12/15/2021	13:42	0.05	1	1	5.78	6.56	742.3	0.08	0.73	25.22	56.4	0.37		
12/15/2021	13:44	0.05	0.1	1.1	5.78	6.58	746.2	0.08	0.76	25.17	54.5	0.37		
12/15/2021	13:46	0.05	0.1	1.2	5.78	6.57	740.8	0.07	0.75	25.16	55.0	0.37		
12/15/2021	13:48	0.05	0.1	1.3	5.78	6.57	746.4	0.07	0.73	25.20	57.0	0.37		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:22	13:48	26	1.3	6.57	746.4	0.07	0.73	25.20	57.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0054D-042.5-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0054D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.02
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	12:25			0	5.02									
12/15/2021	12:45	0.05	1	1	5.63	6.87	1378.9	0.10	69.8	25.68	-74.4	0.70		
12/15/2021	13:05	0.05	1	2	5.63	6.85	1371.1	0.06	64.2	26.05	-54.1	0.69		
12/15/2021	13:25	0.05	1	3	5.63	6.82	1337.9	0.06	44.1	26.48	-38.1	0.68		
12/15/2021	13:35	0.05	0.5	3.5	5.63	6.82	1385.8	0.12	18.7	26.67	-36.7	0.70		
12/15/2021	13:37	0.05	0.1	3.6	5.63	6.84	1413.1	0.15	16.2	26.52	-36.7	0.72		
12/15/2021	13:39	0.05	0.1	3.7	5.63	6.83	1414.6	0.06	15.4	26.64	-39.9	0.72		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:25	13:39	74	3.7	6.83	1414.6	0.06	15.4	26.64	-39.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0054I-031.5-20211215 Sampler: Madan Parsotan

Well ID: WILC-MW0054I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	5.78
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	12:29			0	5.78									
12/15/2021	12:49	0.05	0.1	0.1	5.78	6.73	1423.7	0.08	19.93	25.75	-76.6	0.72		
12/15/2021	12:51	0.05	0.1	0.2	5.78	6.74	1412.5	0.08	18.89	25.77	-76.0	0.72		
12/15/2021	12:53	0.05	0.1	0.3	5.78	6.73	1423.1	0.08	17.76	25.75	-75.5	0.72		
12/15/2021	12:55	0.05	0.1	0.4	5.78	6.73	1420.3	0.08	13.61	25.72	-74.9	0.72		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:29	12:55	26	0.4	6.73	1420.3	0.08	13.61	25.72	-74.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0055D-042.5-20211215 Sampler: Madan Parsotan

Well ID: WILC-MW0055D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	4.57
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	14:47			0	4.57									
12/15/2021	15:07	0.05	1	1	4.62	6.86	2841.8	0.08	23.31	26.08	41.8	1.49		
12/15/2021	15:09	0.05	0.1	1.1	4.62	6.86	2836.0	0.08	18.57	26.06	41.8	1.49		
12/15/2021	15:11	0.05	0.1	1.2	4.62	6.86	2868.6	0.08	17.89	26.02	41.8	1.51		
12/15/2021	15:13	0.05	0.1	1.3	4.62	6.86	2843.0	0.08	17.89	26.08	41.8	1.50		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
14:47	15:13	26	1.3	6.86	2843.0	0.08	17.89	26.08	41.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0060I-031.5-20211215 Sampler: Madan Parsotan

Well ID: WILC-MW0060I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.75
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	11:01			0	5.75									
12/15/2021	11:21	0.05	0.1	0.1	5.76	6.71	1647.0	0.09	21.73	24.32	-95.6	0.84		
12/15/2021	11:23	0.05	0.1	0.2	5.67	6.71	1666.4	0.08	19.98	24.31	-95.6	0.85		
12/15/2021	11:25	0.05	0.1	0.3	5.67	6.71	1628.4	0.07	19.91	24.24	-95.8	0.83		
12/15/2021	11:27	0.05	0.1	0.4	5.67	6.72	1624.6	0.10	7.68	24.16	-97.0	0.83		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
11:01	11:27	26	0.4	6.72	1624.6	0.10	7.68	24.16	-97.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0060S-008.0-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0060S Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.8
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	11:00			0	5.8									
12/15/2021	11:21	0.05	1	1	7.21	6.07	375.0	1.07	2.94	23.13	61.0	0.18		
12/15/2021	11:23	0.05	0.1	1.1	7.21	6.07	374.1	1.04	3.28	23.21	61.2	0.18		
12/15/2021	11:25	0.05	0.1	1.2	7.21	6.09	374.6	1.04	3.22	23.25	61.2	0.18		
12/15/2021	11:27	0.05	0.1	1.3	7.21	6.08	374.7	1.04	2.84	23.21	61.1	0.18		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
11:00	11:27	27	1.3	6.08	374.7	1.04	2.84	23.21	61.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0061S-007.5-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0061S Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	6.36
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	10:26			0	6.36									
12/15/2021	10:46	0.05	1	1	6.52	6.52	467.6	0.09	1.42	22.05	-26.9	0.23		
12/15/2021	10:48	0.05	0.1	1.1	6.52	6.51	467.7	0.08	1.39	22.09	-28.9	0.23		
12/15/2021	10:50	0.05	0.1	1.2	6.52	6.52	467.7	0.08	1.39	22.11	-31.9	0.23		
12/15/2021	10:52	0.05	0.1	1.3	6.52	6.52	467.8	0.08	1.40	22.10	-33.3	0.23		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:26	10:52	26	1.3	6.52	467.8	0.08	1.40	22.10	-33.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0069-031.5-20211217 Sampler: Dustin Slater

Well ID: WILC-MW0069 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	2.09
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/17/2021	8:54			0	2.09									
12/17/2021	9:14	0.05	1	1	2.21	6.74	1121.5	0.06	2.01	23.34	-83.1	0.56		
12/17/2021	9:16	0.05	0.1	1.1	2.21	6.74	1121.4	0.06	5.40	23.35	-84.5	0.56		
12/17/2021	9:18	0.05	0.1	1.2	2.21	6.73	1122.6	0.07	4.53	23.35	-85.6	0.56		
12/17/2021	9:20	0.05	0.1	1.3	2.21	6.74	1127.3	0.06	2.21	23.35	-86.7	0.57		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:54	9:20	26	1.3	6.74	1127.3	0.06	2.21	23.35	-86.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0070-042.5-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0070 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	4.7
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	10:48			0	4.7									
12/14/2021	11:08	0.05	1	1	4.83	7.45	1361.7	0.17	1.63	23.49	-26.9	0.69		
12/14/2021	11:10	0.05	0.1	1.1	4.83	7.44	1363.6	0.17	1.59	23.49	-27.5	0.69		
12/14/2021	11:12	0.05	0.1	1.2	4.83	7.43	1368.8	0.15	1.70	23.56	-28.3	0.69		
12/14/2021	11:14	0.05	0.1	1.3	4.83	7.39	1410.7	0.16	4.45	23.63	-30.5	0.72		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:48	11:14	26	1.3	7.39	1410.7	0.16	4.45	23.63	-30.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0074-004.5-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0074 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	3.85
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	13:02			0	3.85									
12/16/2021	13:32	0.05	1.5	1.5	3.9	6.73	434.6	0.07	1.51	22.95	17.7	0.21		
12/16/2021	13:34	0.05	0.1	1.6	3.9	6.75	442.0	0.08	1.53	23.52	17.9	0.22		
12/16/2021	13:36	0.05	0.1	1.7	3.9	6.74	445.9	0.08	1.45	23.55	18.4	0.22		
12/16/2021	13:38	0.05	0.1	1.8	3.9	6.77	448.6	0.09	1.56	23.60	18.6	0.22		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:02	13:38	36	1.8	6.77	448.6	0.09	1.56	23.60	18.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0077-031.5-20211214 Sampler: Madan Parsotan

Well ID: WILC-MW0077 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	5.65
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	12:50			0	5.64									
12/14/2021	13:10	0.05	1	1	5.67	6.76	1232.7	0.12	0.66	25.55	-10.9	0.62		
12/14/2021	13:12	0.05	0.1	1.1	5.67	6.76	1233.5	0.13	0.69	25.57	-12.0	0.62		
12/14/2021	13:14	0.05	0.1	1.2	5.67	6.76	1235.5	0.11	0.72	25.45	-12.9	0.62		
12/14/2021	13:16	0.05	0.1	1.3	5.67	6.76	1241.0	0.12	0.75	25.58	-12.8	0.63		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:50	13:16	26	1.3	6.76	1241.0	0.12	0.75	25.58	-12.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0078-067.5-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0078 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	5.8
Top of Screen (ft-BTOR):	65	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	70	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	70		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	13:52			0	5.8									
12/15/2021	14:12	0.05	1	1	6.06	7.69	3554.9	0.09	2.10	24.74	-165.4	1.89		
12/15/2021	14:14	0.05	0.1	1.1	6.06	7.71	3845.0	0.09	1.82	24.60	-168.8	1.93		
12/15/2021	14:16	0.05	0.1	1.2	6.06	7.70	3865.8	0.09	2.91	24.57	-171.1	2.07		
12/15/2021	14:18	0.05	0.1	1.3	6.06	7.71	3887.6	0.08	2.13	24.54	-171.5	2.08		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:52	14:18	26	1.3	7.71	3887.6	0.08	2.13	24.54	-171.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0079-042.5-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0079 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	2.87
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	13:32			0	2.87									
12/14/2021	13:52	0.05	1	1	3.3	6.82	381.3	0.16	1.89	25.62	-66.9	0.18		
12/14/2021	13:54	0.05	0.1	1.1	3.3	6.89	457.6	0.12	1.91	25.62	-70.1	0.22		
12/14/2021	13:56	0.05	0.1	1.2	3.3	6.89	475.5	0.13	1.90	25.65	-70.5	0.23		
12/14/2021	13:58	0.05	0.1	1.3	3.3	6.92	477.3	0.14	1.93	25.66	-71.1	0.25		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:32	13:58	26	1.3	6.92	477.3	0.14	1.93	25.66	-71.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0087-020.0-20211216 Sampler: Madan Parsotan

Well ID: WILC-MW0087 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.51
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	8:24			0	5.51									
12/16/2021	8:44	0.05	1	1	5.55	7.01	1115.8	0.22	3.56	22.70	-39.9	0.56		
12/16/2021	8:46	0.05	0.1	1.1	5.55	7.01	1115.2	0.20	4.05	22.65	-40.5	0.56		
12/16/2021	8:48	0.05	0.1	1.2	5.55	7.01	1114.1	0.18	5.95	22.67	-43.3	0.56		
12/16/2021	8:50	0.05	0.1	1.3	5.55	7.02	1100.0	0.20	8.50	22.71	-46.4	0.55		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:24	8:50	26	1.3	7.02	1100.0	0.20	8.50	22.71	-46.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0088-031.5-20211216 Sampler: Madan Parsotan

Well ID: WILC-MW0088 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.56
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	8:59			0	5.56									
12/16/2021	9:19	0.05	1	1	5.61	7.06	1998.8	0.24	21.68	22.73	24.9	1.03		
12/16/2021	9:21	0.05	0.1	1.1	5.61	7.06	1994.1	0.37	19.68	22.73	21.0	1.03		
12/16/2021	9:23	0.05	0.1	1.2	5.61	7.06	1987.5	0.32	19.21	22.76	18.2	1.03		
12/16/2021	9:25	0.05	0.1	1.3	5.61	7.06	1971.9	0.19	17.89	22.76	16.6	1.02		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:59	9:25	26	1.3	7.06	1971.9	0.19	17.89	22.76	16.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0090-031.5-20211216 Sampler: Madan Parsotan

Well ID: WILC-MW0090 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.88
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	10:12	0.05	1	1	4.96	7.09	1011.2	0.08	7.15	22.70	0.0	0.51		
12/16/2021	10:14	0.05	0.1	1.1	4.96	7.08	970.6	0.08	7.91	22.73	0.2	0.48		
12/16/2021	10:16	0.05	0.1	1.2	4.96	7.08	995.4	0.07	8.71	22.71	0.5	0.50		
12/16/2021	10:18	0.05	0.1	1.3	4.96	7.08	1012.5	0.07	8.74	22.69	0.6	0.51		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:12	10:18	6	1.3	7.08	1012.5	0.07	8.74	22.69	0.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0091-004.0-20211216 Sampler: Madan Parsotan

Well ID: WILC-MW0091 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	3.41
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	10:38			0	3.41									
12/16/2021	10:58	0.05	1	1	3.58	6.26	352.5	0.18	3.06	23.76	88.6	0.17		
12/16/2021	11:00	0.05	0.1	1.1	3.58	6.24	349.1	0.14	4.90	23.75	87.0	0.17		
12/16/2021	11:02	0.05	0.1	1.2	3.58	6.27	354.4	0.10	6.59	23.80	83.0	0.17		
12/16/2021	11:04	0.05	0.1	1.3	3.58	6.25	354.0	0.09	7.93	23.78	82.6	0.17		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:38	11:04	26	1.3	6.25	354.0	0.09	7.93	23.78	82.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0095-005.5-20211214 Sampler: Madan Parsotan

Well ID: WILC-MW0095 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.11
Top of Screen (ft-BTOR):	2	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	12	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	12		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	12:13	0.05	1	1	4.38	5.57	291.2	0.10	0.45	23.59	96.7	0.14		
12/14/2021	12:15	0.05	0.1	1.1	4.38	5.75	337.6	0.09	0.47	23.77	71.4	0.16		
12/14/2021	12:17	0.05	0.1	1.2	4.38	5.75	338.3	0.09	0.42	23.76	72.8	0.16		
12/14/2021	12:19	0.05	0.1	1.3	4.38	5.76	338.5	0.09	0.40	23.72	72.3	0.16		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:13	12:19	6	1.3	5.76	338.5	0.09	0.40	23.72	72.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0096-020.0-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0096 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.28
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	11:39			0	4.28									
12/14/2021	11:59	0.05	1	1	4.31	6.76	1029.9	0.10	1.74	23.75	21.1	0.52		
12/14/2021	12:01	0.05	0.1	1.1	4.31	6.76	1027.4	0.09	1.68	23.77	20.1	0.51		
12/14/2021	12:03	0.05	0.1	1.2	4.31	6.75	1028.0	0.10	1.78	23.76	19.3	0.51		
12/14/2021	12:05	0.05	0.1	1.3	4.31	6.76	1027.1	0.09	1.67	23.72	19.0	0.51		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
11:39	12:05	26	1.3	6.76	1027.1	0.09	1.67	23.72	19.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0097-031.5-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0097 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.25
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	12:17			0	4.25									
12/14/2021	12:37	0.05	1	1	4.35	6.74	2133.2	0.09	1.62	23.54	9.6	1.10		
12/14/2021	12:39	0.05	0.1	1.1	4.35	6.74	2134.4	0.08	1.64	23.54	8.3	1.11		
12/14/2021	12:41	0.05	0.1	1.2	4.35	6.74	2134.0	0.08	1.61	23.52	7.9	1.10		
12/14/2021	12:43	0.05	0.1	1.3	4.35	6.74	2137.0	0.08	1.57	23.55	7.8	1.11		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:17	12:43	26	1.3	6.74	2137.0	0.08	1.57	23.55	7.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0107-020.0-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0107 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	3.39
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	9:51			0	3.39									
12/15/2021	10:11	0.05	1	1	3.45	6.77	787.9	0.13	1.82	25.25	-92.2	0.39		
12/15/2021	10:13	0.05	0.1	1.1	3.45	6.78	789.1	0.13	2.58	25.19	-94.0	0.39		
12/15/2021	10:15	0.05	0.1	1.2	3.45	6.78	787.6	0.12	1.80	25.21	-94.4	0.39		
12/15/2021	10:17	0.05	0.1	1.3	3.45	6.77	786.8	0.12	1.84	25.22	-95.1	0.39		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:51	10:17	26	1.3	6.77	786.8	0.12	1.84	25.22	-95.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0109-020.0-20211214 Sampler: Madan Parsotan

Well ID: WILC-MW0109 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	10:04			0	5									
12/14/2021	10:24	0.05	1	1	5.02	6.90	867.4	0.13	5.86	25.22	33.4	0.43		
12/14/2021	10:26	0.05	0.1	1.1	5.02	6.89	865.9	0.14	5.46	24.80	30.6	0.43		
12/14/2021	10:28	0.05	0.1	1.2	5.02	6.89	868.8	0.13	5.38	24.76	27.5	0.43		
12/14/2021	10:30	0.05	0.1	1.3	5.02	6.90	871.0	0.11	4.17	24.62	27.3	0.43		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:04	10:30	26	1.3	6.90	871.0	0.11	4.17	24.62	27.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0111-031.5-20211214 Sampler: Madan Parsotan

Well ID: WILC-MW0111 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	2.98
Top of Screen (ft-BTOR):	29	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	34	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	34		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	13:32			0	2.98									
12/14/2021	13:52	0.05	1	1	3.03	6.76	1125.1	0.11	14.05	25.96	-75.3	0.57		
12/14/2021	13:54	0.05	0.1	1.1	3.03	6.77	1126.3	0.10	4.99	26.05	-75.5	0.57		
12/14/2021	13:56	0.05	0.1	1.2	3.03	6.78	1128.3	0.11	2.73	26.06	-77.3	0.57		
12/14/2021	13:58	0.05	0.1	1.3	3.03	6.78	1124.8	0.11	1.24	26.03	-77.9	0.56		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:32	13:58	26	1.3	6.78	1124.8	0.11	1.24	26.03	-77.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0114-020.0-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0114 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	6.87
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	12:54			0	6.87									
12/14/2021	13:14	0.05	1	1	6.89	6.66	1030.5	0.08	6.46	24.99	-4.4	0.52		
12/14/2021	13:16	0.05	0.1	1.1	6.89	6.65	1025.4	0.07	2.18	25.07	-9.4	0.51		
12/14/2021	13:18	0.05	0.1	1.2	6.89	6.66	1024.1	0.07	2.48	25.05	-10.4	0.51		
12/14/2021	13:20	0.05	0.1	1.3	6.89	6.67	1023.2	0.07	2.20	25.04	-11.1	0.51		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:54	13:20	26	1.3	6.67	1023.2	0.07	2.20	25.04	-11.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0115-020.0-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0115 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.57
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	12:27			0	4.57									
12/16/2021	12:47	0.05	0.1	0.1	4.71	6.87	826.0	0.09	1.70	23.86	61.9	0.41		
12/16/2021	12:49	0.05	0.1	0.2	4.71	6.87	822.5	0.09	1.67	23.61	56.2	0.41		
12/16/2021	12:51	0.05	0.1	0.3	4.71	6.87	823.2	0.09	1.68	23.45	54.6	0.41		
12/16/2021	12:53	0.05	0.1	0.4	4.71	6.86	823.6	0.08	2.52	23.59	54.1	0.41		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
12:27	12:53	26	0.4	6.86	823.6	0.08	2.52	23.59	54.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0117-020.0-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0117 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.2
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	8:41			0	5.2									
12/16/2021	9:01	0.05	1	1	5.32	6.69	1103.4	0.09	2.70	23.52	-92.4	0.55		
12/16/2021	9:03	0.05	0.1	1.1	5.32	6.67	1102.6	0.08	2.51	23.53	-92.6	0.55		
12/16/2021	9:05	0.05	0.1	1.2	5.32	6.68	1104.6	0.08	1.81	23.56	-93.8	0.55		
12/16/2021	9:07	0.05	0.1	1.3	5.32	6.69	1102.9	0.08	1.64	23.58	-94.4	0.55		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:41	9:07	26	1.3	6.69	1102.9	0.08	1.64	23.58	-94.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0118-042.5-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0118 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	5.3
Top of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	45	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	45		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	9:13			0	5.3									
12/16/2021	9:33	0.05	1	1	5.45	6.90	2142.2	0.10	44.42	23.34	-24.9	1.11		
12/16/2021	9:53	0.05	1	2	5.45	6.89	2177.9	0.11	54.8	23.31	-28.0	1.13		
12/16/2021	10:03	0.05	0.5	2.5	5.45	6.89	2180.9	0.12	5.50	23.38	-25.8	1.13		
12/16/2021	10:05	0.05	0.1	2.6	5.45	6.89	2182.1	0.13	7.08	23.36	-25.7	1.13		
12/16/2021	10:07	0.05	0.1	2.7	5.45	6.89	2185.1	0.12	5.22	23.38	-25.4	1.13		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:13	10:07	54	2.7	6.89	2185.1	0.12	5.22	23.38	-25.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0122-020.0-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0122 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	3.99
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	10:59			0	3.99									
12/16/2021	11:19	0.05	1	1	4.17	6.80	936.0	0.09	1.80	24.01	-19.1	0.47		
12/16/2021	11:20	0.05	0.1	1.1	4.17	6.82	944.5	0.08	2.10	24.05	-21.5	0.47		
12/16/2021	11:23	0.05	0.1	1.2	4.17	6.81	945.8	0.08	3.20	24.08	-22.5	0.47		
12/16/2021	11:25	0.05	0.1	1.3	4.17	6.81	945.7	0.08	2.76	24.13	-22.9	0.47		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:59	11:25	26	1.3	6.81	945.7	0.08	2.76	24.13	-22.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0126-020.0-20211214 Sampler: Dustin Slater

Well ID: WILC-MW0126 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	6
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	9:04			0	6									
12/14/2021	9:24	0.05	1	1	6.06	6.84	1105.7	0.24	1.39	22.31	46.6	0.56		
12/14/2021	9:26	0.05	0.1	1.1	6.06	6.83	1102.9	0.23	1.43	22.40	46.4	0.55		
12/14/2021	9:28	0.05	0.1	1.2	6.06	6.83	1105.7	0.19	1.42	22.49	45.5	0.56		
12/14/2021	9:30	0.05	0.1	1.3	6.06	6.83	1108.4	0.20	1.43	22.50	45.7	0.56		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:04	9:30	26	1.3	6.83	1108.4	0.20	1.43	22.50	45.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0129-020.0-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0129 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	7.75
Top of Screen (ft-BTOR):	15	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	25	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	25		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	15:07			0	7.75									
12/15/2021	15:27	0.05	1	1	7.79	6.76	1276.6	0.06	1.66	23.50	-146.8	0.64		
12/15/2021	15:29	0.05	0.1	1.1	7.79	6.75	1185.7	0.06	1.60	23.45	-147.4	0.60		
12/15/2021	15:31	0.05	0.1	1.2	7.79	6.75	1190.1	0.06	1.56	23.41	-147.7	0.60		
12/15/2021	15:33	0.05	0.1	1.3	7.79	6.75	1191.6	0.06	1.59	23.40	-148.0	0.6		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
15:07	15:33	26	1.3	6.75	1191.6	0.06	1.59	23.40	-148.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0130-061.0-20211215 Sampler: Dustin Slater

Well ID: WILC-MW0130 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	4.87
Top of Screen (ft-BTOR):	56	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	66	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	66		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/15/2021	14:28			0	4.87									
12/15/2021	14:48	0.05	1	1	5.78	7.17	5658.1	0.09	1.72	24.54	-77.1	3.10		
12/15/2021	14:50	0.05	0.1	1.1	5.78	7.16	5502.1	0.08	2.23	24.63	-74.7	3.01		
12/15/2021	14:52	0.05	0.1	1.2	5.78	7.16	5517.0	0.08	1.77	24.70	-73.3	3.02		
12/15/2021	14:54	0.05	0.1	1.3	5.78	7.16	5658.5	0.08	2.81	24.73	-73.0	3.10		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
14:28	14:54	26	1.3	7.16	5658.5	0.08	2.81	24.73	-73.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0152-010.0-20211217 Sampler: Madan Parsotan

Well ID: WILC-MW0152 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	0.76
Top of Screen (ft-BTOR):	5	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	15	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	15		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/17/2021	8:25			0	0.76									
12/17/2021	8:45	0.05	1	1	0.81	5.88	712.9	0.11	0.28	22.19	-73.0	0.35		
12/17/2021	8:47	0.05	0.1	1.1	0.81	5.92	718.7	0.14	0.40	22.19	-75.9	0.35		
12/17/2021	8:49	0.05	0.1	1.2	0.81	5.88	702.8	0.15	0.37	22.22	-76.3	0.35		
12/17/2021	8:51	0.05	0.1	1.3	0.81	5.92	724.2	0.14	0.43	22.23	-77.2	0.36		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:25	8:51	26	1.3	5.92	724.2	0.14	0.43	22.23	-77.2

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0153-025.0-20211217 Sampler: Madan Parsotan

Well ID: WILC-MW0153 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	0.75
Top of Screen (ft-BTOR):	20	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	30	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	30		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/17/2021	9:02			0	0.75									
12/17/2021	9:22	0.05	0.1	0.1	0.8	6.79	1069.1	0.10	0.35	22.44	-100.5	0.54		
12/17/2021	9:24	0.05	0.1	0.2	0.8	6.80	1067.5	0.12	0.30	22.44	-101.0	0.54		
12/17/2021	9:26	0.05	0.1	0.3	0.8	6.80	1067.7	0.10	0.36	22.46	-101.4	0.54		
12/17/2021	9:28	0.05	0.1	0.4	0.8	6.81	1068.0	0.12	0.40	22.50	-101.2	0.54		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:02	9:28	26	0.4	6.81	1068.0	0.12	0.40	22.50	-101.2

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-MW0154-010.0-20211216 Sampler: Dustin Slater

Well ID: WILC-MW0154 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	1.69
Top of Screen (ft-BTOR):	5	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	15	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	15		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	10:14			0	1.69									
12/16/2021	10:34	0.05	1	1	1.86	6.50	707.9	0.09	1.92	23.21	-40.7	0.35		
12/16/2021	10:36	0.05	0.1	1.1	1.86	6.50	712.3	0.09	1.53	23.26	-42.9	0.35		
12/16/2021	10:38	0.05	0.1	1.2	1.86	6.51	715.4	0.09	1.99	23.27	-43.0	0.35		
12/16/2021	10:40	0.05	0.1	1.3	1.86	6.50	704.4	0.09	3.59	23.29	-44.5	0.35		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:14	10:40	26	1.3	6.50	704.4	0.09	3.59	23.29	-44.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0010-031.5-20211216 Sampler: Madan Parsotan

Well ID: WILC-NPSH-MW0010 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	6.11
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	13:11	0.05	0.1	0.1	6.15	6.94	1370.1	0.57	5.21	23.15	-60.4	0.69		
12/16/2021	13:13	0.05	0.1	0.2	6.15	6.91	1370.0	0.67	5.67	23.11	-61.1	0.69		
12/16/2021	13:15	0.05	0.1	0.3	6.15	6.89	1372.3	0.62	4.68	23.12	-61.7	0.70		
12/16/2021	13:17	0.05	0.1	0.4	6.15	6.88	1374.5	0.54	3.18	23.09	-62.5	0.70		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
13:11	13:17	6	0.4	6.88	1374.5	0.54	3.18	23.09	-62.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0011-030.5-20211216 Sampler: Dustin Slater

Well ID: WILC-NPSH-MW0011 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	5.43
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/16/2021	8:04			0	5.43									
12/16/2021	8:24	0.05	1	1	5.71	6.85	1146.8	0.17	1.56	23.18	3.0	0.58		
12/16/2021	8:26	0.05	0.1	1.1	5.71	6.82	1144.4	0.21	1.51	23.19	3.1	0.58		
12/16/2021	8:28	0.05	0.1	1.2	5.71	6.83	1144.6	0.19	1.82	23.19	2.4	0.58		
12/16/2021	8:30	0.05	0.1	1.3	5.71	6.84	1145.0	0.18	1.55	23.21	1.5	0.58		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:04	8:30	26	1.3	6.84	1145.0	0.18	1.55	23.21	1.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0019-031.5-20211217 Sampler: Dustin Slater

Well ID: WILC-NPSH-MW0019 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	3.15
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/17/2021	8:12			0	3.15									
12/17/2021	8:32	0.05	1	1	3.2	6.83	1427.0	0.15	2.65	21.30	-0.7	0.72		
12/17/2021	8:34	0.05	0.1	1.1	3.2	6.83	1398.7	0.14	5.75	21.38	-3.8	0.71		
12/17/2021	8:36	0.05	0.1	1.2	3.2	6.82	1384.4	0.14	2.81	21.40	-3.0	0.70		
12/17/2021	8:38	0.05	0.1	1.3	3.2	6.83	1387.1	0.15	1.77	21.47	-5.5	0.72		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
8:12	8:38	26	1.3	6.83	1387.1	0.15	1.77	21.47	-5.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0020-031.5-20211214 Sampler: Dustin Slater

Well ID: WILC-NPSH-MW0020 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	4.84
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	10:01			0	4.84									
12/14/2021	10:21	0.05	1	1	4.87	8.34	957.6	0.17	5.19	23.88	130	0.48		
12/14/2021	10:23	0.05	0.1	1.1	4.87	8.34	958.0	0.15	2.69	23.69	126.8	0.48		
12/14/2021	10:25	0.05	0.1	1.2	4.87	8.34	958.0	0.15	2.35	23.61	124.6	0.48		
12/14/2021	10:27	0.05	0.1	1.3	4.87	8.32	958.1	0.14	2.04	23.61	123.3	0.48		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:01	10:27	26	1.3	8.32	958.1	0.14	2.04	23.61	123.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0027-012.5-20211214 Sampler: Madan Parsotan

Well ID: WILC-NPSH-MW0027 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	2.78
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	10:51	0.05		0	2.89									
12/14/2021	11:11	0.05	1	1	2.89	6.74	1108.3	0.13	7.86	23.85	19.2	0.56		
12/14/2021	11:13	0.05	0.1	1.1	2.89	6.75	1117.4	0.09	0.57	23.93	18.1	0.56		
12/14/2021	11:15	0.05	0.1	1.2	2.89	6.76	1115.2	0.10	0.47	23.99	15.5	0.56		
12/14/2021	11:17	0.05	0.1	1.3	2.89	6.76	1114.4	0.10	0.51	23.86	14.6	0.56		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
10:51	11:17	26	1.3	6.76	1114.4	0.10	0.51	23.86	14.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center WILC

Site Name: Wilson Corners (SWMU 001)

Project No: 60610905

Sample ID: WILC-NPSH-MW0030-045.5-20211214 Sampler: Madan Parsotan

Well ID: WILC-NPSH-MW0030 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):		Static Water Level (ft-BTOR):	3.34
Top of Screen (ft-BTOR):	Unknown	Purge/Sample Method:	Low flow - peristalic
Bottom of Screen (ft-BTOR):	Unknown	Sample Analysis:	Select VOCs
Total Depth of Well (ft-BTOR):	NM		

Purge Information

Date	Time	Purge Rate (gal/min)	Volume Purged (gal)	Cum Vol Purged (gal)	Depth To Water (ft)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)	Salinity (S.U.)	Color	Odor
12/14/2021	9:08			0	3.34									
12/14/2021	9:28	0.05	1	1	3.36	6.89	4334.7	0.13	26.66	23.56	18.4	2.34		
12/14/2021	9:48	0.05	1	2	3.36	6.91	4298.1	0.10	17.88	23.84	16.9	2.32		
12/14/2021	9:50	0.05	0.1	2.1	3.36	6.91	4309.8	0.10	18.26	23.73	16.3	2.32		
12/14/2021	9:52	0.05	0.1	2.2	3.36	6.91	4313.7	0.10	17.38	23.69	16.6	2.33		

Start Purge	End Purge	Duration (min)	Total Vol (gal)	pH (S.U.)	S.C. (µS/cm)	DO (mg/l)	Turbidity (NTUs)	Temp (C)	ORP (mV)
9:08	9:52	44	2.2	6.91	4313.7	0.10	17.38	23.69	16.6

APPENDIX C

LABORATORY ANALYTICAL REPORTS
(PROVIDED IN THE ELECTRONIC COPY ONLY)

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Environmental Conservation Laboratories, Inc.
102-A woodwinds Industrial Ct. Cary, NC 27511
4810 Executive Park Ct., Ste. 211, Jacksonville, FL 32216
10775 Central Port Drive, Orlando, FL 32824

www.encolabs.com

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James W. Gregory
James W Gregory
2021.01.26 09:23:37 -05'00'

Signature

January 26, 2021
Date

Environmental Conservation Laboratories, Inc.
James W. Gregory
Senior Vice President
10775 Central Port Drive Orlando, FL 32824
(407) 826-5314
jgregory@encolabs.com

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Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, December 21, 2021
AECOM Technical Services, Inc. (SE004)
Attn: Teresa Amentt Jennings
150 N. Orange Ave, Suite 200
Orlando, FL 32801

RE: Laboratory Results for
Project Number: 60637998.4, Project Name/Desc: NASA KSC - Wilson Corners
ENCO Workorder(s): AE09632

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, December 14, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

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SAMPLE SUMMARY/LABORATORY CHRONICLE

WILC-NPSH-MW0027-012.5-202112

Client ID: WILC-NPSH-MW0027-612.5-202112 14 **Lab ID: AE09632-01** **Sampled: 12/14/21 11:18** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 00:40

Client ID: WILC-MW0095-005.5-20211214 **Lab ID: AE09632-02** **Sampled: 12/14/21 12:20** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 09:03	12/15/21 18:40

Client ID: WILC-NPSH-MW0020-031.5-202112 14 **Lab ID: AE09632-03** **Sampled: 12/14/21 10:28** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 01:08

Client ID: WILC-MW0077-031.5-20211214 **Lab ID: AE09632-04** **Sampled: 12/14/21 13:17** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 01:35

Client ID: WILC-MW0096-020.0-20211214 **Lab ID: AE09632-05** **Sampled: 12/14/21 12:06** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 02:03

Client ID: WILC-MW0097-031.5-20211214 **Lab ID: AE09632-06** **Sampled: 12/14/21 12:44** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 02:31

Client ID: WILC-MW0109-020.0-20211214 **Lab ID: AE09632-07** **Sampled: 12/14/21 10:31** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 02:58

Client ID: WILC-MW0111-031.5-20211214 **Lab ID: AE09632-08** **Sampled: 12/14/21 13:59** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 03:26

Client ID: WILC-MW0114-020.0-20211214 **Lab ID: AE09632-09** **Sampled: 12/14/21 13:21** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 03:54

Client ID: WILC-MW0126-020.0-20211214 **Lab ID: AE09632-10** **Sampled: 12/14/21 09:31** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/15/21 12:40	12/16/21 04:21

Client ID: WILC-NPSH-MW0030-045.5-202112 14 **Lab ID: AE09632-11** **Sampled: 12/14/21 09:53** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/16/21 09:03	12/16/21 09:54

Client ID: WILC-MW0070-042.5-20211214 **Lab ID: AE09632-12** **Sampled: 12/14/21 11:15** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/16/21 09:03	12/16/21 13:08

Client ID: WILC-MW0079-042.5-20211214 **Lab ID: AE09632-13** **Sampled: 12/14/21 13:59** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/16/21 09:03	12/16/21 13:36

Client ID: WILC-TB01-20211214 **Lab ID: AE09632-14** **Sampled: 12/14/21 09:00** **Received: 12/14/21 15:15**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/28/21	12/16/21 09:03	12/16/21 14:04

SAMPLE DETECTION SUMMARY

WILC-NPSH-MW0027-012.5-20211214

Client ID: WILC-NPSH-MW0027-012.5-20211214 **Lab ID:** AE09632-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	480		5.3	10	ug/L	EPA 8260D	
Vinyl chloride	580		7.1	10	ug/L	EPA 8260D	

Client ID: WILC-MW0095-005.5-20211214 **Lab ID:** AE09632-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.85	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	1.0		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-NPSH-MW0020-031.5-20211214 **Lab ID:** AE09632-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.65	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	0.82	I	0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0096-020.0-20211214 **Lab ID:** AE09632-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	4.7		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	2.6		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	13		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0097-031.5-20211214 **Lab ID:** AE09632-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	4.6		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	7.2		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	8.6		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0109-020.0-20211214 **Lab ID:** AE09632-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.2		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.5		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	5.6		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0111-031.5-20211214 **Lab ID:** AE09632-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	1.3		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.2		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	3.4		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0126-020.0-20211214 **Lab ID:** AE09632-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.3		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.2		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	5.7		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0070-042.5-20211214 **Lab ID:** AE09632-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
trans-1,2-Dichloroethene	0.99	I	0.73	1.0	ug/L	EPA 8260D	

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ANALYTICAL RESULTS

WILC-NPSH-MW0027-012.5-20211214

Description: WILC-NPSH-MW0027-612.5-20211214 **Lab Sample ID:** AE09632-01 **Received:** 12/14/21 15:15

Matrix: Ground Water **Sampled:** 12/14/21 11:18 **Work Order:** AE09632

Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	9.4	U	ug/L	10	9.4	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**480**		ug/L	10	5.3	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
Freon 113 [76-13-1]^	7.3	U	ug/L	10	7.3	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
Tetrachloroethene [127-18-4]^	7.6	U	ug/L	10	7.6	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
trans-1,2-Dichloroethene [156-60-5]^	7.3	U	ug/L	10	7.3	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
Trichloroethene [79-01-6]^	8.9	U	ug/L	10	8.9	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	
Vinyl chloride [75-01-4]^	**580**		ug/L	10	7.1	10	1L15029	EPA 8260D	12/16/21 00:40	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 00:40*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 00:40*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*101 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 00:40*	*KKW*	

Description: WILC-MW0095-005.5-20211214 **Lab Sample ID:** AE09632-02 **Received:** 12/14/21 15:15

Matrix: Ground Water **Sampled:** 12/14/21 12:20 **Work Order:** AE09632

Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.85**	I	ug/L	1	0.53	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	
Vinyl chloride [75-01-4]^	**1.0**		ug/L	1	0.71	1.0	1L15016	EPA 8260D	12/15/21 18:40	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1L15016*	*EPA 8260D*	*12/15/21 18:40*	*KKW*	
Dibromofluoromethane	*47*	*1*	*50.0*	*95 %*	*53-146*	*1L15016*	*EPA 8260D*	*12/15/21 18:40*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1L15016*	*EPA 8260D*	*12/15/21 18:40*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-NPSH-MW0020-031.5-20211214 **Lab Sample ID:** AE09632-03 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 10:28 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.65**	I	ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	
Vinyl chloride [75-01-4]^	**0.82**	I	ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 01:08	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 01:08*	*KKW*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 01:08*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 01:08*	*KKW*	

Description: WILC-MW0077-031.5-20211214 **Lab Sample ID:** AE09632-04 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 13:17 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 01:35	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*103 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 01:35*	*KKW*	
Dibromofluoromethane	*49*	*1*	*50.0*	*98 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 01:35*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 01:35*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0096-020.0-20211214 **Lab Sample ID:** AE09632-05 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 12:06 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**4.7**		ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**2.6**		ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 02:03	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 02:03*	*KKW*	
Dibromofluoromethane	*49*	*1*	*50.0*	*99 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:03*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:03*	*KKW*	

Description: WILC-MW0097-031.5-20211214 **Lab Sample ID:** AE09632-06 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 12:44 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**4.6**		ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**7.2**		ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	
Vinyl chloride [75-01-4]^	**8.6**		ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 02:31	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 02:31*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*99 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:31*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:31*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0109-020.0-20211214 **Lab Sample ID:** AE09632-07 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 10:31 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**2.2**		ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.5**		ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	
Vinyl chloride [75-01-4]^	**5.6**		ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 02:58	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 02:58*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*101 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:58*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 02:58*	*KKW*	

Description: WILC-MW0111-031.5-20211214 **Lab Sample ID:** AE09632-08 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 13:59 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**1.3**		ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.2**		ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	
Vinyl chloride [75-01-4]^	**3.4**		ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 03:26	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 03:26*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*103 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 03:26*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 03:26*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0114-020.0-20211214 **Lab Sample ID:** AE09632-09 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 13:21 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 03:54	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*103 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 03:54*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*101 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 03:54*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 03:54*	*KKW*	

Description: WILC-MW0126-020.0-20211214 **Lab Sample ID:** AE09632-10 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 09:31 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**2.3**		ug/L	1	0.53	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.2**		ug/L	1	0.73	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	
Vinyl chloride [75-01-4]^	**5.7**		ug/L	1	0.71	1.0	1L15029	EPA 8260D	12/16/21 04:21	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1L15029*	*EPA 8260D*	*12/16/21 04:21*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*101 %*	*53-146*	*1L15029*	*EPA 8260D*	*12/16/21 04:21*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L15029*	*EPA 8260D*	*12/16/21 04:21*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-NPSH-MW0030-045.5-20211214 **Lab Sample ID:** AE09632-11 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 09:53 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L16010	EPA 8260D	12/16/21 09:54	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1L16010*	*EPA 8260D*	*12/16/21 09:54*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1L16010*	*EPA 8260D*	*12/16/21 09:54*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1L16010*	*EPA 8260D*	*12/16/21 09:54*	*KKW*	

Description: WILC-MW0070-042.5-20211214 **Lab Sample ID:** AE09632-12 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 11:15 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**0.99**	I	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L16010	EPA 8260D	12/16/21 13:08	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1L16010*	*EPA 8260D*	*12/16/21 13:08*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1L16010*	*EPA 8260D*	*12/16/21 13:08*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L16010*	*EPA 8260D*	*12/16/21 13:08*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0079-042.5-20211214 **Lab Sample ID:** AE09632-13 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 13:59 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L16010	EPA 8260D	12/16/21 13:36	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1L16010*	*EPA 8260D*	*12/16/21 13:36*	*KKW*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1L16010*	*EPA 8260D*	*12/16/21 13:36*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L16010*	*EPA 8260D*	*12/16/21 13:36*	*KKW*	

Description: WILC-TB01-20211214 **Lab Sample ID:** AE09632-14 **Received:** 12/14/21 15:15
Matrix: Ground Water **Sampled:** 12/14/21 09:00 **Work Order:** AE09632
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L16010	EPA 8260D	12/16/21 14:04	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1L16010*	*EPA 8260D*	*12/16/21 14:04*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1L16010*	*EPA 8260D*	*12/16/21 14:04*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L16010*	*EPA 8260D*	*12/16/21 14:04*	*KKW*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L15016 - EPA 5030B_MS

Blank (1L15016-BLK1) Prepared: 12/15/2021 00:00 Analyzed: 12/15/2021 08:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*101*	*41-146*			

LCS (1L15016-BS1) Prepared: 12/15/2021 00:00 Analyzed: 12/15/2021 08:58

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0		103	47-139			
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0		104	56-128			
Freon 113	21		1.0	ug/L	20.0		104	47-173			
Tetrachloroethene	22		1.0	ug/L	20.0		108	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		107	54-134			
Trichloroethene	20		1.0	ug/L	20.0		100	62-135			
Vinyl chloride	19		1.0	ug/L	20.0		95	20-167			
4-Bromofluorobenzene	*55*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike (1L15016-MS1) Prepared: 12/15/2021 00:00 Analyzed: 12/15/2021 10:49

Source: AE09872-13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	540		25	ug/L	500	24 U	109	47-139			
cis-1,2-Dichloroethene	2600	L	25	ug/L	500	2000	120	56-128			
Freon 113	530		25	ug/L	500	18 U	107	47-173			
Tetrachloroethene	510		25	ug/L	500	19 U	102	60-147			
trans-1,2-Dichloroethene	620		25	ug/L	500	44	115	54-134			
Trichloroethene	520		25	ug/L	500	22 U	104	62-135			
Vinyl chloride	960		25	ug/L	500	440	103	20-167			
4-Bromofluorobenzene	*1400*			*ug/L*	*1250*		*110*	*41-142*			
Dibromofluoromethane	*1300*			*ug/L*	*1250*		*102*	*53-146*			
Toluene-d8	*1300*			*ug/L*	*1250*		*102*	*41-146*			

Matrix Spike Dup (1L15016-MSD1) Prepared: 12/15/2021 00:00 Analyzed: 12/15/2021 11:17

Source: AE09872-13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	530		25	ug/L	500	24 U	106	47-139	3	16	
cis-1,2-Dichloroethene	2600	L	25	ug/L	500	2000	105	56-128	3	17	
Freon 113	520		25	ug/L	500	18 U	104	47-173	2	30	
Tetrachloroethene	510		25	ug/L	500	19 U	102	60-147	0.4	21	
trans-1,2-Dichloroethene	590		25	ug/L	500	44	110	54-134	4	20	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L15016 - EPA 5030B_MS - Continued

Matrix Spike Dup (1L15016-MSD1) Continued Prepared: 12/15/2021 00:00 Analyzed: 12/15/2021 11:17

Source: AE09872-13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	490		25	ug/L	500	22 U	99	62-135	6	20	
Vinyl chloride	920		25	ug/L	500	440	96	20-167	4	24	
4-Bromofluorobenzene	*1400*			*ug/L*	*1250*		*111*	*41-142*			
Dibromofluoromethane	*1200*			*ug/L*	*1250*		*97*	*53-146*			
Toluene-d8	*1300*			*ug/L*	*1250*		*102*	*41-146*			

Batch 1L15029 - EPA 5030B_MS

Blank (1L15029-BLK1) Prepared: 12/15/2021 12:40 Analyzed: 12/15/2021 21:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*97*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*100*	*41-146*			

LCS (1L15029-BS1) Prepared: 12/15/2021 12:40 Analyzed: 12/15/2021 20:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0		96	47-139			
cis-1,2-Dichloroethene	20		1.0	ug/L	20.0		99	56-128			
Freon 113	19		1.0	ug/L	20.0		96	47-173			
Tetrachloroethene	18		1.0	ug/L	20.0		92	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		104	54-134			
Trichloroethene	18		1.0	ug/L	20.0		90	62-135			
Vinyl chloride	16		1.0	ug/L	20.0		82	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*111*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*101*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike (1L15029-MS1) Prepared: 12/15/2021 12:40 Analyzed: 12/15/2021 20:30

Source: AE09788-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	2200		100	ug/L	2000	94 U	108	47-139			
cis-1,2-Dichloroethene	2200		100	ug/L	2000	53 U	111	56-128			
Freon 113	2300		100	ug/L	2000	73 U	115	47-173			
Tetrachloroethene	2100		100	ug/L	2000	76 U	104	60-147			
trans-1,2-Dichloroethene	2400		100	ug/L	2000	73 U	120	54-134			
Trichloroethene	2100		100	ug/L	2000	89 U	105	62-135			
Vinyl chloride	2100		100	ug/L	2000	71 U	107	20-167			
4-Bromofluorobenzene	*5500*			*ug/L*	*5000*		*110*	*41-142*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L15029 - EPA 5030B_MS - Continued

Matrix Spike (1L15029-MS1) Continued Prepared: 12/15/2021 12:40 Analyzed: 12/15/2021 20:30

Source: AE09788-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dibromofluoromethane	*5000*			*ug/L*	*5000*		*99*	*53-146*			
Toluene-d8	*5200*			*ug/L*	*5000*		*103*	*41-146*			

Matrix Spike Dup (1L15029-MSD1) Prepared: 12/15/2021 12:40 Analyzed: 12/15/2021 20:58

Source: AE09788-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	2100		100	ug/L	2000	94 U	107	47-139	1	16	
cis-1,2-Dichloroethene	2100		100	ug/L	2000	53 U	107	56-128	4	17	
Freon 113	2100		100	ug/L	2000	73 U	106	47-173	8	30	
Tetrachloroethene	2000		100	ug/L	2000	76 U	101	60-147	3	21	
trans-1,2-Dichloroethene	2200		100	ug/L	2000	73 U	109	54-134	9	20	
Trichloroethene	2000		100	ug/L	2000	89 U	100	62-135	4	20	
Vinyl chloride	1900		100	ug/L	2000	71 U	93	20-167	14	24	
4-Bromofluorobenzene	*5400*			*ug/L*	*5000*		*109*	*41-142*			
Dibromofluoromethane	*5000*			*ug/L*	*5000*		*100*	*53-146*			
Toluene-d8	*5100*			*ug/L*	*5000*		*103*	*41-146*			

Batch 1L16010 - EPA 5030B_MS

Blank (1L16010-BLK1) Prepared: 12/16/2021 00:00 Analyzed: 12/16/2021 09:27

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*102*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

LCS (1L16010-BS1) Prepared: 12/16/2021 00:00 Analyzed: 12/16/2021 08:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0		100	47-139			
cis-1,2-Dichloroethene	22		1.0	ug/L	20.0		109	56-128			
Freon 113	20		1.0	ug/L	20.0		101	47-173			
Tetrachloroethene	21		1.0	ug/L	20.0		106	60-147			
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0		111	54-134			
Trichloroethene	21		1.0	ug/L	20.0		104	62-135			
Vinyl chloride	19		1.0	ug/L	20.0		97	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*107*	*41-146*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L16010 - EPA 5030B_MS - Continued

Matrix Spike (1L16010-MS1) Prepared: 12/16/2021 00:00 Analyzed: 12/16/2021 10:50

Source: AE09632-11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0	0.94 U	103	47-139			
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	104	56-128			
Freon 113	21		1.0	ug/L	20.0	0.73 U	107	47-173			
Tetrachloroethene	22		1.0	ug/L	20.0	0.76 U	110	60-147			
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	114	54-134			
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	101	62-135			
Vinyl chloride	19		1.0	ug/L	20.0	0.71 U	93	20-167			
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

Matrix Spike Dup (1L16010-MSD1) Prepared: 12/16/2021 00:00 Analyzed: 12/16/2021 11:17

Source: AE09632-11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	20		1.0	ug/L	20.0	0.94 U	102	47-139	0.6	16	
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	107	56-128	4	17	
Freon 113	22		1.0	ug/L	20.0	0.73 U	111	47-173	4	30	
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	102	60-147	7	21	
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	113	54-134	1	20	
Trichloroethene	21		1.0	ug/L	20.0	0.89 U	103	62-135	2	20	
Vinyl chloride	19		1.0	ug/L	20.0	0.71 U	96	20-167	3	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

AE09632

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - Wilson Corners	COC No.	Page: 1 of 5	
Site Location: Wilson Corners IM	PO No.	Project No. 60637998.4	Phase:
TO No.: 80KSC019F0082 — AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747 — Madan Parsotan (321) 696-6000	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10	
Lab Name: ENCO — Turnaround Time(specify): Standard 14 day	**Sample Analysis Requested** (*Enter number of containers for each test*)		

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537									Comments
	WILC-NPSH-MW0027- 612.5-20211214	WILC-NPSH-MW0027	20211214	1118	WG	N	G	3	3										
	WILC-MW0048S-	WILC-MW0048S	202112		WG	N	G	3	3										
	WILC-MW0053S-	WILC-MW0053S	202112		WG	N	G	3	3										
	WILC-MW0060S-	WILC-MW0060S	202112		WG	N	G	3	3										
	WILC-MW0061S-	WILC-MW0061S	202112		WG	N	G	3	3										
	WILC-MW0074-	WILC-MW0074	202112		WG	N	G	3	3										
	WILC-MW0091-	WILC-MW0091	202112		WG	N	G	3	3										
	WILC-MW0095- 605.5-20211214	WILC-MW0095	20211214	1220	WG	N	G	3	3										
	WILC-MW0152-	WILC-MW0152	202112		WG	N	G	3	3										
	WILC-MW0154-	WILC-MW0154	202112		WG	N	G	3	3										
	WILC-MW0156-	WILC-MW0156	202112		WG	N	G	3	3										
	WILC-NPSH-MW0010-	WILC-NPSH-MW0010	202112		WG	N	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1			1	12/13/21	0600
2	12/14/21	1515	2 James W Gregory	12/14/21	1515
3			3		

Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

C2184 4.2°C

AE091632

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name:	NASA KSC - Wilson Corners			COC No.	Page: 2 of 5
Site Location:	Wilson Corners IM			PO No.	Project No. 60637998.4 Phase:
TO No.:	80KSC019F0082	AECOM Project Manager:	**Jennifer Joyal cc: Linnea King Clark**	Send Invoice To:	Instructions in MSA # 19S-24548-GV03 EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000		Deliver Sample Kits To:	AECOM Depot, 523 18th Street, Orlando Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name:	ENCO	Turnaround Time(specify):	Standard 14 day	Deliver Samples To:	ENCO Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537									Comments
	WILC-NPSH-MW0011-	WILC-NPSH-MW0011	202112		WG	N	G	3	3										
	WILC-NPSH-MW0018-	WILC-NPSH-MW0018	202112		WG	N	G	3	3										
	WILC-NPSH-MW0019-	WILC-NPSH-MW0019	202112		WG	N	G	3	3										
	WILC-NPSH-MW0020-0315-20211214	WILC-NPSH-MW0020	20211214	1028	WG	N	G	3	3										
	WILC-MW0040-	WILC-MW0040	202112		WG	N	G	3	3										
	WILC-MW0047I-	WILC-MW0047I	202112		WG	N	G	3	3										
	WILC-MW0054I-	WILC-MW0054I	202112		WG	N	G	3	3										
	WILC-MW0060I-	WILC-MW0060I	202112		WG	N	G	3	3										
	WILC-MW0069-	WILC-MW0069	202112		WG	N	G	3	3										
	WILC-MW0077- 0315-20211214	WILC-MW0077	20211214	1317	WG	N	G	3	3										
	WILC-MW0087-	WILC-MW0087	202112		WG	N	G	3	3										
	WILC-MW0088-	WILC-MW0088	202112		WG	N	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00		12/13/21	0600
2		12/14/21	1515		12/14/21	1515
3						

Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

AE09632

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - Wilson Corners			COC No.	Page: 3 of 5	
Site Location: Wilson Corners IM			PO No.	Project No. 60637998.4	Phase:
TO No.: 80KSC019F0082	AECOM Project Manager:	**Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
			Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10	
Lab Name:	ENCO	Turnaround Time(specify):	Standard 14 day		

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537									Comments
	WILC-MW0090-	WILC-MW0090	202112		WG	N	G	3	3										
	WILC-MW0096- 020.0-20211214	WILC-MW0096	20211214	1206	WG	N	G	3	3										
	WILC-MW0097- 031.5-20211214	WILC-MW0097	20211214	1244	WG	N	G	3	3										
	WILC-MW0107-	WILC-MW0107	202112		WG	N	G	3	3										
	WILC-MW0109- 020.0-20211214	WILC-MW0109	20211214	1631	WG	N	G	3	3										
	WILC-MW0111- 031.5-20211214	WILC-MW0111	20211214	1359	WG	N	G	3	3										
	WILC-MW0114- 020.0-20211214	WILC-MW0114	20211214	1321	WG	N	G	3	3										
	WILC-MW0115-	WILC-MW0115	202112		WG	N	G	3	3										
	WILC-MW0117-	WILC-MW0117	202112		WG	N	G	3	3										
	WILC-MW0122-	WILC-MW0122	202112		WG	N	G	3	3										
	WILC-MW0126- 020.0-20211214	WILC-MW0126	20211214	0931	WG	N	G	3	3										
	WILC-MW0129-	WILC-MW0129	202112		WG	N	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1			1	12/13/21	0600
2	12/14/21	1515	2	12/14/21	1515
3			3		

Samples Iced?(check) Yes____ No____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

AE09632

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 4 of 5

Project Name: NASA KSC - Wilson Corners | PO No. | Project No. 60637998.4 | Phase:

Site Location: Wilson Corners IM | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0082 | AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark** | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to Jennifer Chastain Cc: Teresa Amentt Jennings

Sampler/Phone # | Dustin Slater (407) 766-0747 | Madan Parsotan (321) 696-6000 | Deliver Samples To: ENCO | Site-Spicific WS#15 from QAPP: 15-10

Lab Name: ENCO | Turnaround Time(specify): Standard 14 day

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3)	4 DEG	4 DEG										Comments
								Total No. of Containers	Select VOCs by SW8260B (Unpreserved)	Select PFAS by 537											
	WILC-MW0153-	WILC-MW0153	202112		WG	N	G	3	3											
	WILC-MW0021D-	WILC-MW0021D	202112		WG	N	G	3	3											
	WILC-NPSH-MW0023-	WILC-NPSH-MW0023	202112		WG	N	G	3	3											
	WILC-NPSH-MW0030-042.5-20211214	WILC-NPSH-MW0030	20211214	0953	WG	N	G	3	3											
	WILC-MW0046D-	WILC-MW0046D	202112		WG	N	G	3	3											
	WILC-MW0053D-	WILC-MW0053D	202112		WG	N	G	3	3											
	WILC-MW0054D-	WILC-MW0054D	202112		WG	N	G	3	3											
	WILC-MW0055D-	WILC-MW0055D	202112		WG	N	G	3	3											
	WILC-MW0070-042.5-20211214	WILC-MW0070	20211214	1115	WG	N	G	3	3											
	WILC-MW0079-042.5-20211214	WILC-MW0079	20211214	1359	WG	N	G	3	3											
	WILC-MW0118-	WILC-MW0118	202112		WG	N	G	3	3											
	WILC-MW0078-	WILC-MW0078	202112		WG	N	G	3	3											

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	12-08-21	14:00	1	12/13/21	0600
2	12/14/21	1515	2	12/14/21	1515
3			3		

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

AE091632

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners	COC No.	Page: 5 of 5	
Site Location: Wilson Corners IM	PO No.	Project No. 60637998.4	Phase:
TO No.: 80KSC019F0082 AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03		EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747 Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando		Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO		Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-MW0130-~~	~~WILC-MW0130~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-IDW01~~	~~WILC-IDW01~~	~~202112~~		~~IDW~~	~~IDW~~	~~G~~	~~5~~	~~3~~	~~2~~	
	~~WILC-IDW02~~	~~WILC-IDW02~~	~~202112~~		~~IDW~~	~~IDW~~	~~G~~	~~5~~	~~3~~	~~2~~	
	WILC-TB01- ~~1021214~~	WILC-TB01	202112~~14~~	0900	WQ	TB	G	3	3		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00		12/13/21	0600
2		12/14/21	1515		12/14/21	1515
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, December 23, 2021
AECOM Technical Services, Inc. (SE004)
Attn: Teresa Amentt Jennings
150 N. Orange Ave, Suite 200
Orlando, FL 32801

RE: Laboratory Results for
Project Number: 60637998.4, Project Name/Desc: NASA KSC - Wilson Corners
ENCO Workorder(s): AE09904

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, December 15, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: WILC-MW0048S-007.0-20211215 **Lab ID: AE09904-01** **Sampled: 12/15/21 09:38** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 11:36

Client ID: WILC-MW0053S-006.5-20211215 **Lab ID: AE09904-02** **Sampled: 12/15/21 13:49** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 12:04

Client ID: WILC-MW0060S-008.0-20211215 **Lab ID: AE09904-03** **Sampled: 12/15/21 11:28** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 12:33

Client ID: WILC-MW0061S-007.5-20211215 **Lab ID: AE09904-04** **Sampled: 12/15/21 10:53** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 13:02

Client ID: WILC-MW0054I-031.5-20211215 **Lab ID: AE09904-05** **Sampled: 12/15/21 12:56** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 13:30

Client ID: WILC-MW0060I-031.5-20211215 **Lab ID: AE09904-06** **Sampled: 12/15/21 11:28** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 13:59

Client ID: WILC-MW0107-020.0-20211215 **Lab ID: AE09904-07** **Sampled: 12/15/21 10:18** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 14:28

Client ID: WILC-MW0129-020.0-20211215 **Lab ID: AE09904-08** **Sampled: 12/15/21 15:34** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 14:56

Client ID: WILC-MW0046D-042.5-20211215 **Lab ID: AE09904-09** **Sampled: 12/15/21 08:48** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:34	12/17/21 15:25

Client ID: WILC-MW0053D-042.5-20211215 **Lab ID: AE09904-10** **Sampled: 12/15/21 14:25** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/17/21 23:34

Client ID: WILC-MW0054D-042.5-20211215 **Lab ID: AE09904-11** **Sampled: 12/15/21 13:40** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/18/21 00:03

Client ID: WILC-MW0055D-042.5-20211215 **Lab ID: AE09904-12** **Sampled: 12/15/21 15:15** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/18/21 00:32

Client ID: WILC-MW0078-067.5-20211215 **Lab ID: AE09904-13** **Sampled: 12/15/21 14:19** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/18/21 01:00

Client ID: WILC-MW0130-061.0-20211215 **Lab ID: AE09904-14** **Sampled: 12/15/21 14:55** **Received: 12/15/21 16:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/18/21 01:29

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: WILC-TB01-20211215 **Lab ID:** AE09904-15 **Sampled:** 12/15/21 08:30 **Received:** 12/15/21 16:50

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/29/21	12/17/21 08:51	12/18/21 01:58

SAMPLE DETECTION SUMMARY

Client ID: WILC-MW0048S-007.0-20211215 **Lab ID:** AE09904-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.0		0.53	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0054I-031.5-20211215 **Lab ID:** AE09904-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	4.8		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.1		0.73	1.0	ug/L	EPA 8260D	
Trichloroethene	5.7		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	17		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0060I-031.5-20211215 **Lab ID:** AE09904-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	9.8		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	4.2		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	29		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0107-020.0-20211215 **Lab ID:** AE09904-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	3.6		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.8		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	5.7		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0129-020.0-20211215 **Lab ID:** AE09904-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	63		2.6	5.0	ug/L	EPA 8260D	
Freon 113	290		3.6	5.0	ug/L	EPA 8260D	
Trichloroethene	21		4.4	5.0	ug/L	EPA 8260D	
Vinyl chloride	8.1		3.6	5.0	ug/L	EPA 8260D	

Client ID: WILC-MW0046D-042.5-20211215 **Lab ID:** AE09904-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.61	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	1.6		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0053D-042.5-20211215 **Lab ID:** AE09904-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.95	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	7.8		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0054D-042.5-20211215 **Lab ID:** AE09904-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	8.1		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	0.74	I	0.73	1.0	ug/L	EPA 8260D	
Trichloroethene	1.1		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	10		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0055D-042.5-20211215 **Lab ID:** AE09904-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	20		0.53	1.0	ug/L	EPA 8260D	
Freon 113	12		0.73	1.0	ug/L	EPA 8260D	
Trichloroethene	1.6		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	64		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0078-067.5-20211215 **Lab ID:** AE09904-13

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	3.8		0.53	1.0	ug/L	EPA 8260D	
Trichloroethene	1.8		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	11		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0130-061.0-20211215 **Lab ID:** AE09904-14

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	26		0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	39		0.71	1.0	ug/L	EPA 8260D	

ANALYTICAL RESULTS

Description: WILC-MW0048S-007.0-20211215 **Lab Sample ID:** AE09904-01 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 09:38 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**2.0**		ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 11:36	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 11:36*	*nmc*	
Dibromofluoromethane	*51*	*1*	*50.0*	*103 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 11:36*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 11:36*	*nmc*	

Description: WILC-MW0053S-006.5-20211215 **Lab Sample ID:** AE09904-02 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 13:49 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 12:04	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*95 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 12:04*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 12:04*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*92 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 12:04*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0060S-008.0-20211215 **Lab Sample ID:** AE09904-03 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 11:28 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 12:33	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 12:33*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 12:33*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 12:33*	*nmc*	

Description: WILC-MW0061S-007.5-20211215 **Lab Sample ID:** AE09904-04 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 10:53 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 13:02	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*95 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 13:02*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:02*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:02*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0054I-031.5-20211215 **Lab Sample ID:** AE09904-05 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 12:56 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**4.8**		ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
trans-1,2-Dichloroethene [156-60-5]^	**1.1**		ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
Trichloroethene [79-01-6]^	**5.7**		ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	
Vinyl chloride [75-01-4]^	**17**		ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 13:30	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 13:30*	*nmc*	
Dibromofluoromethane	*51*	*1*	*50.0*	*101 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:30*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:30*	*nmc*	

Description: WILC-MW0060I-031.5-20211215 **Lab Sample ID:** AE09904-06 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 11:28 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**9.8**		ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
trans-1,2-Dichloroethene [156-60-5]^	**4.2**		ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	
Vinyl chloride [75-01-4]^	**29**		ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 13:59	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*98 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 13:59*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:59*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 13:59*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0107-020.0-20211215 **Lab Sample ID:** AE09904-07 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 10:18 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**3.6**		ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
trans-1,2-Dichloroethene [156-60-5]^	**1.8**		ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	
Vinyl chloride [75-01-4]^	**5.7**		ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 14:28	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*98 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 14:28*	*nmc*	
Dibromofluoromethane	*53*	*1*	*50.0*	*107 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 14:28*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*95 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 14:28*	*nmc*	

Description: WILC-MW0129-020.0-20211215 **Lab Sample ID:** AE09904-08 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 15:34 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	4.7	U	ug/L	5	4.7	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**63**		ug/L	5	2.6	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
Freon 113 [76-13-1]^	**290**		ug/L	5	3.6	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
Tetrachloroethene [127-18-4]^	3.8	U	ug/L	5	3.8	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
trans-1,2-Dichloroethene [156-60-5]^	3.6	U	ug/L	5	3.6	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
Trichloroethene [79-01-6]^	**21**		ug/L	5	4.4	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	
Vinyl chloride [75-01-4]^	**8.1**		ug/L	5	3.6	5.0	1L17003	EPA 8260D	12/17/21 14:56	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 14:56*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 14:56*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 14:56*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0046D-042.5-20211215 **Lab Sample ID:** AE09904-09 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 08:48 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**0.61**	I	ug/L	1	0.53	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	
Vinyl chloride [75-01-4]^	**1.6**		ug/L	1	0.71	1.0	1L17003	EPA 8260D	12/17/21 15:25	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17003*	*EPA 8260D*	*12/17/21 15:25*	*nmc*	
Dibromofluoromethane	*54*	*1*	*50.0*	*107 %*	*53-146*	*1L17003*	*EPA 8260D*	*12/17/21 15:25*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1L17003*	*EPA 8260D*	*12/17/21 15:25*	*nmc*	

Description: WILC-MW0053D-042.5-20211215 **Lab Sample ID:** AE09904-10 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 14:25 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**0.95**	I	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	
Vinyl chloride [75-01-4]^	**7.8**		ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/17/21 23:34	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/17/21 23:34*	*nmc*	
Dibromofluoromethane	*51*	*1*	*50.0*	*103 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/17/21 23:34*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/17/21 23:34*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0054D-042.5-20211215 **Lab Sample ID:** AE09904-11 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 13:40 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**8.1**		ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	**0.74**	I	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	
Trichloroethene [79-01-6]^	**1.1**		ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	
Vinyl chloride [75-01-4]^	**10**		ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 00:03	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*95 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 00:03*	*nmc*	
Dibromofluoromethane	*53*	*1*	*50.0*	*105 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 00:03*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 00:03*	*nmc*	

Description: WILC-MW0055D-042.5-20211215 **Lab Sample ID:** AE09904-12 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 15:15 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**20**		ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	
Freon 113 [76-13-1]^	**12**		ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	
Trichloroethene [79-01-6]^	**1.6**		ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	
Vinyl chloride [75-01-4]^	**64**		ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 00:32	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 00:32*	*nmc*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 00:32*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 00:32*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0078-067.5-20211215 **Lab Sample ID:** AE09904-13 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 14:19 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**3.8**		ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	
Trichloroethene [79-01-6]^	**1.8**		ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	
Vinyl chloride [75-01-4]^	**11**		ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 01:00	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*99 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 01:00*	*nmc*	
Dibromofluoromethane	*53*	*1*	*50.0*	*107 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:00*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:00*	*nmc*	

Description: WILC-MW0130-061.0-20211215 **Lab Sample ID:** AE09904-14 **Received:** 12/15/21 16:50
Matrix: Ground Water **Sampled:** 12/15/21 14:55 **Work Order:** AE09904
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**26**		ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	
Vinyl chloride [75-01-4]^	**39**		ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 01:29	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 01:29*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:29*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*95 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:29*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-TB01-20211215 **Lab Sample ID:** AE09904-15 **Received:** 12/15/21 16:50

Matrix: Ground Water **Sampled:** 12/15/21 08:30 **Work Order:** AE09904

Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 01:58	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 01:58*	*nmc*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:58*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*93 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 01:58*	*nmc*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17003 - EPA 5030B_MS

Blank (1L17003-BLK1) Prepared: 12/17/2021 00:00 Analyzed: 12/17/2021 09:41

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*45*			*ug/L*	*50.0*		*91*	*41-142*			
Dibromofluoromethane	*49*			*ug/L*	*50.0*		*97*	*53-146*			
Toluene-d8	*44*			*ug/L*	*50.0*		*88*	*41-146*			

LCS (1L17003-BS1) Prepared: 12/17/2021 00:00 Analyzed: 12/17/2021 07:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0		112	47-139			
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0		107	56-128			
Freon 113	22		1.0	ug/L	20.0		111	47-173			
Tetrachloroethene	19		1.0	ug/L	20.0		95	60-147			
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0		114	54-134			
Trichloroethene	20		1.0	ug/L	20.0		101	62-135			
Vinyl chloride	24		1.0	ug/L	20.0		119	20-167			
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*102*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*41-146*			

LCS Dup (1L17003-BSD1) Prepared: 12/17/2021 00:00 Analyzed: 12/17/2021 08:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0		108	47-139	3	16	
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0		104	56-128	3	17	
Freon 113	22		1.0	ug/L	20.0		108	47-173	3	30	
Tetrachloroethene	19		1.0	ug/L	20.0		93	60-147	2	21	
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0		108	54-134	5	20	
Trichloroethene	20		1.0	ug/L	20.0		101	62-135	0.1	20	
Vinyl chloride	23		1.0	ug/L	20.0		114	20-167	4	24	
4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*97*	*41-142*			
Dibromofluoromethane	*49*			*ug/L*	*50.0*		*99*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*41-146*			

Matrix Spike (1L17003-MS1) Prepared: 12/17/2021 00:00 Analyzed: 12/17/2021 08:43

Source: AE09904-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.94 U	118	47-139			
cis-1,2-Dichloroethene	24		1.0	ug/L	20.0	2.0	110	56-128			
Freon 113	22		1.0	ug/L	20.0	0.73 U	111	47-173			
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	99	60-147			
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.73 U	119	54-134			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17003 - EPA 5030B_MS - Continued

Matrix Spike (1L17003-MS1) Continued Prepared: 12/17/2021 00:00 Analyzed: 12/17/2021 08:43

Source: AE09904-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	21		1.0	ug/L	20.0	0.89 U	105	62-135			
Vinyl chloride	25		1.0	ug/L	20.0	0.71 U	127	20-167			
4-Bromofluorobenzene	*46*			*ug/L*	*50.0*		*93*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*96*	*53-146*			
Toluene-d8	*45*			*ug/L*	*50.0*		*90*	*41-146*			

Batch 1L17013 - EPA 5030B_MS

Blank (1L17013-BLK1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 18:18

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

LCS (1L17013-BS1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 16:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0		121	47-139			
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		114	56-128			
Freon 113	24		1.0	ug/L	20.0		119	47-173			
Tetrachloroethene	30		1.0	ug/L	20.0		152	60-147			QL-02
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0		120	54-134			
Trichloroethene	22		1.0	ug/L	20.0		109	62-135			
Vinyl chloride	22		1.0	ug/L	20.0		112	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

Matrix Spike (1L17013-MS1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 16:52

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	25		1.0	ug/L	20.0	0.94 U	125	47-139			
cis-1,2-Dichloroethene	29		1.0	ug/L	20.0	5.8	115	56-128			
Freon 113	23		1.0	ug/L	20.0	0.73 U	116	47-173			
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	98	60-147			
trans-1,2-Dichloroethene	25		1.0	ug/L	20.0	0.73 U	126	54-134			
Trichloroethene	23		1.0	ug/L	20.0	1.2	111	62-135			
Vinyl chloride	23		1.0	ug/L	20.0	0.71 U	117	20-167			
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17013 - EPA 5030B_MS - Continued

Matrix Spike (1L17013-MS1) Continued Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 16:52

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*95*	*41-146*			

Matrix Spike Dup (1L17013-MSD1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 17:20

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.94 U	119	47-139	5	16	
cis-1,2-Dichloroethene	28		1.0	ug/L	20.0	5.8	109	56-128	4	17	
Freon 113	22		1.0	ug/L	20.0	0.73 U	110	47-173	5	30	
Tetrachloroethene	19		1.0	ug/L	20.0	0.76 U	95	60-147	3	21	
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.73 U	120	54-134	5	20	
Trichloroethene	23		1.0	ug/L	20.0	1.2	110	62-135	0.7	20	
Vinyl chloride	23		1.0	ug/L	20.0	0.71 U	114	20-167	3	24	
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*49*			*ug/L*	*50.0*		*97*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*41-146*			

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

AEC9904

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners		COC No.	Page: 1 of 5
Site Location: Wilson Corners IM		PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-NPSH-MW0027~~	~~WILC-NPSH-MW0027~~	~~202112~~		~~WG~~	N	G	3	3		
	WILC-MW0048S- DUP-20211215	WILC-MW0048S	20211215	0938	WG	N	G	3	3		
	WILC-MW0053S- DUP-20211215	WILC-MW0053S	20211215	1349	WG	N	G	3	3		
	WILC-MW0060S-DUP-20211215	WILC-MW0060S	20211215	1128	WG	N	G	3	3		
	WILC-MW0061S-DUP-20211215	WILC-MW0061S	20211215	1053	WG	N	G	3	3		
	~~WILC-MW0074-~~	~~WILC-MW0074~~	~~202112~~		~~WG~~	N	G	3	3		
	~~WILC-MW0091-~~	~~WILC-MW0091~~	~~202112~~		~~WG~~	N	G	3	3		
	~~WILC-MW0095-~~	~~WILC-MW0095~~	~~202112~~		~~WG~~	N	G	3	3		
	~~WILC-MW0152-~~	~~WILC-MW0152~~	~~202112~~		~~WG~~	N	G	3	3		
	~~WILC-MW0154~~	~~WILC-MW0154~~	~~202112~~		~~WG~~	N	G	3	3		
	~~WILC-MW0156~~	~~WILC-MW0156~~	~~202112~~		~~WG~~	N	G	3	3		
	WILC-NPSH-MW0010-	~~WILC-NPSH-MW0010~~	~~202112~~		WG	N	G	3	3		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					12/15/21	0800
2		12/15/21	1050		12/15/21	1050
3						

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type: AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added: 4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C **If NO preservative** added leave blank

Rev 8/19

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2.2°C

AGO9864

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name:	NASA KSC - Wilson Corners	COC No.	Page: 2 of 5
Site Location:	Wilson Corners IM	PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747 Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name:	ENCO Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	Total No. of Containers (3)	Select VOCs by SW8260B (Unpreserved) 4 DEG	Select PFAS by 537 4 DEG	Comments
	WILC-NPSH-MW0011-	WILC-NPSH-MW0011	202112		WG	N	G	3	3		
	WILC-NPSH-MW0018-	WILC-NPSH-MW0018	202112		WG	N	G	3	3		
	WILC-NPSH-MW0019-	WILC-NPSH-MW0019	202112		WG	N	G	3	3		
	WILC-NPSH-MW0020-	WILC-NPSH-MW0020	202112		WG	N	G	3	3		
	WILC-MW0040-	WILC-MW0040	202112		WG	N	G	3	3		
	WILC-MW0047I-	WILC-MW0047I	202112		WG	N	G	3	3		
	WILC-MW0054I-0315-20211215	WILC-MW0054I	20211215	1256	WG	N	G	3	3		
	WILC-MW0060I-0315-20211215	WILC-MW0060I	20211215	1128	WG	N	G	3	3		
	WILC-MW0069-	WILC-MW0069	202112		WG	N	G	3	3		
	WILC-MW0077-	WILC-MW0077	202112		WG	N	G	3	3		
	WILC-MW0087-	WILC-MW0087	202112		WG	N	G	3	3		
	WILC-MW0088-	WILC-MW0088	202112		WG	N	G	3	3		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00			
2		12/15/21	1600		12/15/21	1600
3						

Sample Shipment and Delivery Details

Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type: AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added: 4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank

Rev 8/19

AEC9904

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners		COC No.	Page: 3 of 5
Site Location: Wilson Corners IM		PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
		Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	**Sample Analysis Requested** (*Enter number of containers for each test*)	

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-MW0098-~~	~~WILC-MW0098~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0096~~	~~WILC-MW0096~~	~~202112~~		WG	N	G	3	3		
	~~WILC-MW0097-~~	~~WILC-MW0097~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-MW0107-020.0-20211215	WILC-MW0107	202112 15	1018	WG	N	G	3	3		
	~~WILC-MW0109~~	WILC-MW0109	202112		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0111-~~	WILC-MW0111	202112		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0114-~~	WILC-MW0114	202112		WG	N	G	3	3		
	~~WILC-MW0115-~~	~~WILC-MW0115~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0117-~~	WILC-MW0117	202112		WG	N	G	3	3		
	~~WILC-MW0122-~~	~~WILC-MW0122~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0126-~~	~~WILC-MW0126~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-MW0129-020.0-20211215	WILC-MW0129	202112 15	1534	WG	N	G	3	3		

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					12/15/21	0600
2		12/15/21	1605		12/15/21	1605
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank

Rev 8/19

AECOM 9964

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name:	NASA KSC - Wilson Corners	COC No.	Page: 4 of 5
Site Location:	Wilson Corners IM	PO No.	Project No. 60637998.4 Phase:
TO No.:	80KSC019F0082	AECOM Project Manager:	Jennifer Joyal cc: Linnea King Clark
Send Invoice To:	Instructions in MSA # 19S-24548-GV03	EDD to:	Jennifer Chastain Cc: Teresa Amentt Jennings
Deliver Sample Kits To:	AECOM Depot, 523 18th Street, Orlando	Report to	Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747 Madan Parsotan (321) 696-6000	Deliver Samples To:	ENCO Site-Spicific WS#15 from QAPP: 15-10
Lab Name:	ENCO	Turnaround Time(specify):	Standard 14 day

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-MW0153-~~	WILC-MW0153	202112		WG	N	G	3	3		
	~~WILC-MW0021D-~~	WILC-MW0021D	202112		WG	N	G	3	3		
	~~WILC-NPSH-MW0023-~~	WILC-NPSH-MW0023	202112		WG	N	G	3	3		
	~~WILC-NPSH-MW0030-~~	WILC-NPSH-MW0030	202112		WG	N	G	3	3		
	WILC-MW0046D-042.5-20211215	WILC-MW0046D	20211215	0848	WG	N	G	3	3		
	WILC-MW0053D-042.5-20211215	WILC-MW0053D	20211215	1425	WG	N	G	3	3		
	WILC-MW0054D-042.5-20211215	WILC-MW0054D	20211215	1340	WG	N	G	3	3		
	WILC-MW0055D-042.5-20211215	WILC-MW0055D	20211215	1515	WG	N	G	3	3		
	~~WILC-MW0070-~~	WILC-MW0070	202112		WG	N	G	3	3		
	~~WILC-MW0079-~~	WILC-MW0079	202112		WG	N	G	3	3		
	~~WILC-MW0118-~~	WILC-MW0118	202112		WG	N	G	3	3		
	WILC-MW0078-067.5-20211215	WILC-MW0078	20211215	1419	WG	N	G	3	3		

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00		12/15/21	0800
2		12/15/21	1613		12/15/21	1680
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank

Rev 8/19

ACO 9904

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.		Page: 5 of 5	
Project Name: NASA KSC - Wilson Corners	PO No.	Project No. 60637998.4	Phase:
Site Location: Wilson Corners IM	Send Invoice To: Instructions in MSA # 19S-24548-GV03		EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
TO No.: 80KSC019F0082 / AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando		Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747 / Madan Parsotan (321) 696-6000	Deliver Samples To: ENCO		Site-Spicific WS#15 from QAPP: 15-10
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	**Sample Analysis Requested** (*Enter number of containers for each test*)	

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	WILC-MW0130-0610-20211215	WILC-MW0130	20211215	1455	WG	N	G	3	3		
	~~WILC-IDW01-~~	~~WILC-IDW01~~	~~202112~~		IDW	IDW	G	5	3	2	
	~~WILC-IDW02-~~	~~WILC-IDW02~~	~~202112~~		IDW	IDW	G	5	3	2	
	WILC-TB01- 20211215	WILC-TB01	20211215	0830	WQ	TB	G	3	3		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes____ No____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00		12/15/21	0600
2		12/15/21	1600			
3						

(1) **AA**=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) **Sample Type:** **AB**=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) **Preservative added:** **4 DEG C**=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, December 23, 2021
AECOM Technical Services, Inc. (SE004)
Attn: Teresa Amentt Jennings
150 N. Orange Ave, Suite 200
Orlando, FL 32801

RE: Laboratory Results for
Project Number: 60637998.4, Project Name/Desc: NASA KSC - Wilson Corners
ENCO Workorder(s): AE09949

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, December 16, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: WILC-MW0074-004.5-20211216 **Lab ID: AE09949-01** **Sampled: 12/16/21 13:39** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 08:51	12/18/21 02:26

Client ID: WILC-MW0091-004.0-20211216 **Lab ID: AE09949-02** **Sampled: 12/16/21 11:05** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 08:51	12/18/21 02:55

Client ID: WILC-MW0154-010.0-20211216 **Lab ID: AE09949-03** **Sampled: 12/16/21 10:41** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 08:51	12/18/21 03:24

Client ID: WILC-NPSH-MW0010-031.5-202112 16 **Lab ID: AE09949-04** **Sampled: 12/16/21 13:18** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 08:51	12/18/21 03:53

Client ID: WILC-NPSH-MW0011-030.5-202112 16 **Lab ID: AE09949-05** **Sampled: 12/16/21 08:31** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 02:35

Client ID: WILC-MW0087-020.0-20211216 **Lab ID: AE09949-06** **Sampled: 12/16/21 08:51** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 03:03

Client ID: WILC-MW0088-031.5-20211216 **Lab ID: AE09949-07** **Sampled: 12/16/21 09:26** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 03:31

Client ID: WILC-MW0090-031.5-20211216 **Lab ID: AE09949-08** **Sampled: 12/16/21 10:19** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 03:58

Client ID: WILC-MW0115-020.0-20211216 **Lab ID: AE09949-09** **Sampled: 12/16/21 12:54** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 04:26

Client ID: WILC-MW0117-020.0-20211216 **Lab ID: AE09949-10** **Sampled: 12/16/21 09:08** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 04:54

Client ID: WILC-MW0122-020.-20211216 **Lab ID: AE09949-11** **Sampled: 12/16/21 11:26** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/17/21 11:33	12/18/21 05:21

Client ID: WILC-MW0021D-042.5-20211216 **Lab ID: AE09949-12** **Sampled: 12/16/21 14:21** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/20/21 08:49	12/20/21 14:02

Client ID: WILC-MW0118-042.5-20211216 **Lab ID: AE09949-13** **Sampled: 12/16/21 10:08** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/20/21 08:49	12/20/21 14:30

Client ID: WILC-TB01-20211216 **Lab ID: AE09949-14** **Sampled: 12/16/21 08:15** **Received: 12/16/21 15:37**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/30/21	12/20/21 08:49	12/20/21 14:58

SAMPLE DETECTION SUMMARY

Client ID: WILC-MW0087-020.0-20211216 **Lab ID:** AE09949-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	3.4		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.5		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	9.0		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0088-031.5-20211216 **Lab ID:** AE09949-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	12		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	3.3		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	53		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0090-031.5-20211216 **Lab ID:** AE09949-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	1.2		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	3.5		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	4.2		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0117-020.0-20211216 **Lab ID:** AE09949-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	5.6		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	4.6		0.73	1.0	ug/L	EPA 8260D	
Trichloroethene	1.4		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	17		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0118-042.5-20211216 **Lab ID:** AE09949-13

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.88	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	1.1		0.71	1.0	ug/L	EPA 8260D	

ANALYTICAL RESULTS

Description: WILC-MW0074-004.5-20211216 **Lab Sample ID:** AE09949-01 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 13:39 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 02:26	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 02:26*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 02:26*	*nmc*	
Toluene-d8	*48*	*1*	*50.0*	*96 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 02:26*	*nmc*	

Description: WILC-MW0091-004.0-20211216 **Lab Sample ID:** AE09949-02 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 11:05 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 02:55	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 02:55*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 02:55*	*nmc*	
Toluene-d8	*49*	*1*	*50.0*	*97 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 02:55*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-MW0154-010.0-20211216 **Lab Sample ID:** AE09949-03 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 10:41 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 03:24	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 03:24*	*nmc*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 03:24*	*nmc*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 03:24*	*nmc*	

Description: WILC-NPSH-MW0010-031.5-20211216 **Lab Sample ID:** AE09949-04 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 13:18 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	QL-02, QV-01
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17013	EPA 8260D	12/18/21 03:53	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1L17013*	*EPA 8260D*	*12/18/21 03:53*	*nmc*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*53-146*	*1L17013*	*EPA 8260D*	*12/18/21 03:53*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*92 %*	*41-146*	*1L17013*	*EPA 8260D*	*12/18/21 03:53*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-NPSH-MW0011-030.5-20211216 **Lab Sample ID:** AE09949-05 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 08:31 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 02:35	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 02:35*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*100 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 02:35*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 02:35*	*KKW*	

Description: WILC-MW0087-020.0-20211216 **Lab Sample ID:** AE09949-06 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 08:51 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**3.4**		ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**1.5**		ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	
Vinyl chloride [75-01-4]^	**9.0**		ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 03:03	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*105 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 03:03*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:03*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:03*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0088-031.5-20211216 **Lab Sample ID:** AE09949-07 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 09:26 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**12**		ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**3.3**		ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	
Vinyl chloride [75-01-4]^	**53**		ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 03:31	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 03:31*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*103 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:31*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:31*	*KKW*	

Description: WILC-MW0090-031.5-20211216 **Lab Sample ID:** AE09949-08 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 10:19 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**1.2**		ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**3.5**		ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	
Vinyl chloride [75-01-4]^	**4.2**		ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 03:58	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 03:58*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*99 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:58*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 03:58*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0115-020.0-20211216 **Lab Sample ID:** AE09949-09 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 12:54 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 04:26	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 04:26*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 04:26*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 04:26*	*KKW*	

Description: WILC-MW0117-020.0-20211216 **Lab Sample ID:** AE09949-10 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 09:08 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**5.6**		ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**4.6**		ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
Trichloroethene [79-01-6]^	**1.4**		ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	
Vinyl chloride [75-01-4]^	**17**		ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 04:54	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*102 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 04:54*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*101 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 04:54*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*103 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 04:54*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0122-020.-20211216 **Lab Sample ID:** AE09949-11 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 11:26 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L17025	EPA 8260D	12/18/21 05:21	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*103 %*	*41-142*	*1L17025*	*EPA 8260D*	*12/18/21 05:21*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1L17025*	*EPA 8260D*	*12/18/21 05:21*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*103 %*	*41-146*	*1L17025*	*EPA 8260D*	*12/18/21 05:21*	*KKW*	

Description: WILC-MW0021D-042.5-20211216 **Lab Sample ID:** AE09949-12 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 14:21 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 14:02	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 14:02*	*KKW*	
Dibromofluoromethane	*53*	*1*	*50.0*	*106 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:02*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:02*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0118-042.5-20211216 **Lab Sample ID:** AE09949-13 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 10:08 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**0.88**	I	ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	
Vinyl chloride [75-01-4]^	**1.1**		ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 14:30	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 14:30*	*KKW*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:30*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*107 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:30*	*KKW*	

Description: WILC-TB01-20211216 **Lab Sample ID:** AE09949-14 **Received:** 12/16/21 15:37
Matrix: Ground Water **Sampled:** 12/16/21 08:15 **Work Order:** AE09949
Project: NASA KSC - Wilson Corners **Sampled By:** D.Slater/M.Parsotan

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 14:58	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*37*	*1*	*50.0*	*75 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 14:58*	*KKW*	
Dibromofluoromethane	*38*	*1*	*50.0*	*76 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:58*	*KKW*	
Toluene-d8	*38*	*1*	*50.0*	*75 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 14:58*	*KKW*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17013 - EPA 5030B_MS

Blank (1L17013-BLK1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 18:18

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

LCS (1L17013-BS1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 16:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0		121	47-139			
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		114	56-128			
Freon 113	24		1.0	ug/L	20.0		119	47-173			
Tetrachloroethene	30		1.0	ug/L	20.0		152	60-147			QL-02
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0		120	54-134			
Trichloroethene	22		1.0	ug/L	20.0		109	62-135			
Vinyl chloride	22		1.0	ug/L	20.0		112	20-167			
4-Bromofluorobenzene	*50*			*ug/L*	*50.0*		*100*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

Matrix Spike (1L17013-MS1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 16:52

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	25		1.0	ug/L	20.0	0.94 U	125	47-139			
cis-1,2-Dichloroethene	29		1.0	ug/L	20.0	5.8	115	56-128			
Freon 113	23		1.0	ug/L	20.0	0.73 U	116	47-173			
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	98	60-147			
trans-1,2-Dichloroethene	25		1.0	ug/L	20.0	0.73 U	126	54-134			
Trichloroethene	23		1.0	ug/L	20.0	1.2	111	62-135			
Vinyl chloride	23		1.0	ug/L	20.0	0.71 U	117	20-167			
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*50*			*ug/L*	*50.0*		*100*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*95*	*41-146*			

Matrix Spike Dup (1L17013-MSD1) Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 17:20

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.94 U	119	47-139	5	16	
cis-1,2-Dichloroethene	28		1.0	ug/L	20.0	5.8	109	56-128	4	17	
Freon 113	22		1.0	ug/L	20.0	0.73 U	110	47-173	5	30	
Tetrachloroethene	19		1.0	ug/L	20.0	0.76 U	95	60-147	3	21	
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.73 U	120	54-134	5	20	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17013 - EPA 5030B_MS - Continued

Matrix Spike Dup (1L17013-MSD1) Continued Prepared: 12/17/2021 08:51 Analyzed: 12/17/2021 17:20

Source: AE09590-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	23		1.0	ug/L	20.0	1.2	110	62-135	0.7	20	
Vinyl chloride	23		1.0	ug/L	20.0	0.71 U	114	20-167	3	24	
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*96*	*41-142*			
Dibromofluoromethane	*49*			*ug/L*	*50.0*		*97*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*41-146*			

Batch 1L17025 - EPA 5030B_MS

Blank (1L17025-BLK1) Prepared: 12/17/2021 11:33 Analyzed: 12/17/2021 20:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*49*			*ug/L*	*50.0*		*98*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*104*	*41-146*			

LCS (1L17025-BS1) Prepared: 12/17/2021 11:33 Analyzed: 12/17/2021 18:16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0		93	47-139			
cis-1,2-Dichloroethene	20		1.0	ug/L	20.0		101	56-128			
Freon 113	20		1.0	ug/L	20.0		98	47-173			
Tetrachloroethene	18		1.0	ug/L	20.0		92	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		104	54-134			
Trichloroethene	19		1.0	ug/L	20.0		93	62-135			
Vinyl chloride	17		1.0	ug/L	20.0		84	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*52*			*ug/L*	*50.0*		*105*	*41-146*			

Matrix Spike (1L17025-MS1) Prepared: 12/17/2021 11:33 Analyzed: 12/17/2021 18:44

Source: AE09700-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	2300		100	ug/L	2000	94 U	113	47-139			
cis-1,2-Dichloroethene	2100		100	ug/L	2000	53 U	106	56-128			
Freon 113	2200		100	ug/L	2000	73 U	111	47-173			
Tetrachloroethene	2200		100	ug/L	2000	76 U	111	60-147			
trans-1,2-Dichloroethene	2300		100	ug/L	2000	73 U	117	54-134			
Trichloroethene	2100		100	ug/L	2000	89 U	105	62-135			
Vinyl chloride	2100		100	ug/L	2000	71 U	103	20-167			
4-Bromofluorobenzene	*5400*			*ug/L*	*5000*		*108*	*41-142*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L17025 - EPA 5030B_MS - Continued

Matrix Spike (1L17025-MS1) Continued Prepared: 12/17/2021 11:33 Analyzed: 12/17/2021 18:44

Source: AE09700-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dibromofluoromethane	*5200*			*ug/L*	*5000*		*104*	*53-146*			
Toluene-d8	*5400*			*ug/L*	*5000*		*107*	*41-146*			

Matrix Spike Dup (1L17025-MSD1) Prepared: 12/17/2021 11:33 Analyzed: 12/17/2021 19:12

Source: AE09700-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	2200		100	ug/L	2000	94 U	108	47-139	5	16	
cis-1,2-Dichloroethene	2200		100	ug/L	2000	53 U	108	56-128	1	17	
Freon 113	2200		100	ug/L	2000	73 U	111	47-173	0.6	30	
Tetrachloroethene	2100		100	ug/L	2000	76 U	107	60-147	4	21	
trans-1,2-Dichloroethene	2300		100	ug/L	2000	73 U	114	54-134	2	20	
Trichloroethene	2000		100	ug/L	2000	89 U	101	62-135	4	20	
Vinyl chloride	2000		100	ug/L	2000	71 U	102	20-167	1	24	
4-Bromofluorobenzene	*5300*			*ug/L*	*5000*		*106*	*41-142*			
Dibromofluoromethane	*5100*			*ug/L*	*5000*		*102*	*53-146*			
Toluene-d8	*5300*			*ug/L*	*5000*		*106*	*41-146*			

Batch 1L20014 - EPA 5030B_MS

Blank (1L20014-BLK1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 09:24

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*102*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1L20014-BS1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 08:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0		97	47-139			
cis-1,2-Dichloroethene	20		1.0	ug/L	20.0		99	56-128			
Freon 113	19		1.0	ug/L	20.0		94	47-173			
Tetrachloroethene	22		1.0	ug/L	20.0		110	60-147			
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0		102	54-134			
Trichloroethene	19		1.0	ug/L	20.0		96	62-135			
Vinyl chloride	18		1.0	ug/L	20.0		90	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*105*	*41-146*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L20014 - EPA 5030B_MS - Continued

Matrix Spike (1L20014-MS1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 11:16

Source: AE09875-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.94 U	116	47-139			
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.53 U	116	56-128			
Freon 113	24		1.0	ug/L	20.0	0.73 U	119	47-173			
Tetrachloroethene	21		1.0	ug/L	20.0	0.76 U	105	60-147			
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.73 U	121	54-134			
Trichloroethene	21		1.0	ug/L	20.0	0.89 U	104	62-135			
Vinyl chloride	21		1.0	ug/L	20.0	0.71 U	107	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike Dup (1L20014-MSD1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 11:44

Source: AE09875-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.94 U	111	47-139	4	16	
cis-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.53 U	110	56-128	6	17	
Freon 113	22		1.0	ug/L	20.0	0.73 U	112	47-173	6	30	
Tetrachloroethene	21		1.0	ug/L	20.0	0.76 U	104	60-147	2	21	
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	117	54-134	3	20	
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	101	62-135	3	20	
Vinyl chloride	21		1.0	ug/L	20.0	0.71 U	103	20-167	4	24	
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.
QL-02	The associated laboratory control sample exhibited high bias; since the result is ND, there is no impact.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

AE09949

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners		COC No.	Page: 1 of 5
Site Location: Wilson Corners IM		PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-NPSH-MW0037~~	~~WILC-NPSH-MW0037~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0048S~~	~~WILC-MW0048S~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	3		
	~~WILC-MW0053S~~	~~WILC-MW0053S~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0060S~~	~~WILC-MW0060S~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0061S~~	~~WILC-MW0061S~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-MW0074-004.5-20211216	WILC-MW0074	20211216	1339	WG	N	G	3	3		
	WILC-MW0091-004.0-20211216	WILC-MW0091	20211216	1105	WG	N	G	3	3		
	~~WILC-MW0095~~	~~WILC-MW0095~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	~~WILC-MW0152~~	WILC-MW0152	202112		WG	N	G	3	~~3~~		
	WILC-MW0154-010.0-20211216	WILC-MW0154	20211216	1641	WG	N	G	3	3		
	~~WILC-MW0156~~	~~WILC-MW0156~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-NPSH-MW0010-0315-20211216	WILC-NPSH-MW0010	20211216	1318	WG	N	G	3	3		

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					12/16/21	0545
2		12/16/21	1537		12/16/21	1537
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

C-2231 2.7°C

AE09949

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners			COC No.	Page: 2 of 5	
Site Location: Wilson Corners IM			PO No.	Project No. 60637998.4	Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**		Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Lab Name: ENCO		Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537									Comments
	WILC-NPSH-MW0011-030.5-20211216	WILC-NPSH-MW0011	20211216	0831	WG	N	G	3	3										
	WILC-NPSH-MW0018-	WILC-NPSH-MW0018	202112		WG	N	G	3	3										
	WILC-NPSH-MW0019-	WILC-NPSH-MW0019	202112		WG	N	G	3	3										
	WILC-NPSH-MW0020-	WILC-NPSH-MW0020	202112		WG	N	G	3	3										
	WILC-MW0040-	WILC-MW0040	202112		WG	N	G	3	3										
	WILC-MW0047I-	WILC-MW0047I	202112		WG	N	G	3	3										
	WILC-MW0054I-	WILC-MW0054I	202112		WG	N	G	3	3										
	WILC-MW0060I-	WILC-MW0060I	202112		WG	N	G	3	3										
	WILC-MW0069-	WILC-MW0069	202112		WG	N	G	3	3										
	WILC-MW0077-	WILC-MW0077	202112		WG	N	G	3	3										
	WILC-MW0087-030.0-20211216	WILC-MW0087	20211216	0851	WG	N	G	3	3										
	WILC-MW0088-031.5-20211216	WILC-MW0088	20211216	0926	WG	N	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	12-08-21	14:00	1	12/16/21	0545
2	12/16/21	1537	2	(2nd date)	1537
3			3		

Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

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AE09949

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO	Project Name: NASA KSC - Wilson Corners		COC No.	Page: 3 of 5	
	Site Location: Wilson Corners IM		PO No.	Project No. 60637998.4	Phase:
	TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone #	Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain	Cc: Teresa Amentt Jennings
Lab Name:	ENCO	Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10	

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537									Comments
	WILC-MW0090-031.5-20211216	WILC-MW0090	20211216	1019	WG	N	G	3	3										
	~~WILC-MW0096-~~	WILC-MW0096	202112		WG	N	G	~~3~~	~~3~~										
	WILC-MW0097-	WILC-MW0097	202112		WG	N	G	3	3										
	WILC-MW0107-	WILC-MW0107	202112		WG	N	G	3	3										
	WILC-MW0109-	WILC-MW0109	202112		WG	N	G	3	3										
	WILC-MW0111-	WILC-MW0111	202112		WG	N	G	3	3										
	~~WILC-MW0114-~~	WILC-MW0114	202112		WG	N	G	~~3~~	~~3~~										
	WILC-MW0115-020.0-20211216	WILC-MW0115	20211216	1254	WG	N	G	3	3										
	WILC-MW0117-020.0-20211216	WILC-MW0117	20211216	0908	WG	N	G	3	3										
	WILC-MW0122-020.0-20211216	WILC-MW0122	20211216	1126	WG	N	G	3	3										
	~~WILC-MW0126-~~	~~WILC-MW0126~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~										
	~~WILC-MW0129-~~	~~WILC-MW0129~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~										

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					12/16/21	0945
2		12/16/21	1537		12/16/21	1537
3						

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

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(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added leave blank **Rev 8/19**

AED9949

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - Wilson Corners			COC No.	Page: 4 of 5
Site Location: Wilson Corners IM			PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager:	**Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000		Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO	Turnaround Time(specify):	Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP: 15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	~~WILC-MW0153-~~	~~WILC-MW0153~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-MW0021D- 042.5-20211216	WILC-MW0021D	202112 16	1421	WG	N	G	3	3		
	~~WILC-NPSH-MW0023-~~	~~WILC-NPSH-MW0023~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-NPSH-MW0030-	WILC-NPSH-MW0030	202112		WG	N	G	3	3		
	WILC-MW0046D-	WILC-MW0046D	202112		WG	N	G	3	3		
	WILC-MW0053D-	WILC-MW0053D	202112		WG	N	G	3	3		
	WILC-MW0054D-	WILC-MW0054D	202112		WG	N	G	3	3		
	WILC-MW0055D-	WILC-MW0055D	202112		WG	N	G	3	3		
	WILC-MW0070-	WILC-MW0070	202112		WG	N	G	3	3		
	~~WILC-MW0079-~~	~~WILC-MW0079~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		
	WILC-MW0118- 042.5-20211216	WILC-MW0118	202112 16	1008	WG	N	G	3	3		
	~~WILC-MW0078-~~	~~WILC-MW0078~~	~~202112~~		~~WG~~	~~N~~	~~G~~	~~3~~	~~3~~		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes____ No____
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		12-08-21	14:00		12/16/21	0545
2		12/16/21	1537		12/16/21	1537
3						

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(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

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AE09949

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 5 of 5

Project Name: NASA KSC - Wilson Corners | PO No. | Project No. 60637998.4 | Phase:

Site Location: Wilson Corners IM | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0082 | AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark** | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to Jennifer Chastain Cc: Teresa Amentt Jennings

Sampler/Phone # Dustin Slater (407) 766-0747 Madan Parsotan (321) 696-6000 | Deliver Samples To: ENCO | Site-Spicific WS#15 from QAPP: 15-10

Lab Name: ENCO | Turnaround Time(specify): Standard 14 day | **Sample Analysis Requested** (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	WILC-MW0130	WILC-MW0130	202112		WG	N	G	3	3		
	WILC-IDW01-	WILC-IDW01	[illegible]		IDW	IDW	G	5	3	2	
	WILC-IDW02-	WILC-IDW02	202112		IDW	IDW	G	5	3	2	
	WILC-TB01-20211216	WILC-TB01	20211216	0815	WQ	TB	G	3	3		

***Field* Comments:**

Report only per QAPP WS #15-10

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No:

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	12-08-21	14:00	[signature]	12/16/21	0545
2	[signature]	12/16/21	1537	[signature]	12/16/21	1537
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ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, December 30, 2021
AECOM Technical Services, Inc. (SE004)
Attn: Teresa Amentt Jennings
150 N. Orange Ave, Suite 200
Orlando, FL 32801

RE: Laboratory Results for
Project Number: 60637998.4, Project Name/Desc: NASA KSC - Wilson Corners
ENCO Workorder(s): AE10004

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, December 17, 2021.

Unless otherwise noted in an attached project narrative, all samples were received in acceptable condition and processed in accordance with the referenced methods/procedures. Results for these procedures apply only to the samples as submitted.

The analytical results contained in this report are in compliance with NELAC standards, except as noted in the project narrative if applicable. This report shall not be reproduced except in full, without the written approval of the Laboratory.

This report contains only those analyses performed by Environmental Conservation Laboratories. Unless otherwise noted, all analyses were performed at ENCO Orlando. Data from outside organizations will be reported under separate cover.

If you have any questions or require further information, please do not hesitate to contact me.

Sincerely,

Kaitlin Dylnicki

Project Manager

Enclosure(s)

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID:	Lab ID:	Sampled:	Received:
WILC-MW0069-031.5-20211217	AE10004-01	12/17/21 09:21	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/20/21 08:49	12/20/21 17:17

Client ID:	Lab ID:	Sampled:	Received:
WILC-MW0152-010.0-20211217	AE10004-02	12/17/21 08:52	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/20/21 08:49	12/20/21 17:44

Client ID:	Lab ID:	Sampled:	Received:
WILC-MW0153-025.0-20211217	AE10004-03	12/17/21 09:29	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/20/21 08:49	12/20/21 18:12

Client ID:	Lab ID:	Sampled:	Received:
WILC-NPSH-MW0019-031.5-20211217	AE10004-04	12/17/21 08:39	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/20/21 08:49	12/20/21 18:40

Client ID:	Lab ID:	Sampled:	Received:
WILC-IDW01-20211217	AE10004-05	12/17/21 09:45	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/20/21 08:49	12/20/21 19:08

Client ID:	Lab ID:	Sampled:	Received:
WILC-IDW02-20211217	AE10004-06	12/17/21 10:00	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/21/21 07:23	12/21/21 09:55

Client ID:	Lab ID:	Sampled:	Received:
WILC-TB01-20211217	AE10004-07	12/17/21 08:30	12/17/21 11:35

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/31/21	12/21/21 07:23	12/21/21 10:24

SAMPLE DETECTION SUMMARY

Client ID: WILC-MW0069-031.5-20211217 **Lab ID:** AE10004-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	1.4		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	3.6		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	3.9		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-MW0152-010.0-20211217 **Lab ID:** AE10004-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	980		5.3	10	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	23		7.3	10	ug/L	EPA 8260D	
Trichloroethene	730		8.9	10	ug/L	EPA 8260D	
Vinyl chloride	27		7.1	10	ug/L	EPA 8260D	

Client ID: WILC-NPSH-MW0019-031.5-20211217 **Lab ID:** AE10004-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	1.5		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	2.9		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	3.4		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-IDW01-20211217 **Lab ID:** AE10004-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	13		0.53	1.0	ug/L	EPA 8260D	
Freon 113	3.2		0.73	1.0	ug/L	EPA 8260D	
Vinyl chloride	8.3		0.71	1.0	ug/L	EPA 8260D	

Client ID: WILC-IDW02-20211217 **Lab ID:** AE10004-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	59		0.53	1.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	1.6		0.73	1.0	ug/L	EPA 8260D	
Trichloroethene	38		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	2.6		0.71	1.0	ug/L	EPA 8260D	

ANALYTICAL RESULTS

Description: WILC-MW0069-031.5-20211217 **Lab Sample ID:** AE10004-01 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 09:21 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**1.4**		ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**3.6**		ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	
Vinyl chloride [75-01-4]^	**3.9**		ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 17:17	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 17:17*	*KKW*	
Dibromofluoromethane	*53*	*1*	*50.0*	*107 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 17:17*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 17:17*	*KKW*	

Description: WILC-MW0152-010.0-20211217 **Lab Sample ID:** AE10004-02 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 08:52 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	9.4	U	ug/L	10	9.4	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**980**		ug/L	10	5.3	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
Freon 113 [76-13-1]^	7.3	U	ug/L	10	7.3	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
Tetrachloroethene [127-18-4]^	7.6	U	ug/L	10	7.6	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**23**		ug/L	10	7.3	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
Trichloroethene [79-01-6]^	**730**		ug/L	10	8.9	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	
Vinyl chloride [75-01-4]^	**27**		ug/L	10	7.1	10	1L20014	EPA 8260D	12/20/21 17:44	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 17:44*	*KKW*	
Dibromofluoromethane	*54*	*1*	*50.0*	*107 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 17:44*	*KKW*	
Toluene-d8	*54*	*1*	*50.0*	*107 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 17:44*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-MW0153-025.0-20211217 **Lab Sample ID:** AE10004-03 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 09:29 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 18:12	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*101 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 18:12*	*KKW*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 18:12*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*105 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 18:12*	*KKW*	

Description: WILC-NPSH-MW0019-031.5-20211217 **Lab Sample ID:** AE10004-04 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 08:39 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**1.5**		ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
trans-1,2-Dichloroethene [156-60-5]^	**2.9**		ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	
Vinyl chloride [75-01-4]^	**3.4**		ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 18:40	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*103 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 18:40*	*KKW*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 18:40*	*KKW*	
Toluene-d8	*53*	*1*	*50.0*	*106 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 18:40*	*KKW*	

ANALYTICAL RESULTS

Description: WILC-IDW01-20211217 **Lab Sample ID:** AE10004-05 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 09:45 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
cis-1,2-Dichloroethene [156-59-2]^	**13**		ug/L	1	0.53	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
Freon 113 [76-13-1]^	**3.2**		ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	
Vinyl chloride [75-01-4]^	**8.3**		ug/L	1	0.71	1.0	1L20014	EPA 8260D	12/20/21 19:08	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1L20014*	*EPA 8260D*	*12/20/21 19:08*	*KKW*	
Dibromofluoromethane	*52*	*1*	*50.0*	*105 %*	*53-146*	*1L20014*	*EPA 8260D*	*12/20/21 19:08*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1L20014*	*EPA 8260D*	*12/20/21 19:08*	*KKW*	

Description: WILC-IDW02-20211217 **Lab Sample ID:** AE10004-06 **Received:** 12/17/21 11:35
Matrix: Ground Water **Sampled:** 12/17/21 10:00 **Work Order:** AE10004
Project: NASA KSC - Wilson Corners **Sampled By:** Dustin Slater/Madan Parsot

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
cis-1,2-Dichloroethene [156-59-2]^	**59**		ug/L	1	0.53	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
trans-1,2-Dichloroethene [156-60-5]^	**1.6**		ug/L	1	0.73	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
Trichloroethene [79-01-6]^	**38**		ug/L	1	0.89	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	
Vinyl chloride [75-01-4]^	**2.6**		ug/L	1	0.71	1.0	1L21002	EPA 8260D	12/21/21 09:55	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*50*	*1*	*50.0*	*100 %*	*41-142*	*1L21002*	*EPA 8260D*	*12/21/21 09:55*	*nmc*	
Dibromofluoromethane	*46*	*1*	*50.0*	*92 %*	*53-146*	*1L21002*	*EPA 8260D*	*12/21/21 09:55*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*91 %*	*41-146*	*1L21002*	*EPA 8260D*	*12/21/21 09:55*	*nmc*	

ANALYTICAL RESULTS

Description: WILC-TB01-20211217 **Lab Sample ID:** AE10004-07 **Received:** 12/17/21 11:35

Matrix: Water **Sampled:** 12/17/21 08:30 **Work Order:** AE10004

Project: NASA KSC - Wilson Corners **Sampled By:** ENCO ORL

Volatile Organic Compounds by GCMS

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
1,1-Dichloroethene [75-35-4]^	0.94	U	ug/L	1	0.94	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
Freon 113 [76-13-1]^	0.73	U	ug/L	1	0.73	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
Tetrachloroethene [127-18-4]^	0.76	U	ug/L	1	0.76	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1L21002	EPA 8260D	12/21/21 10:24	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*47*	*1*	*50.0*	*94 %*	*41-142*	*1L21002*	*EPA 8260D*	*12/21/21 10:24*	*nmc*	
Dibromofluoromethane	*47*	*1*	*50.0*	*93 %*	*53-146*	*1L21002*	*EPA 8260D*	*12/21/21 10:24*	*nmc*	
Toluene-d8	*44*	*1*	*50.0*	*88 %*	*41-146*	*1L21002*	*EPA 8260D*	*12/21/21 10:24*	*nmc*	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L20014 - EPA 5030B_MS

Blank (1L20014-BLK1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 09:24

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*102*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

LCS (1L20014-BS1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 08:29

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	19		1.0	ug/L	20.0		97	47-139			
cis-1,2-Dichloroethene	20		1.0	ug/L	20.0		99	56-128			
Freon 113	19		1.0	ug/L	20.0		94	47-173			
Tetrachloroethene	22		1.0	ug/L	20.0		110	60-147			
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0		102	54-134			
Trichloroethene	19		1.0	ug/L	20.0		96	62-135			
Vinyl chloride	18		1.0	ug/L	20.0		90	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*105*	*41-146*			

Matrix Spike (1L20014-MS1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 11:16

Source: AE09875-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.94 U	116	47-139			
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.53 U	116	56-128			
Freon 113	24		1.0	ug/L	20.0	0.73 U	119	47-173			
Tetrachloroethene	21		1.0	ug/L	20.0	0.76 U	105	60-147			
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.73 U	121	54-134			
Trichloroethene	21		1.0	ug/L	20.0	0.89 U	104	62-135			
Vinyl chloride	21		1.0	ug/L	20.0	0.71 U	107	20-167			
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*106*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

Matrix Spike Dup (1L20014-MSD1) Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 11:44

Source: AE09875-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	22		1.0	ug/L	20.0	0.94 U	111	47-139	4	16	
cis-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.53 U	110	56-128	6	17	
Freon 113	22		1.0	ug/L	20.0	0.73 U	112	47-173	6	30	
Tetrachloroethene	21		1.0	ug/L	20.0	0.76 U	104	60-147	2	21	
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	117	54-134	3	20	

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L20014 - EPA 5030B_MS - Continued

Matrix Spike Dup (1L20014-MSD1) Continued Prepared: 12/20/2021 00:00 Analyzed: 12/20/2021 11:44

Source: AE09875-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	101	62-135	3	20	
Vinyl chloride	21		1.0	ug/L	20.0	0.71 U	103	20-167	4	24	
4-Bromofluorobenzene	*53*			*ug/L*	*50.0*		*107*	*41-142*			
Dibromofluoromethane	*55*			*ug/L*	*50.0*		*109*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Batch 1L21002 - EPA 5030B_MS

Blank (1L21002-BLK1) Prepared: 12/21/2021 07:23 Analyzed: 12/21/2021 09:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	0.94	U	1.0	ug/L							
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
Freon 113	0.73	U	1.0	ug/L							
Tetrachloroethene	0.76	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	U	1.0	ug/L							
Trichloroethene	0.89	U	1.0	ug/L							
Vinyl chloride	0.71	U	1.0	ug/L							
4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*97*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*45*			*ug/L*	*50.0*		*89*	*41-146*			

LCS (1L21002-BS1) Prepared: 12/21/2021 07:23 Analyzed: 12/21/2021 07:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	21		1.0	ug/L	20.0		106	47-139			
cis-1,2-Dichloroethene	20		1.0	ug/L	20.0		99	56-128			
Freon 113	21		1.0	ug/L	20.0		104	47-173			
Tetrachloroethene	21		1.0	ug/L	20.0		106	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		106	54-134			
Trichloroethene	20		1.0	ug/L	20.0		98	62-135			
Vinyl chloride	20		1.0	ug/L	20.0		100	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*96*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*95*	*41-146*			

Matrix Spike (1L21002-MS1) Prepared: 12/21/2021 07:23 Analyzed: 12/21/2021 08:00

Source: AE10004-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	23		1.0	ug/L	20.0	0.94 U	117	47-139			
cis-1,2-Dichloroethene	81		1.0	ug/L	20.0	59	114	56-128			
Freon 113	21		1.0	ug/L	20.0	0.73 U	107	47-173			
Tetrachloroethene	23		1.0	ug/L	20.0	0.76 U	113	60-147			
trans-1,2-Dichloroethene	25		1.0	ug/L	20.0	1.6	115	54-134			
Trichloroethene	60		1.0	ug/L	20.0	38	113	62-135			
Vinyl chloride	25		1.0	ug/L	20.0	2.6	110	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1L21002 - EPA 5030B_MS - Continued

Matrix Spike (1L21002-MS1) Continued Prepared: 12/21/2021 07:23 Analyzed: 12/21/2021 08:00

Source: AE10004-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Dibromofluoromethane	*47*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

Matrix Spike Dup (1L21002-MSD1) Prepared: 12/21/2021 07:23 Analyzed: 12/21/2021 08:29

Source: AE10004-06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	24		1.0	ug/L	20.0	0.94 U	118	47-139	0.2	16	
cis-1,2-Dichloroethene	80		1.0	ug/L	20.0	59	109	56-128	1	17	
Freon 113	21		1.0	ug/L	20.0	0.73 U	107	47-173	0.05	30	
Tetrachloroethene	22		1.0	ug/L	20.0	0.76 U	112	60-147	1	21	
trans-1,2-Dichloroethene	24		1.0	ug/L	20.0	1.6	113	54-134	2	20	
Trichloroethene	60		1.0	ug/L	20.0	38	113	62-135	0.05	20	
Vinyl chloride	24		1.0	ug/L	20.0	2.6	108	20-167	2	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*104*	*41-142*			
Dibromofluoromethane	*47*			*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

FLAGS/NOTES AND DEFINITIONS

PQL	PQL: Practical Quantitation Limit. The PQL presented is the laboratory MRL.
B	Results are based upon membrane filter colony counts that are outside the method indicated ideal range.
I	The reported value is between the laboratory method detection limit (MDL) and the practical quantitation limit (PQL).
J	Estimated value.
K	Off-scale low; Actual value is known to be less than the value given.
L	Off-scale high; Actual value is known to be greater than value given.
M	Presence of analyte is verified but not quantified; the actual value is less than the MRL but greater than the MDL.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample exceeded the accepted holding time.
T	Value reported is less than the laboratory method detection limit. The value is reported for informational purposes only and shall not be used in statistical analysis.
U	Indicates that the compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	The laboratory analysis was from an improperly preserved sample. The data may not be accurate.
Z	Too many colonies were present (TNTC); the numeric value represents the filtration volume.
?	Data are rejected and should not be used. Some or all of the quality control data for the analyte were outside criteria, and the presence or absence of the analyte cannot be determined from the data.
*****	Not reported due to interference.
[CALC]	Calculated analyte - MDL/MRL reported to the highest reporting limit of the component analyses.

AE10004

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - Wilson Corners		COC No.	Page: 1 of 1
Site Location: Wilson Corners IM		PO No.	Project No. 60637998.4 Phase:
TO No.: 80KSC019F0082	AECOM Project Manager: **Jennifer Joyal cc: Linnea King Clark**	Send Invoice To: Instructions in MSA # 19S-24548-GV03	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Dustin Slater (407) 766-0747	Madan Parsotan (321) 696-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	Deliver Samples To: ENCO	Site-Spicific WS#15 from QAPP:15-10

Sample Analysis Requested (*Enter number of containers for each test*)

Lab ID	Sample ID (sys_samp_code)	Location ID (sys_loc_code)	Date (YYYYMMDD)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	4 DEG Select VOCs by SW8260B (Unpreserved)	4 DEG Select PFAS by 537	Comments
	WILC-MW0069-031.5-20211217	WILC-MW0069	20211217	0921	WG	N	G	4	4		
	WILC-MW0152-010.0-20211217	WILC-MW0152	20211217	0852	WG	N	G	4	4		
	WILC-MW0153-025.0-20211217	WILC-MW0153	20211217	0929	WG	N	G	4	4		
	WILC-NPSH-MW0019-031.5-20211217	WILC-NPSH-MW0019	20211217	0839	WG	N	G	4	4		
	WILC-IDW01-20211217	WILC-IDW01	20211217	0945	IDW	IDW	G	7	4	3	
	WILC-IDW02-20211217	WILC-IDW02	20211217	1000	IDW	IDW	G	7	4	3	
	WILC-TB01-20211217	WILC-TB01	20211217	0830	WQ	TB	G	2	2		

***Field* Comments:**
Report only per QAPP WS #15-10

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	12-08-21	14:00	1	12/17/21	0700
2	12/17/21	1135	2	12/17/21	1135
3			3		

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No:
Date Shipped:

(1) AA=Ambient air, **AQ**=Air quality control, **ASB**=Asbestos, **CK**=Caulk, **DS**=Storm drain sediment, **GS**=Soil gas, **IC**=IDW Concrete, **IDD**=IDW Solid, **IDS**=IDW soil, **IDW**=IDW Water, **LF**=Free Product, **MA**=Mastic, **PC**=Paint Chips, **SC**=Cement/Concrete, **SE**=Sediment, **SL**=Sludge, **SO**=Soil, **SQ**=Soil/Solid quality control, **SSD**=Subsurface sediment, **SU**=Surface soil (<6 in), **SW**=Swab or wipe, **TA**=Animal tissue, **TP**=Plant tissue, **TQ**=Tissue quality control, **WG**=Ground water, **WL**=Leachate, **WO**=Ocean water, **WP**=Drinking water, **WQ**=Water quality control, **WR**=Ground water effluent, **WS**=Surface water, **WU**=Storm water, **WW**=Waste water

(2) Sample Type: AB=Ambient Blk, **EB**=Equipment Blk, **FB**=Field Blk, **FD**=Field Duplicate Sample, **IDW**=Investigative-Derived Waste, **MIS**=Incremental Sampling Methodology, **N**=Normal Environmental Sample, **TB**=Trip Blk

(3) Preservative added: 4 DEG C=Cool to 4 degrees, **Dark**=Store in Darkness, store cool at 4 degrees C **H2SO4**=Hydrogen sulfate, **H2SO4 <2**=Adjust to pH < 2 with sulfuric acid, **H3PO4**=Phosphoric acid, **H3PO4 <2**=Adjust to pH <2 with phosphoric acid, **HCl <2**=Adjust to pH < 2 with hydrochloric acid, **HNaO4S**=Sodium bisulfate preservation, **HNO3 <2**=Adjust to pH < 2 with nitric acid, **MeOH**=Methanol preservation, **Na2O3S2**=Sodium thiosulfate, **Na2O3S2 3/gal**=Add 3 mL 10% sodium thiosulfate per l-gal, **Na2O3S2 4/4oz**=4 drops of 10% sodium thiosulfate to 4 oz, **NaHSO4 <2**=Adjust to pH < 2 with sodium hydrogen sulfate, NaOH >12=Adjust to pH > 12 with sodium hydroxide, NaOH >9=Adjust to pH >9 with sodium hydroxide, **VitC 0.6/500**=0.6 g of ascorbic acid to 500mLs, **ZnAct 2/500**=Add 2 mL of zinc acetate to 500mLs, **ZnAct+NaOH >9**=Zinc acetate and NaOH to pH>9; store cool at 4C If **NO preservative** added, leave blank. **Rev 8/19**

LC8625 1.6°C

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

January 04, 2022

Kaitlin Dylnicki
Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida 32824

Re: NASA PFAS - Dylnicki
Work Order: 565686
SDG: AE10004

Dear Kaitlin Dylnicki:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on December 21, 2021. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4523.

Sincerely,

Grace Bodiford

Grace Bodiford for
Samuel Hogan
Project Manager

Purchase Order: GELP20-0372
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

ENCL001 Environmental Conservation Laboratories

Client SDG: AE10004 GEL Work Order: 565686

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

I The reported value is greater than or equal to the laboratory method detection limit but less than the laboratory practical quantitation limit.

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Samuel Hogan.

Reviewed by Grace Bodiford

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 4, 2022

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	WILC-IDW01-20211217	Project:	ENCL00421
Sample ID:	565686001	Client ID:	ENCL001
Matrix:	Ground Water		
Collect Date:	17-DEC-21 09:45		
Receive Date:	21-DEC-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LCMSMS PFCs												
EPA 537.1Mod PFCs by LC-MS/MS "As Received"												
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	U	ND	0.000656	0.00187	ug/L	0.0199	1	JMB3	12/29/21	2053	2212944	1
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.000656	0.00185	ug/L	0.0199	1					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.00131	0.00397	ug/L	0.0199	1					
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.00131	0.00397	ug/L	0.0199	1					
Perfluorobutane sulfonic acid (PFBS)	U	ND	0.000656	0.00177	ug/L	0.0199	1					
Perfluorodecanoic acid (PFDA)	U	ND	0.000775	0.00199	ug/L	0.0199	1					
Perfluorododecanoic acid (PFDOA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
Perfluoroheptanoic acid (PFHpA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
Perfluorohexane sulfonic acid (PFHxS)	I	0.00111	0.000656	0.00181	ug/L	0.0199	1					
Perfluorohexanoic acid (PFHxA)	I	0.00174	0.000795	0.00199	ug/L	0.0199	1					
Perfluorononanoic acid (PFNA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
Perfluorooctane sulfonic acid (PFOS)		0.00358	0.000795	0.00199	ug/L	0.0199	1					
Perfluorooctanoic acid (PFOA)		0.00322	0.000795	0.00199	ug/L	0.0199	1					
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.000795	0.00199	ug/L	0.0199	1					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.000656	0.00199	ug/L	0.0199	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl PFCs	Extraction in Liquid	LD1	12/29/21	1126	2212943

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Certificate of Analysis

Report Date: January 4, 2022

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	WILC-IDW01-20211217	Project:	ENCL00421
Sample ID:	565686001	Client ID:	ENCL001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: January 4, 2022

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	WILC-IDW02-20211217	Project:	ENCL00421
Sample ID:	565686002	Client ID:	ENCL001
Matrix:	Ground Water		
Collect Date:	17-DEC-21 10:00		
Receive Date:	21-DEC-21		
Collector:	Client		

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LCMSMS PFCs												
EPA 537.1Mod PFCs by LC-MS/MS "As Received"												
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	U	ND	0.000680	0.00194	ug/L	0.0206	1	JMB3	12/29/21	2104	2212944	1
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.000680	0.00206	ug/L	0.0206	1					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.000680	0.00192	ug/L	0.0206	1					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.00136	0.00412	ug/L	0.0206	1					
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.00136	0.00412	ug/L	0.0206	1					
Perfluorobutane sulfonic acid (PFBS)	I	0.00153	0.000680	0.00183	ug/L	0.0206	1					
Perfluorodecanoic acid (PFDA)	I	0.000830	0.000803	0.00206	ug/L	0.0206	1					
Perfluorododecanoic acid (PFDOA)	U	ND	0.000680	0.00206	ug/L	0.0206	1					
Perfluoroheptanoic acid (PFHpA)		0.0107	0.000680	0.00206	ug/L	0.0206	1					
Perfluorohexane sulfonic acid (PFHxS)		0.0497	0.000680	0.00187	ug/L	0.0206	1					
Perfluorohexanoic acid (PFHxA)		0.0178	0.000824	0.00206	ug/L	0.0206	1					
Perfluorononanoic acid (PFNA)		0.00303	0.000680	0.00206	ug/L	0.0206	1					
Perfluorooctane sulfonic acid (PFOS)		0.0499	0.000824	0.00206	ug/L	0.0206	1					
Perfluorooctanoic acid (PFOA)		0.0119	0.000824	0.00206	ug/L	0.0206	1					
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.000824	0.00206	ug/L	0.0206	1					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.000680	0.00206	ug/L	0.0206	1					
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.000680	0.00206	ug/L	0.0206	1					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.000680	0.00206	ug/L	0.0206	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl PFCs	Extraction in Liquid	LD1	12/29/21	1126	2212943

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: January 4, 2022

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	WILC-IDW02-20211217	Project:	ENCL00421
Sample ID:	565686002	Client ID:	ENCL001

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

QC Summary

Report Date: January 4, 2022

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida

Contact: **Kaitlin Dylnicki**

Workorder: **565686**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2212944											
QC1204988212 LCS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0184			0.0184	ug/L		100	(59%-144%)	JMB3	12/29/21	17:05
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0195			0.0191	ug/L		98	(67%-136%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0182			0.0189	ug/L		104	(68%-135%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0195			0.0175	ug/L		90	(67%-144%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0195			0.0200	ug/L		103	(57%-139%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0195			0.0186	ug/L		96	(59%-145%)			
Perfluorobutane sulfonic acid (PFBS)	0.0172			0.0165	ug/L		96	(70%-144%)			
Perfluorodecanoic acid (PFDA)	0.0195			0.0191	ug/L		98	(65%-145%)			
Perfluorododecanoic acid (PFDOA)	0.0195			0.0188	ug/L		97	(65%-137%)			
Perfluoroheptanoic acid (PFHpA)	0.0195			0.0204	ug/L		105	(71%-133%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0178			0.0183	ug/L		103	(67%-145%)			
Perfluorohexanoic acid (PFHxA)	0.0195			0.0211	ug/L		108	(70%-138%)			
Perfluorononanoic acid (PFNA)	0.0195			0.0181	ug/L		93	(69%-133%)			
Perfluorooctane sulfonic acid (PFOS)	0.0195			0.0201	ug/L		103	(65%-133%)			

QC Summary

Workorder: **565686**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds										
Batch 2212944										
Perfluorooctanoic acid (PFOA)	0.0195			0.0181	ug/L		93	(66%-139%)	JMB3	12/29/21 17:05
Perfluorotetradecanoic acid (PFTDA)	0.0195			0.0196	ug/L		100	(66%-138%)		
Perfluorotridecanoic acid (PFTrDA)	0.0195			0.0225	ug/L		115	(58%-140%)		
Perfluoroundecanoic acid (PFUnDA)	0.0195			0.0226	ug/L		116	(63%-135%)		
QC1204988213 LCSD										
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0202			0.0180	ug/L	2	89	(0%-27%)		12/29/21 17:15
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0215			0.0185	ug/L	3	86	(0%-26%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0200			0.0185	ug/L	2	92	(0%-26%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0215			0.0194	ug/L	10	90	(0%-25%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0215			0.0196	ug/L	2	91	(0%-27%)		
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0215			0.0204	ug/L	9	95	(0%-27%)		
Perfluorobutane sulfonic acid (PFBS)	0.0190			0.0163	ug/L	2	86	(0%-23%)		
Perfluorodecanoic acid (PFDA)	0.0215			0.0215	ug/L	11	100	(0%-26%)		
Perfluorododecanoic acid (PFDOA)	0.0215			0.0209	ug/L	10	97	(0%-26%)		
Perfluoroheptanoic acid (PFHpA)	0.0215			0.0200	ug/L	2	93	(0%-23%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0196			0.0182	ug/L	1	93	(0%-27%)		

QC Summary

Workorder: 565686

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds										
Batch 2212944										
Perfluorohexanoic acid (PFHxA)	0.0215			0.0177	ug/L	18	82	(0%-27%)	JMB3	12/29/21 17:15
Perfluorononanoic acid (PFNA)	0.0215			0.0211	ug/L	16	98	(0%-25%)		
Perfluorooctane sulfonic acid (PFOS)	0.0215			0.0196	ug/L	2	91	(0%-25%)		
Perfluorooctanoic acid (PFOA)	0.0215			0.0195	ug/L	7	91	(0%-27%)		
Perfluorotetradecanoic acid (PFTDA)	0.0215			0.0216	ug/L	10	100	(0%-26%)		
Perfluorotridecanoic acid (PFTrDA)	0.0215			0.0242	ug/L	7	113	(0%-31%)		
Perfluoroundecanoic acid (PFUnDA)	0.0215			0.0202	ug/L	11	94	(0%-26%)		
QC1204988211 MB										
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)			U	ND	ug/L					12/29/21 16:54
4,8-Dioxa-3H-perfluorononanoic acid (DONA)			U	ND	ug/L					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)			U	ND	ug/L					
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)			U	ND	ug/L					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)			U	ND	ug/L					
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)			U	ND	ug/L					
Perfluorobutane sulfonic acid (PFBS)			U	ND	ug/L					
Perfluorodecanoic acid (PFDA)			U	ND	ug/L					

QC Summary

Workorder: 565686

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2212944											
Perfluorododecanoic acid (PFDOA)			U	ND	ug/L				JMB3	12/29/21	16:54
Perfluoroheptanoic acid (PFHpA)			U	ND	ug/L						
Perfluorohexane sulfonic acid (PFHxS)			U	ND	ug/L						
Perfluorohexanoic acid (PFHxA)			U	ND	ug/L						
Perfluorononanoic acid (PFNA)			U	ND	ug/L						
Perfluorooctane sulfonic acid (PFOS)			U	ND	ug/L						
Perfluorooctanoic acid (PFOA)			U	ND	ug/L						
Perfluorotetradecanoic acid (PFTDA)			U	ND	ug/L						
Perfluorotridecanoic acid (PFTrDA)			U	ND	ug/L						
Perfluoroundecanoic acid (PFUnDA)			U	ND	ug/L						

Notes:

The Qualifiers in this report are defined as follows:

- ** Analyte is a surrogate compound
- < Result is less than value reported
- > Result is greater than value reported
- A The TIC is a suspected aldol-condensation product
- B The target analyte was detected in the associated blank.
- C Analyte has been confirmed by GC/MS analysis
- D Results are reported from a diluted aliquot of the sample
- E Concentration of the target analyte exceeds the instrument calibration range
- I The reported value is greater than or equal to the laboratory method detection limit but less than the laboratory practical quantitation limit.
- J See case narrative for an explanation

QC Summary

Workorder: **565686**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

JNX Non Calibrated Compound

N Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

Q Sample held beyond the accepted holding time. This code shall be used if the value is derived from a sample that was prepared or analyzed after the approved holding time restrictions for sample preparation or analysis.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

LCMSMS-Misc
Technical Case Narrative
Environmental Conservation Laboratories
SDG #: AE10004
Work Order #: 565686

Product: **The Extraction and Analysis of Per and Polyfluroalkyl Substances Using LCMSMS**
Analytical Method: EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15
Analytical Procedure: GL-OA-E-076 REV# 12
Analytical Batches: 2212944 and 2212943

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
565686001	WILC-IDW01-20211217
565686002	WILC-IDW02-20211217
1204988211	Method Blank (MB)
1204988212	Laboratory Control Sample (LCS)
1204988213	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

Standard TAT

SUBCONTRACT ORDER

ENCO Orlando 565686 JRD 12/17/21

AE10004

SENDING LABORATORY:

ENCO Orlando
10775 Central Port Drive
Orlando, FL 32824
Phone: 407.826.5314
Fax: 407.850.6945
Project Manager: Kaitlin Dylnicki

RECEIVING LABORATORY:

GEL Laboratories, Inc. (SC)
2040 Savage Road
Charleston, SC 29407
Phone :(843) 556-8171
Fax: (843) 766-1178
Project State of Origin: Florida

Sub Lab ID	Originating Lab ID	Client Matrix	Date Sampled	Sample Comments
	WILC-IDW01-20211217	Ground Water	17-Dec-21 09:45	

Analysis	Due	Expires	Analysis Comments
PFAS	27-Dec-21 15:00	31-Dec-21 09:45	14 analyte 537 GELP21-0027
Containers Supplied:			
250mLP (E)	250mLP (F)	5mLV (G)	

Sub Lab ID	Originating Lab ID	Client Matrix	Date Sampled	Sample Comments
	WILC-IDW02-20211217	Ground Water	17-Dec-21 10:00	

Analysis	Due	Expires	Analysis Comments
PFAS	27-Dec-21 15:00	31-Dec-21 10:00	14 analyte 537 GELP21-0027
Containers Supplied:			
250mLP (E)	250mLP (F)	5mLV (G)	

Released By	Date	Received By	Date
[signature]	12/17/21	[signature]	12.21.21 1100
Released By	Date	Received By	Date

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

SH

Client: ENCL	SDG/AR/COC/Work Order: 565686
Received By: TYE	Date Received: 12/21/21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 5307 8833 2350

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): _____CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: (Wet Ice) Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP: 1C
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR2-20 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?			✓	Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___ (If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___ (If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?	✓			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided by use of GEL labels?	✓			
13	COC form is properly signed in relinquished/received sections?	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

PM (or PMA) review: Initials NRG Date 12/22/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 04 January 2022

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122021−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−21−19
Utah NELAP	SC000122021−36
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

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APPENDIX D

RIS COMPLETION TICKET
(PROVIDED IN THE ELECTRONIC COPY ONLY)

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Data Checker

Completion Ticket

On 5/12/2022 at 11:22 PM the following files were submitted to Tetra Tech

COMPLETION_AECOM_WILC_202200512.txt

LITHOLOGY_AECOM_WILC_202200512.txt

LOCATION_AECOM_WILC_202200512.txt

PROJECT_AECOM_WILC_202200512.txt

RESULT_AECOM_WILC_202200512.txt

SAMPLE_AECOM_WILC_202200512.txt

WATER_AECOM_WILC_202200512.txt

The following comment was provided with this submission:
Hello - attached are Wilson Corners mobile lab 2021 DPT and Dec 2021 groundwater sampling. Please let me know if there are any issues. thanks! jen

If you need to identify this session at a later date you may use the Ticket Key:

TetraTechExternalClientsProtectedDataRepository2022512_6073159910_kedd_AECOM

You may print this page by clicking on the "Print This Page" button
Thank you for using the Data Checker, to upload more files click the "Data Checker" link in the menu.

Print this Page

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APPENDIX E

TREND CHARTS AND GSI MANN-KENDALL TOOLKIT CALCUATION SHEETS

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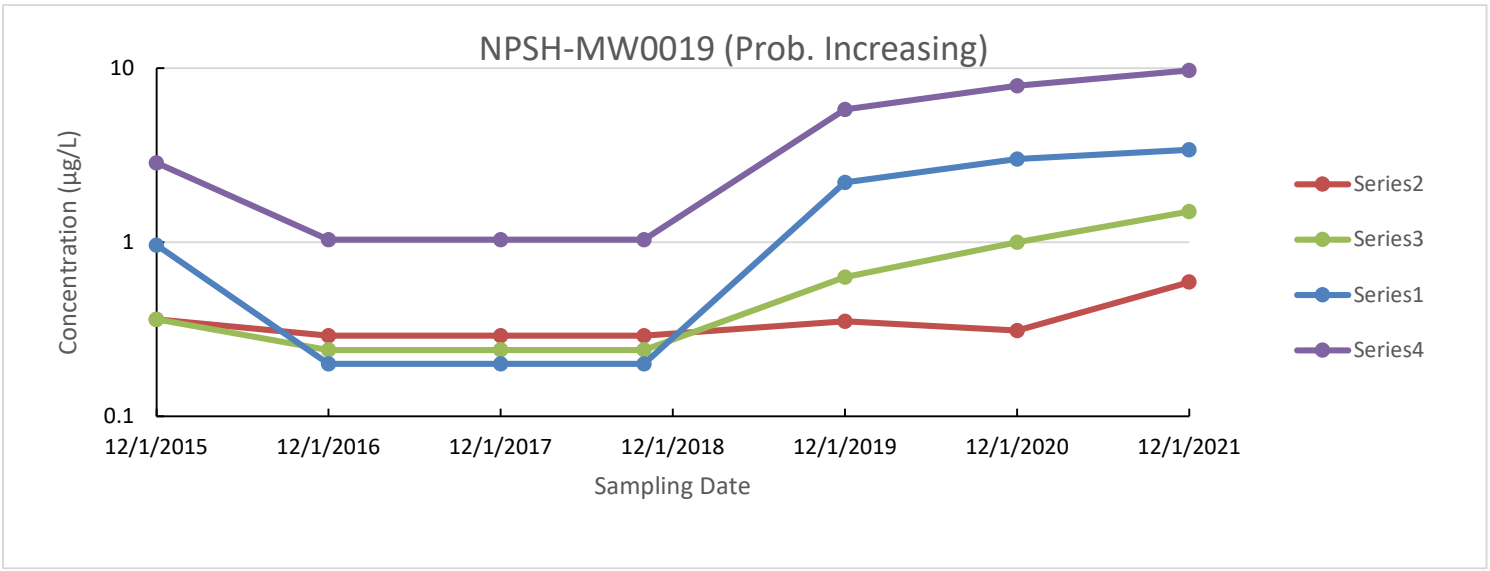
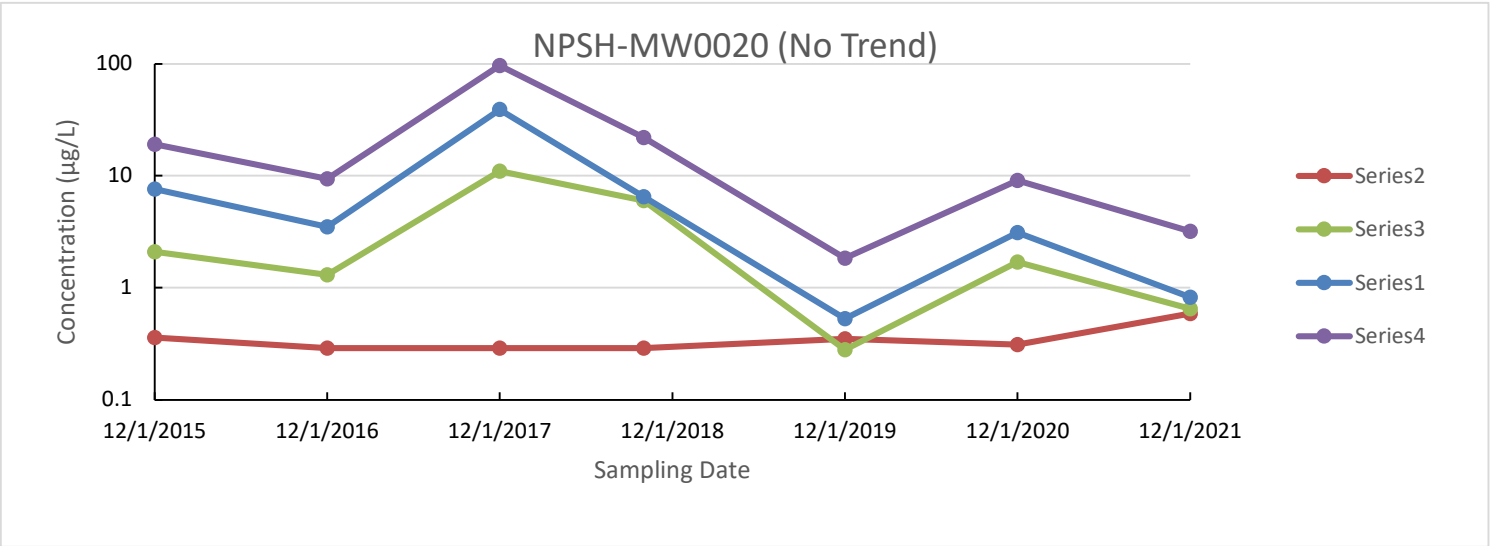
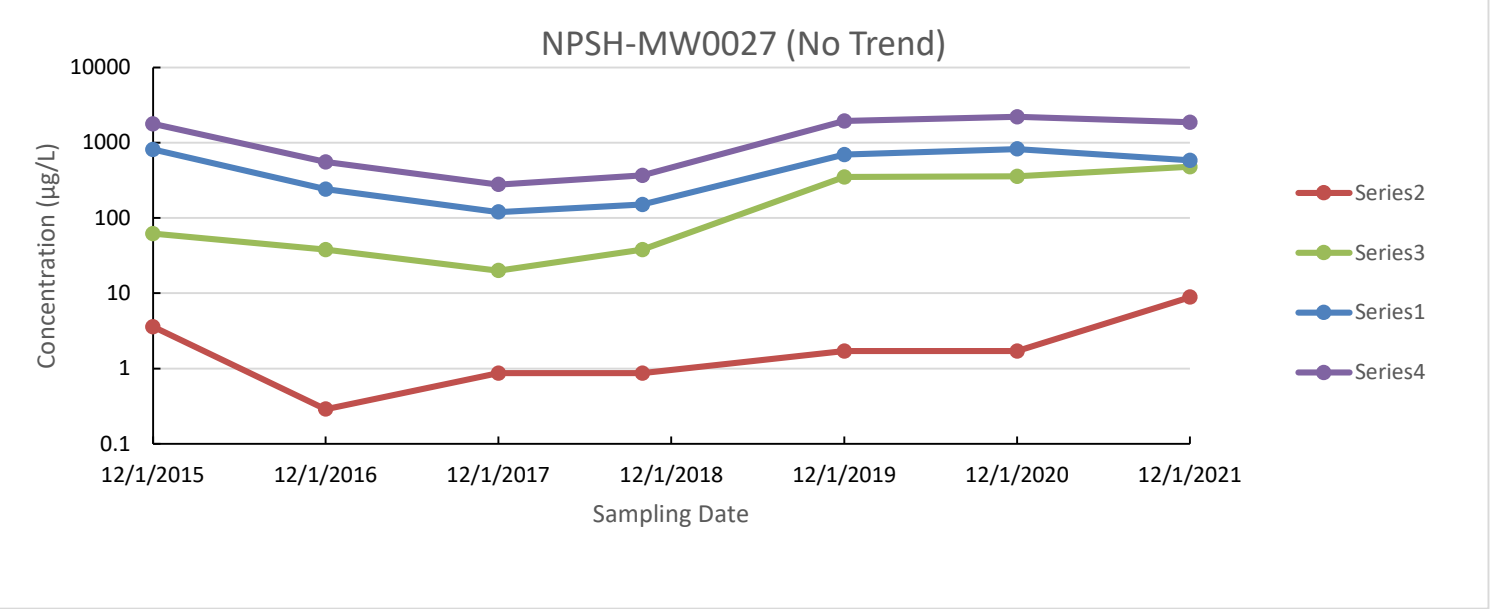
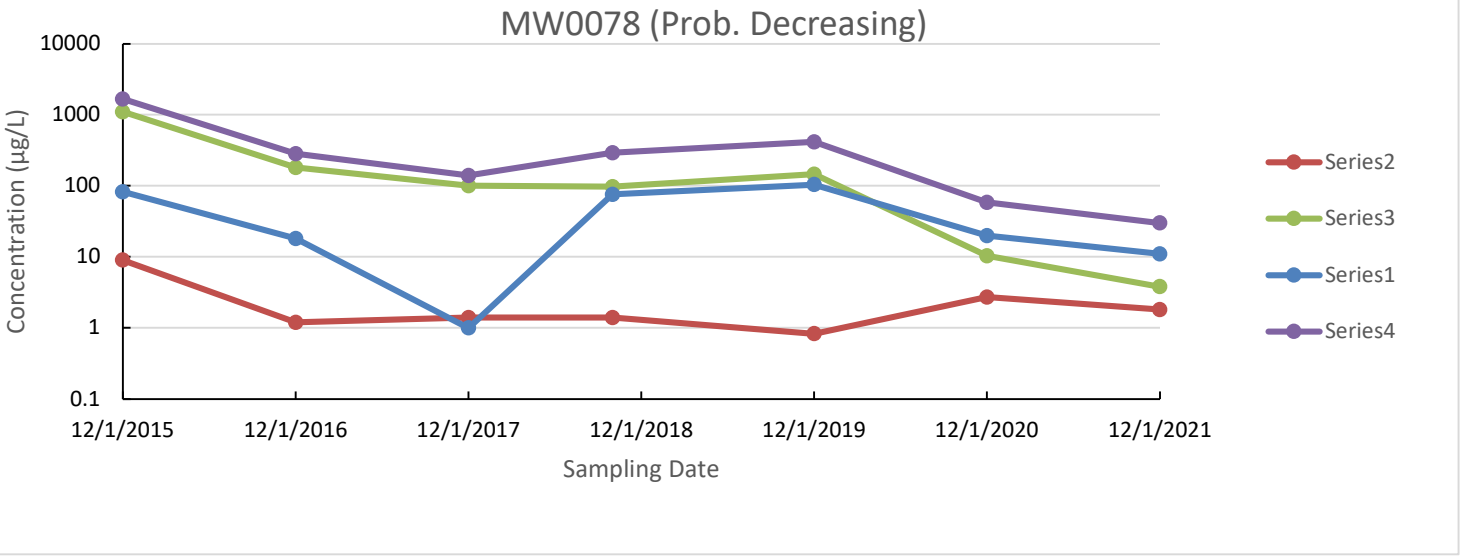
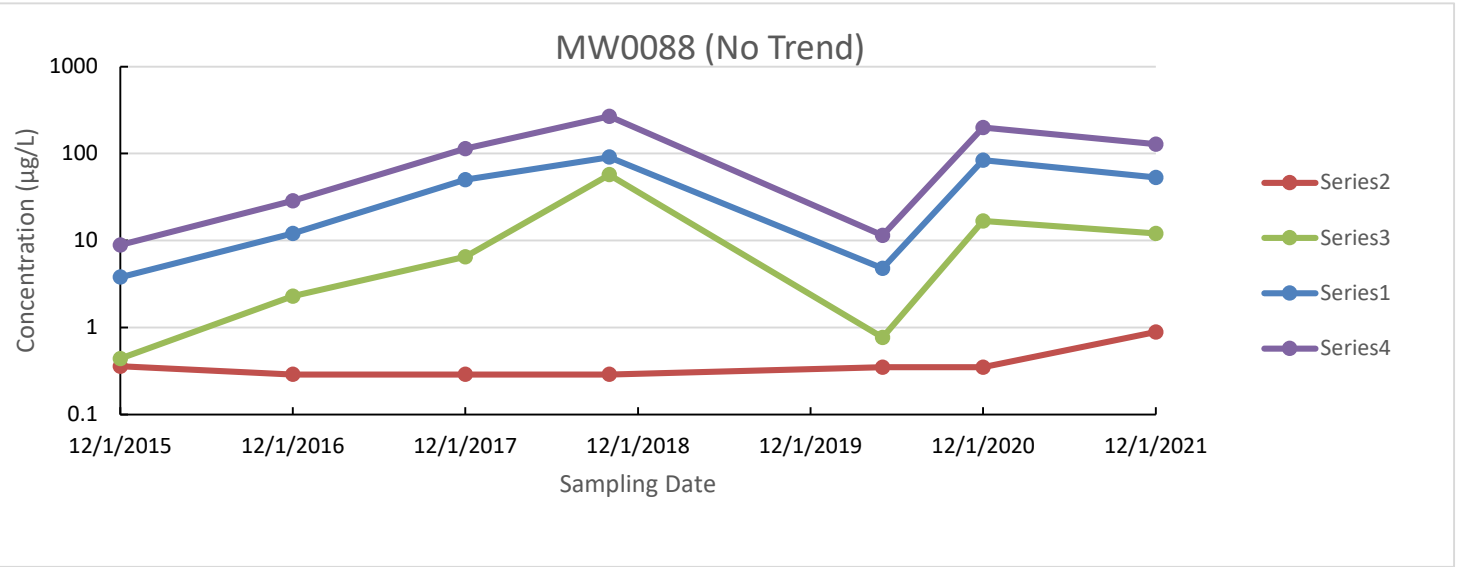
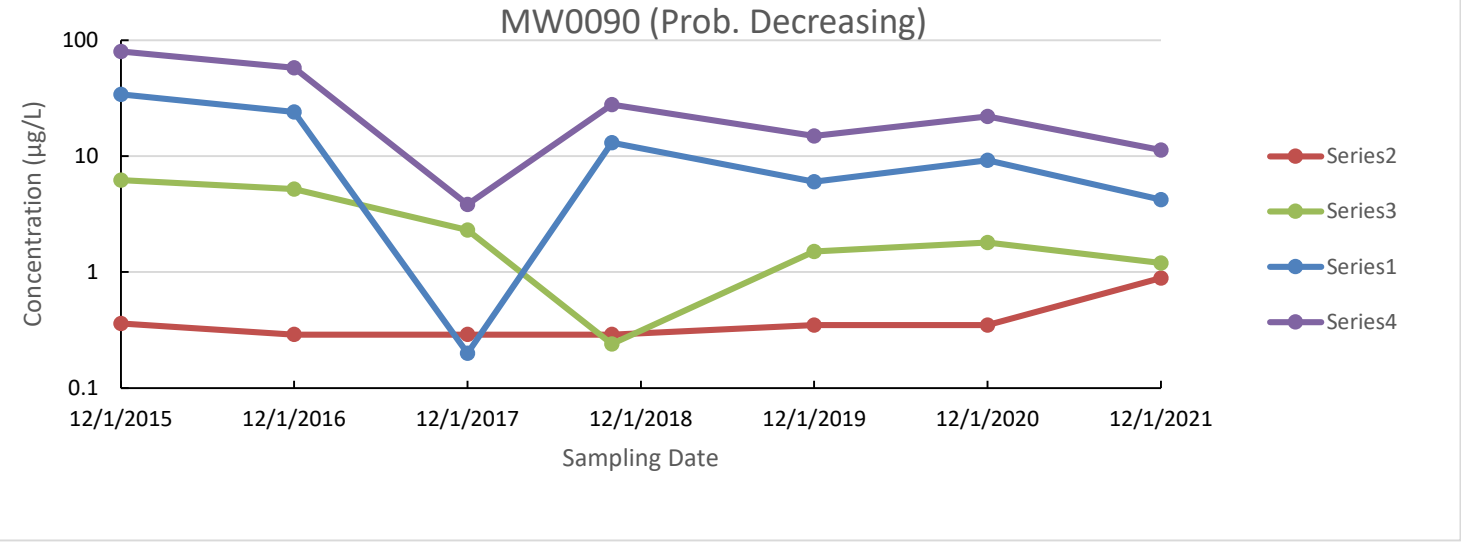

NPSH-MW0019 (Prob. Increasing)
Concentration (µg/L)
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

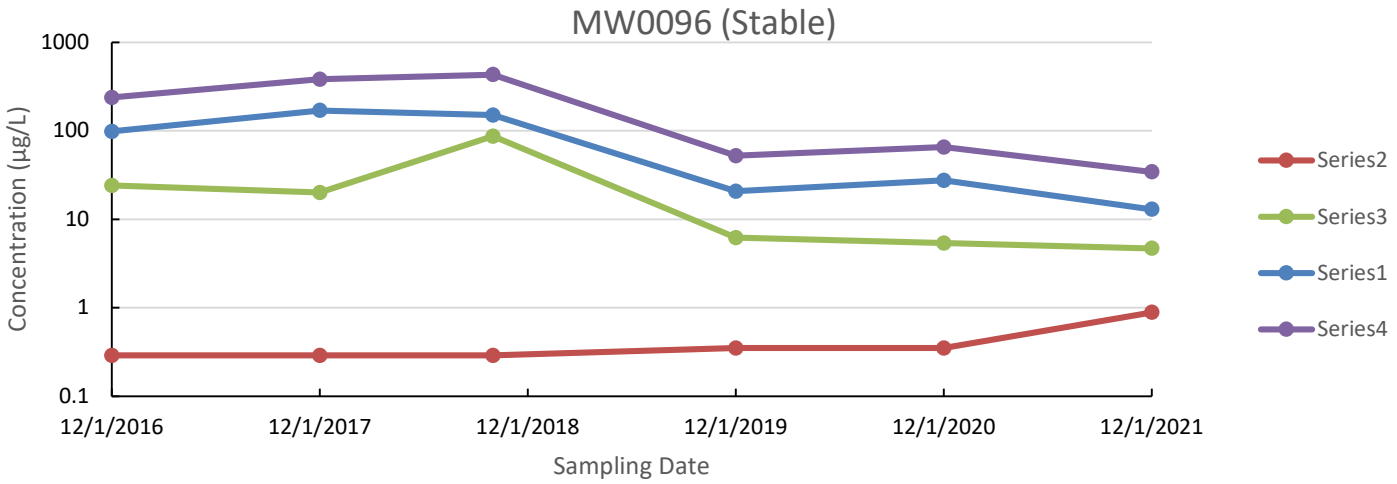

NPSH-MW0020 (No Trend)
Concentration (µg/L)
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

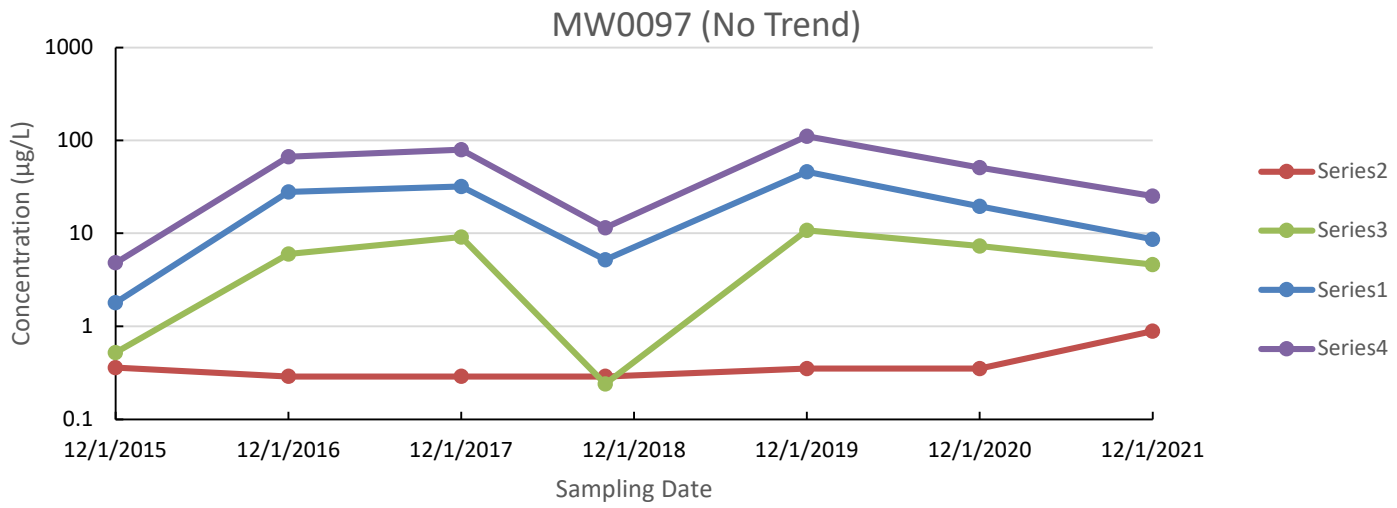

NPSH-MW0027 (No Trend)
Concentration (µg/L)
10000
1000
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

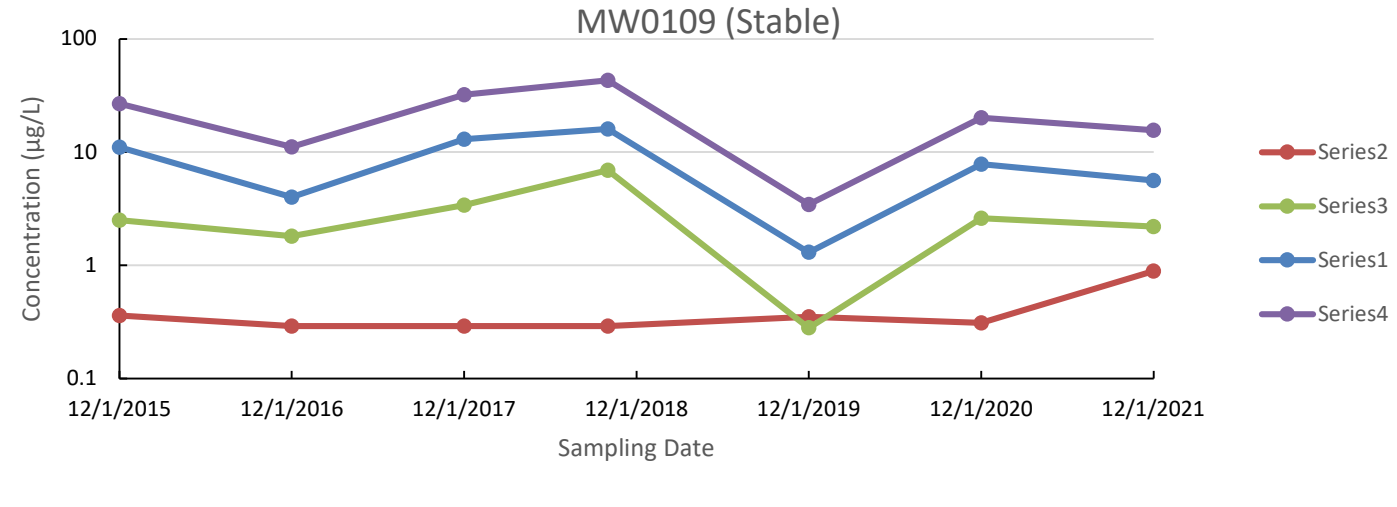

MW0078 (Prob. Decreasing)
Concentration (µg/L)
10000
1000
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

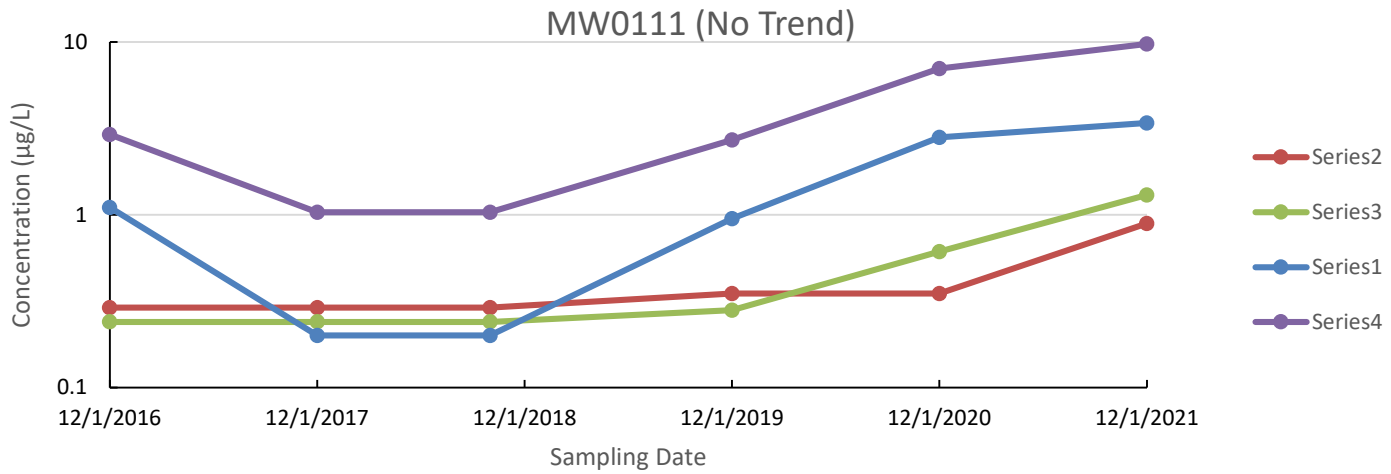

MW0088 (No Trend)
Concentration (µg/L)
1000
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

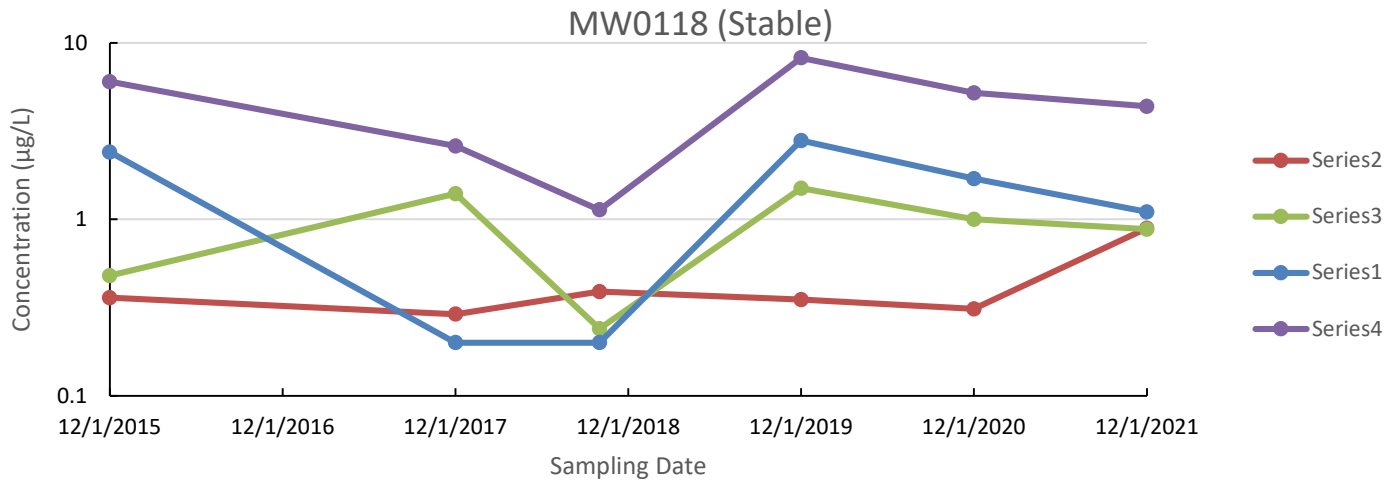

MW0090 (Prob. Decreasing)
Concentration (µg/L)
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

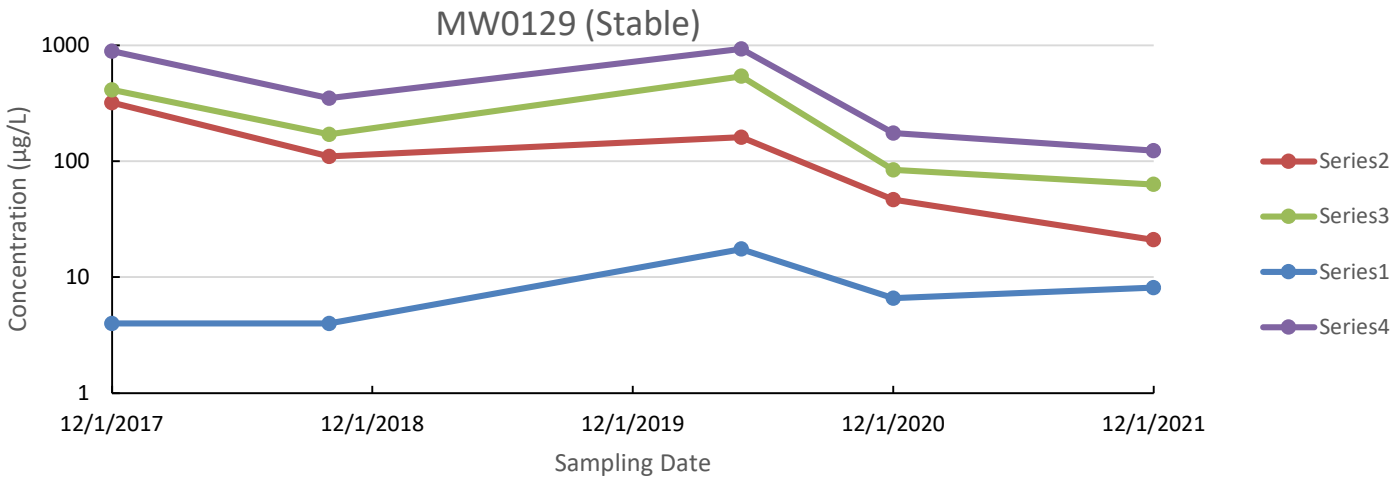

MW0096 (Stable)
1000
100
10
1
0.1
Concentration (µg/L)
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

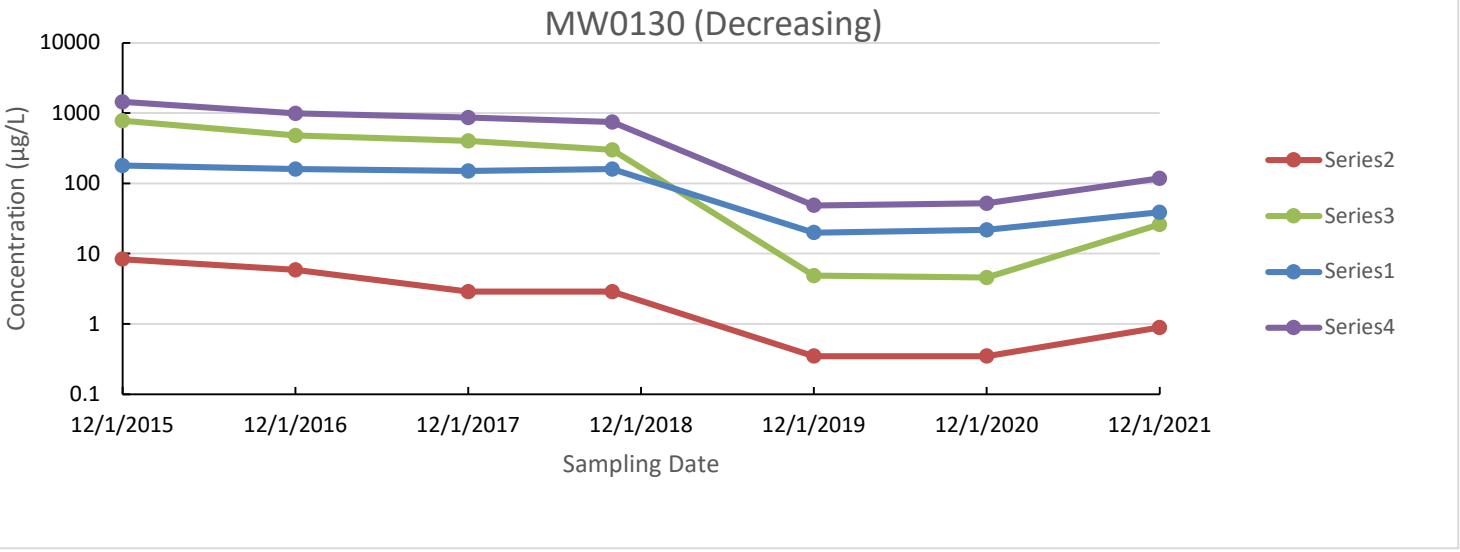

MW0097 (No Trend)
1000
100
10
1
0.1
Concentration (µg/L)
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

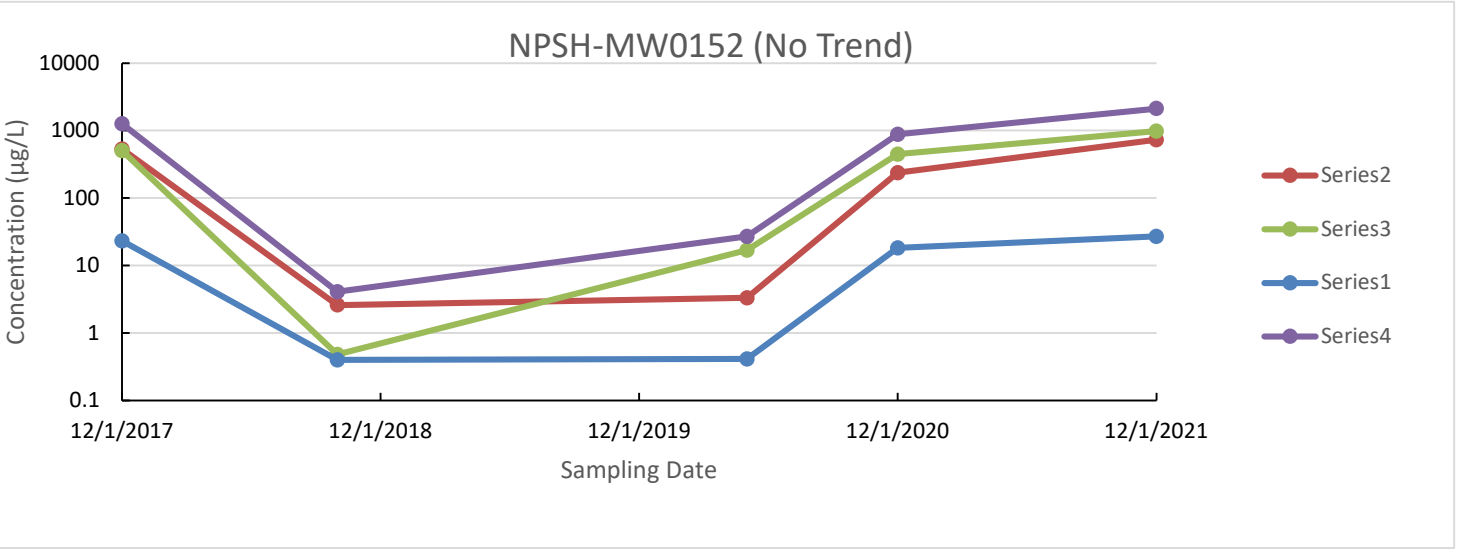

MW0109 (Stable)
100
10
1
0.1
Concentration (µg/L)
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

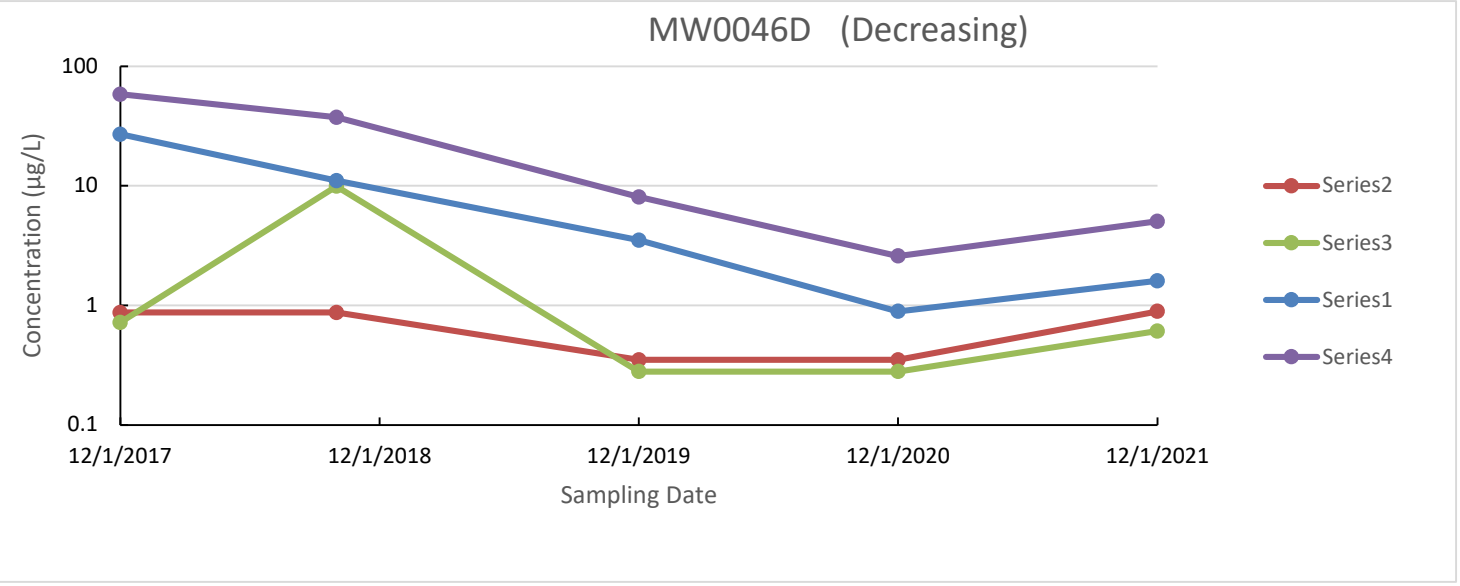

MW0111 (No Trend)
Concentration (µg/L)
10
1
0.1
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4


MW0118 (Stable)
Concentration (µg/L)
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4


MW0129 (Stable)
Concentration (µg/L)
1000
100
10
1
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4


MW0130 (Decreasing)
Concentration (µg/L)
10000
1000
100
10
1
0.1
12/1/2015
12/1/2016
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4


NPSH-MW0152 (No Trend)
Concentration (µg/L)
10000
1000
100
10
1
0.1
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

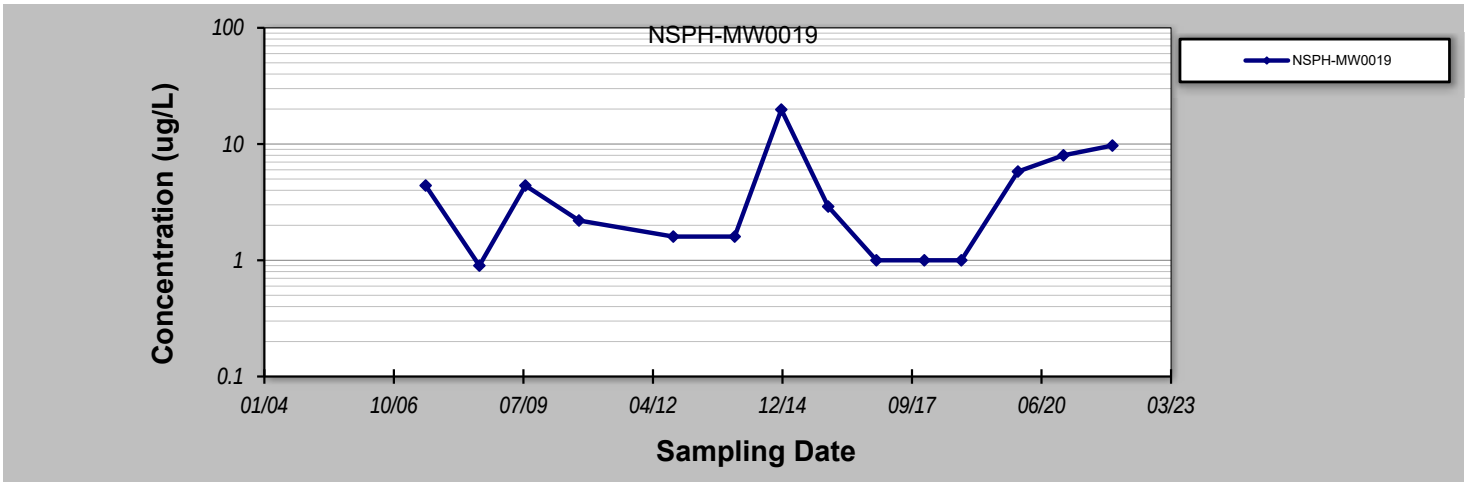

MW0046D (Decreasing)
Concentration (µg/L)
100
10
1
0.1
12/1/2017
12/1/2018
12/1/2019
12/1/2020
12/1/2021
Sampling Date
Series2
Series3
Series1
Series4

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: NSPH-MW0019

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	6/12/2007	4.4						
2	7/31/2008	0.9						
3	7/21/2009	4.4						
4	9/8/2010	2.2						
5	9/5/2012	1.6						
6	12/23/2013	1.6						
7	12/18/2014	19.8						
8	12/15/2015	2.9	2.9					
9	12/21/2016	1.0	1.0					
10	12/26/2017	1.0	1.0					
11	10/8/2018	1.0	1.0					
12	12/19/2019	5.8	5.8					
13	12/4/2020	8.0	8.0					
14	12/17/2021	9.7	9.7					
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.13	0.87					
Mann-Kendall Statistic (S):		14	12					
Confidence Factor:		75.8%	94.9%					
Concentration Trend:		No Trend	Prob. Increasing					



Notes:

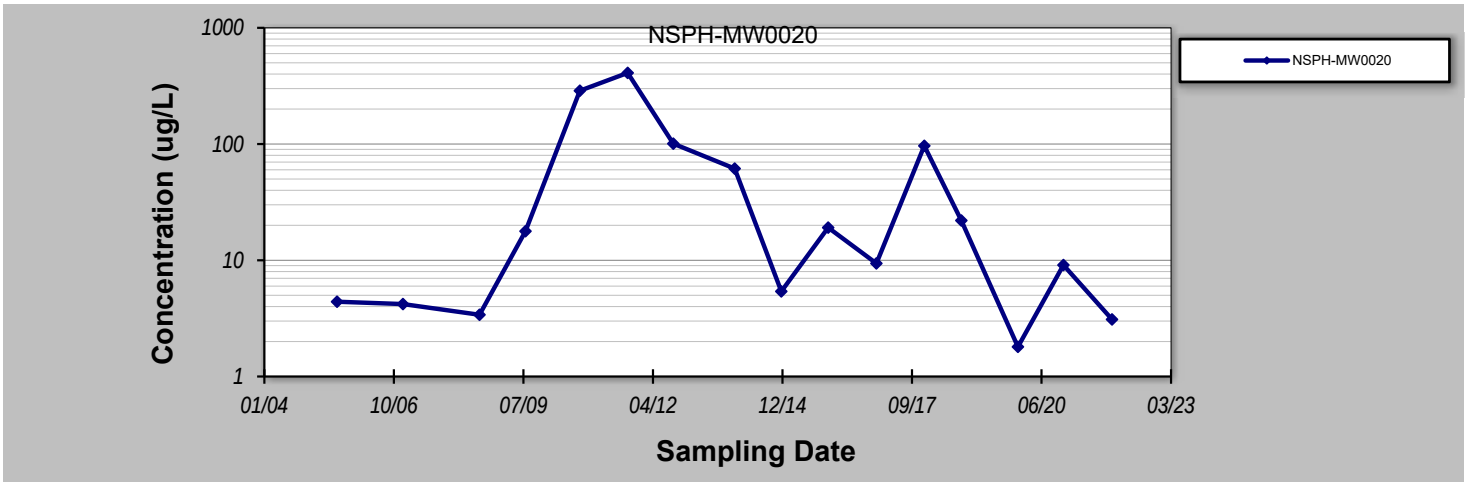
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: NSPH-MW0020

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	7/28/2005	4.4						
2	12/19/2006	4.2						
3	8/1/2008	3.4						
4	7/22/2009	17.8						
5	9/15/2010	287.8						
6	9/19/2011	409.4						
7	9/5/2012	100.8						
8	12/23/2013	61.5						
9	12/18/2014	5.4						
10	12/15/2015	19.1	19.1					
11	12/21/2016	9.4	9.4					
12	12/26/2017	96.6	96.6					
13	10/8/2018	22.0	22.0					
14	12/19/2019	1.8	1.8					
15	12/4/2020	9.1	9.1					
16	12/14/2021	3.1	3.1					
17								
18								
19								
20								
Coefficient of Variation:		1.77	1.45					
Mann-Kendall Statistic (S):		-14	-9					
Confidence Factor:		71.8%	88.1%					
Concentration Trend:		No Trend	No Trend					



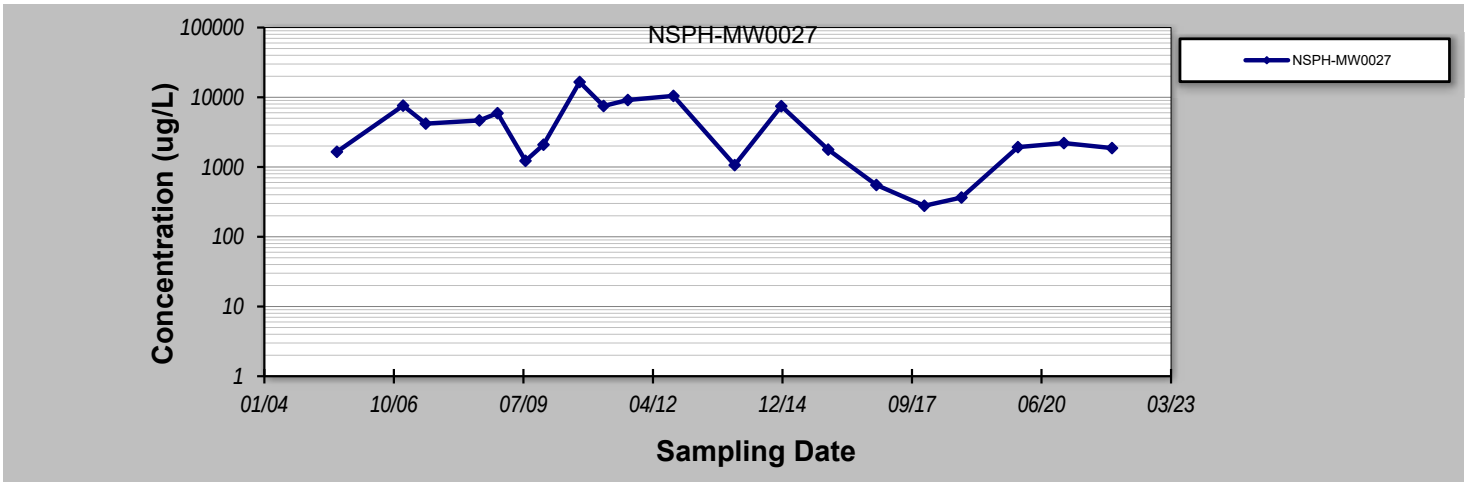
Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L
Sampling Point ID: NSPH-MW0027

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	7/27/2005	1653.2						
2	12/20/2006	7588.6						
3	6/13/2007	4193.2						
4	7/31/2008	4656.6						
5	12/18/2008	5916.2						
6	7/22/2009	1225.4						
7	12/8/2009	2088.4						
8	9/13/2010	16551.9						
9	3/17/2011	7502.1						
10	9/20/2011	9136.7						
11	9/6/2012	10473.9						
12	12/23/2013	1065.7						
13	12/18/2014	7461.3						
14	12/15/2015	1778.2	1778.2					
15	12/21/2016	552.7	552.7					
16	12/26/2017	278.4	278.4					
17	10/9/2018	365.4	365.4					
18	12/19/2019	1930.1	1930.1					
19	12/8/2020	2204	2204					
20	14-Dec-21	1870	1870					
21								
22								
23								
24								
25								
Coefficient of Variation:		0.96	0.66					
Mann-Kendall Statistic (S):		-44	7					
Confidence Factor:		91.8%	80.9%					
Concentration Trend:		Prob. Decreasing	No Trend					



Notes:

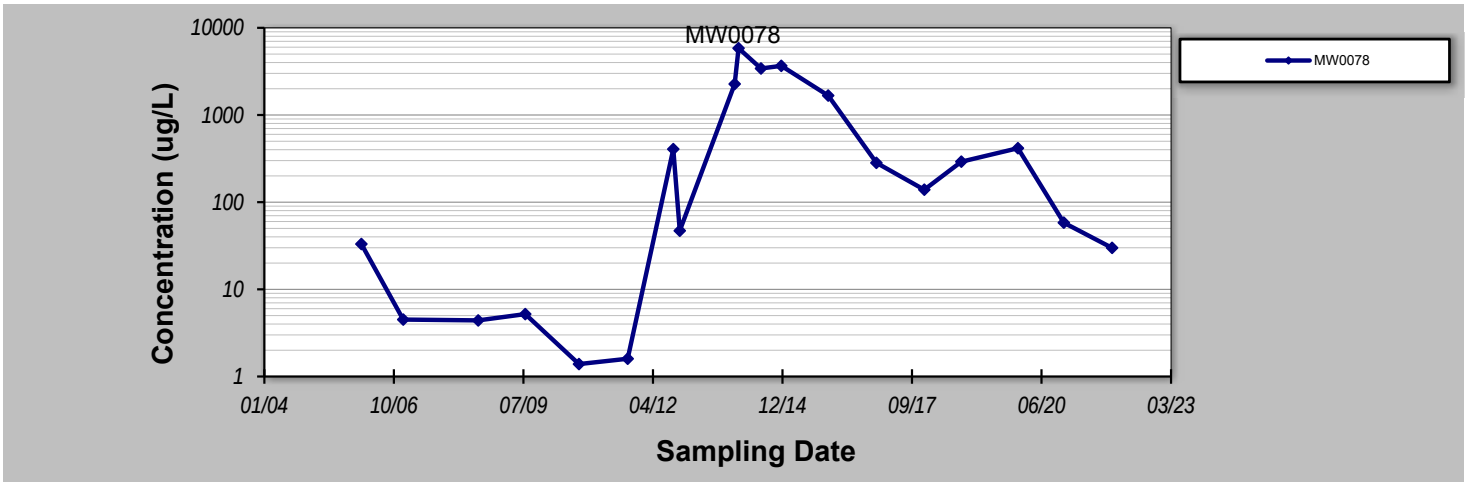
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0078

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	2/1/2006	33.1						
2	12/21/2006	4.5						
3	7/22/2008	4.4						
4	7/20/2009	5.2						
5	9/8/2010	1.4						
6	9/19/2011	1.6						
7	9/5/2012	405.8						
8	10/25/2012	47.0						
9	12/23/2013	2269.8						
10	1/22/2014	5833.4						
11	7/14/2014	3416.2						
12	12/18/2014	3663.3						
13	12/15/2015	1671.0	1671.0					
14	12/21/2016	282.7	282.7					
15	12/26/2017	139.0	139.0					
16	10/8/2018	291.5	291.5					
17	12/19/2019	415.8	415.8					
18	12/7/2020	58.2	58.2					
19	12/15/2021	29.9	29.9					
20								
Coefficient of Variation:		1.70	1.39					
Mann-Kendall Statistic (S):		39	-11					
Confidence Factor:		90.7%	93.2%					
Concentration Trend:		Prob. Increasing	Prob. Decreasing					



Notes:

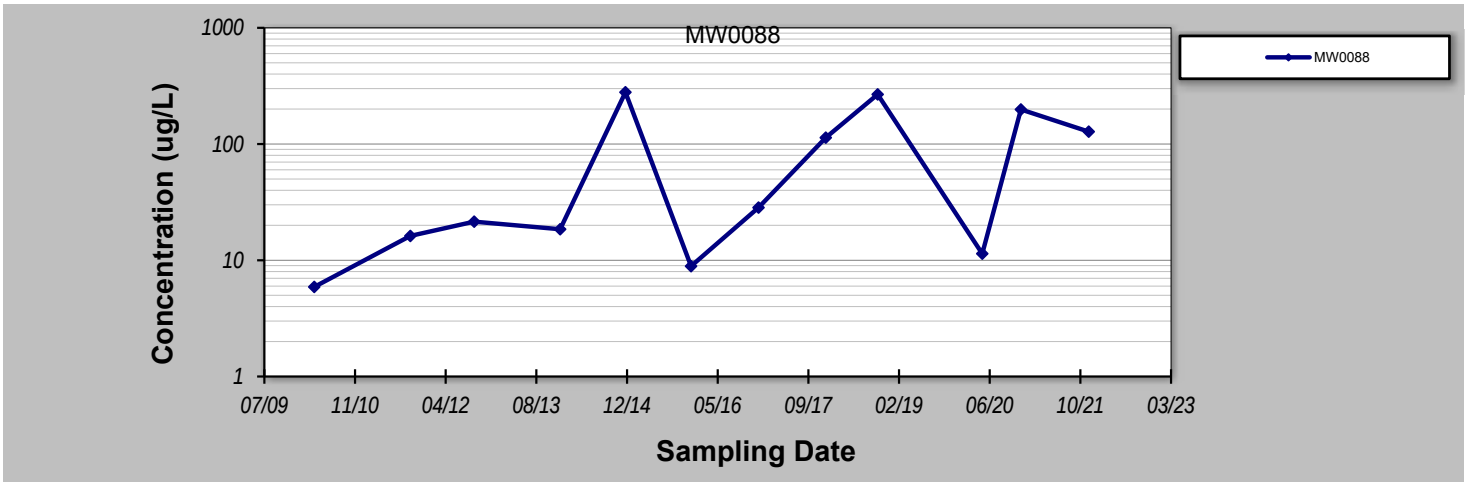
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0088

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	4/7/2010	5.9						
2	9/19/2011	16.2						
3	9/5/2012	21.5						
4	12/23/2013	18.5						
5	12/18/2014	279.0						
6	12/15/2015	8.9	8.9					
7	12/21/2016	28.4	28.4					
8	12/27/2017	113.5	113.5					
9	10/9/2018	267.5	267.5					
10	5/8/2020	11.4	11.4					
11	12/7/2020	198.4	198.4					
12	12/16/2021	127.8	127.8					
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.14	0.92					
Mann-Kendall Statistic (S):		26	9					
Confidence Factor:		95.7%	88.1%					
Concentration Trend:		Increasing	No Trend					



Notes:

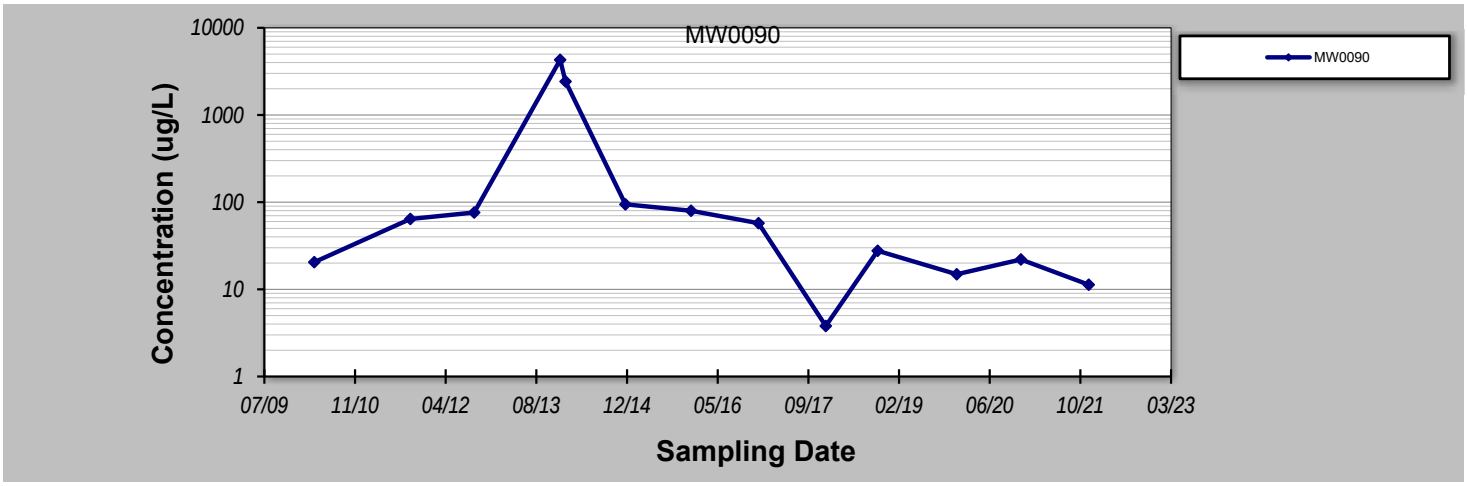
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **16-Jul-20**
Facility Name: **Wilson Corners**
Conducted By: **J. Perdicaris**
Job ID:
Constituent: **Equivalent TCE**
Concentration Units: **ug/L**

Sampling Point ID: **MW0090**

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	4/7/2010	20.5						
2	9/19/2011	64.2						
3	9/5/2012	76.1						
4	12/23/2013	4291.1						
5	1/22/2014	2422.7						
6	12/18/2014	94.4						
7	12/15/2015	79.7	79.7					
8	12/21/2016	57.4	57.4					
9	12/27/2017	3.8	3.8					
10	10/9/2018	27.7	27.7					
11	12/19/2019	14.9	14.9					
12	12/7/2020	22.0	22.0					
13	12/16/2021	11.3	11.3					
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.36	0.89					
Mann-Kendall Statistic (S):		-32	-11					
Confidence Factor:		97.1%	93.2%					
Concentration Trend:		Decreasing	Prob. Decreasing					



Notes:

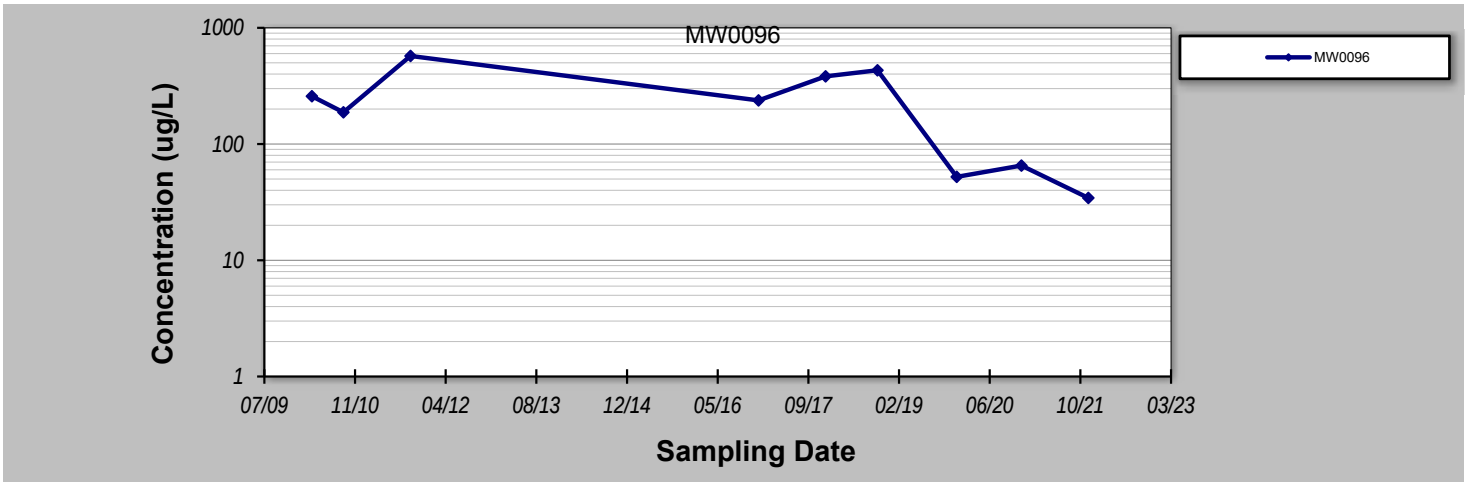
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **16-Jul-20**
Facility Name: **Wilson Corners**
Conducted By: **J. Perdicaris**
Job ID:
Constituent: **Equivalent TCE**
Concentration Units: **ug/L**

Sampling Point ID: **MW0096**

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	3/25/2010	257.9						
2	9/15/2010	187.6						
3	9/20/2011	572.6						
4	12/21/2016	237.4	237.4					
5	12/26/2017	382.2	382.2					
6	10/8/2018	431.2	431.2					
7	12/19/2019	52.2	52.2					
8	12/10/2020	65.3	65.3					
9	12/14/2021	34.4	34.4					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.76	0.88					
Mann-Kendall Statistic (S):		-14	-7					
Confidence Factor:		91.0%	86.4%					
Concentration Trend:		Prob. Decreasing	Stable					



Notes:

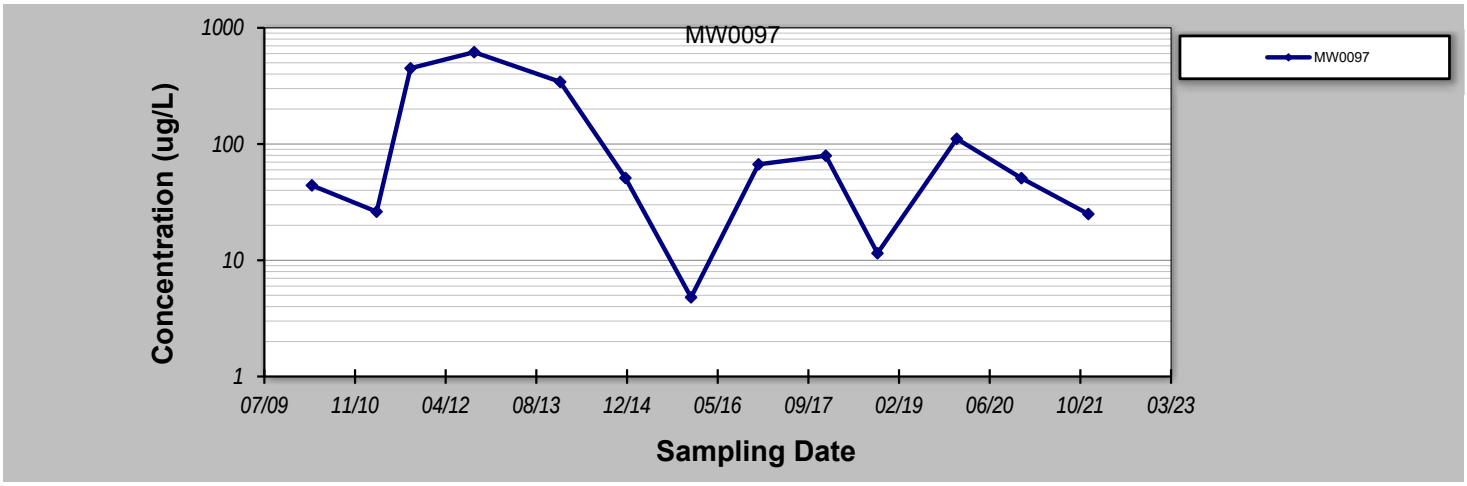
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **16-Jul-20**
Facility Name: **Wilson Corners**
Conducted By: **J. Perdicaris**
Job ID:
Constituent: **Equivalent TCE**
Concentration Units: **ug/L**

Sampling Point ID: **MW0097**

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	3/25/2010	44.1						
2	3/17/2011	26.2						
3	9/20/2011	448.7						
4	9/5/2012	617.7						
5	12/23/2013	342.9						
6	12/18/2014	51.1						
7	12/15/2015	4.8	4.8					
8	12/21/2016	66.9	66.9					
9	12/27/2017	79.4	79.4					
10	10/8/2018	11.5	11.5					
11	12/19/2019	111	111					
12	12/10/2020	50.9	50.9					
13	12/14/2021	25.0	25					
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.35	0.78					
Mann-Kendall Statistic (S):		-14	3					
Confidence Factor:		78.2%	61.4%					
Concentration Trend:		No Trend	No Trend					



Notes:

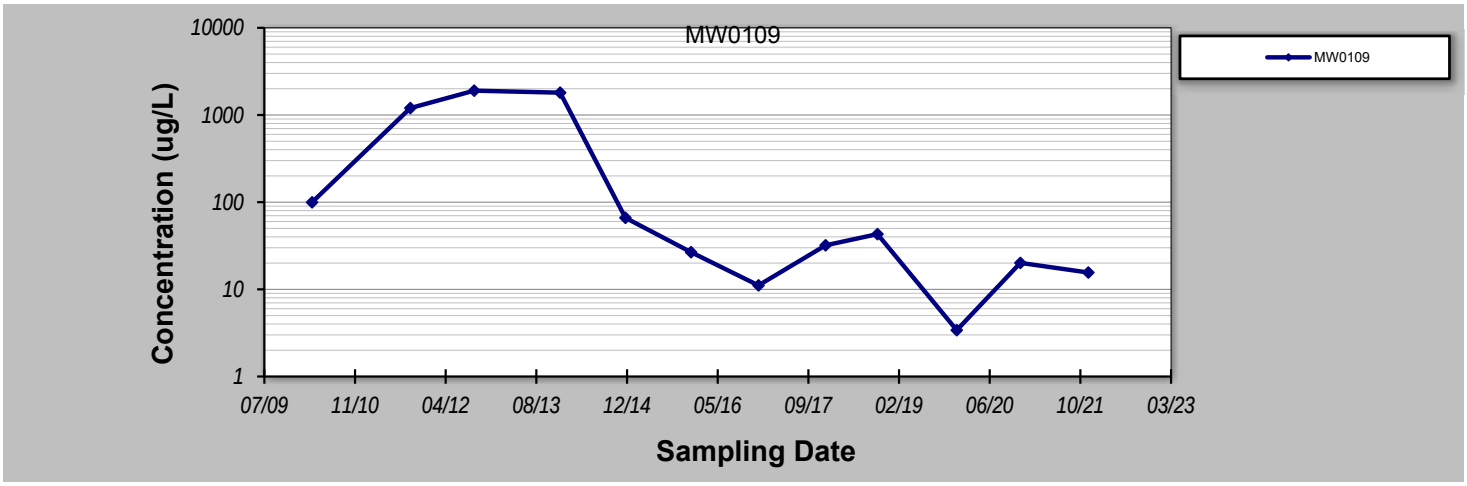
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0109

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	3/26/2010	99.7						
2	9/19/2011	1200.5						
3	9/5/2012	1902.8						
4	12/23/2013	1802.9						
5	12/18/2014	66.2						
6	12/15/2015	26.7	26.7					
7	12/21/2016	11.1	11.1					
8	12/26/2017	32.0	32.0					
9	10/8/2018	43.0	43.0					
10	12/19/2019	3.4	3.4					
11	12/4/2020	20.1	20.1					
12	12/14/2021	15.6	15.6					
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.70	0.62					
Mann-Kendall Statistic (S):		-38	-3					
Confidence Factor:		99.6%	61.4%					
Concentration Trend:		Decreasing	Stable					



Notes:

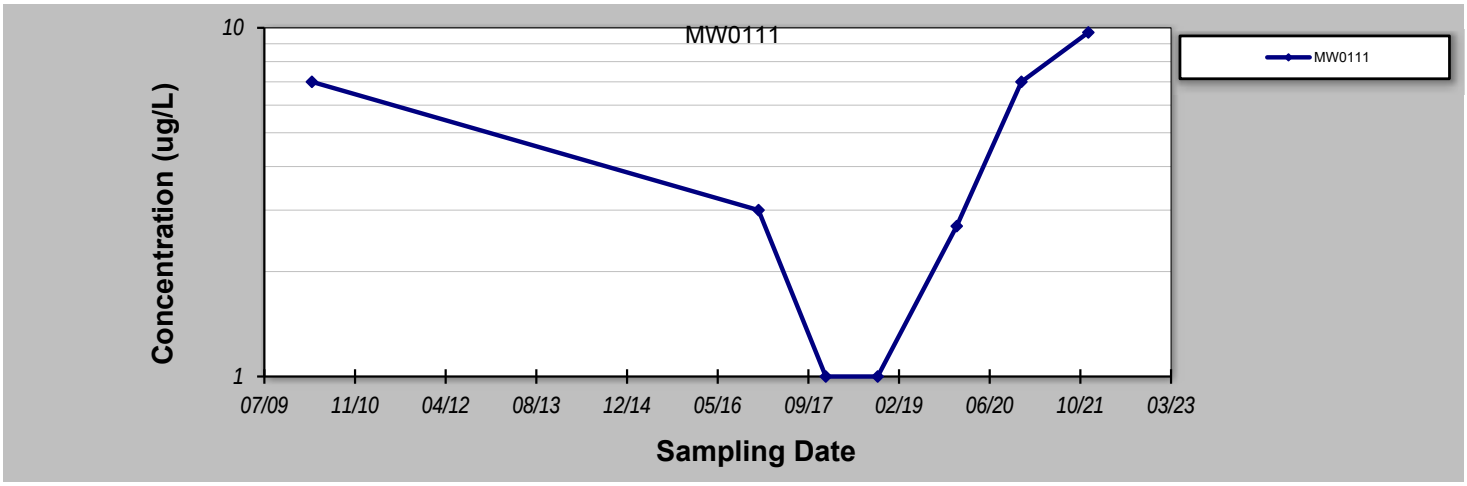
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **16-Jul-20**
Facility Name: **Wilson Corners**
Conducted By: **J. Perdicaris**
Job ID:
Constituent: **Equivalent TCE**
Concentration Units: **ug/L**

Sampling Point ID: **MW0111**

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	3/25/2010	7.0						
2	12/21/2016	3.0	3.0					
3	12/27/2017	1.0	1.0					
4	10/9/2018	1.0	1.0					
5	12/19/2019	2.7	2.7					
6	12/10/2020	7.0	7.0					
7	12/14/2021	9.7	9.7					
8								
9								
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		0.76	0.87					
Mann-Kendall Statistic (S):		5	8					
Confidence Factor:		71.9%	89.8%					
Concentration Trend:		No Trend	No Trend					



Notes:

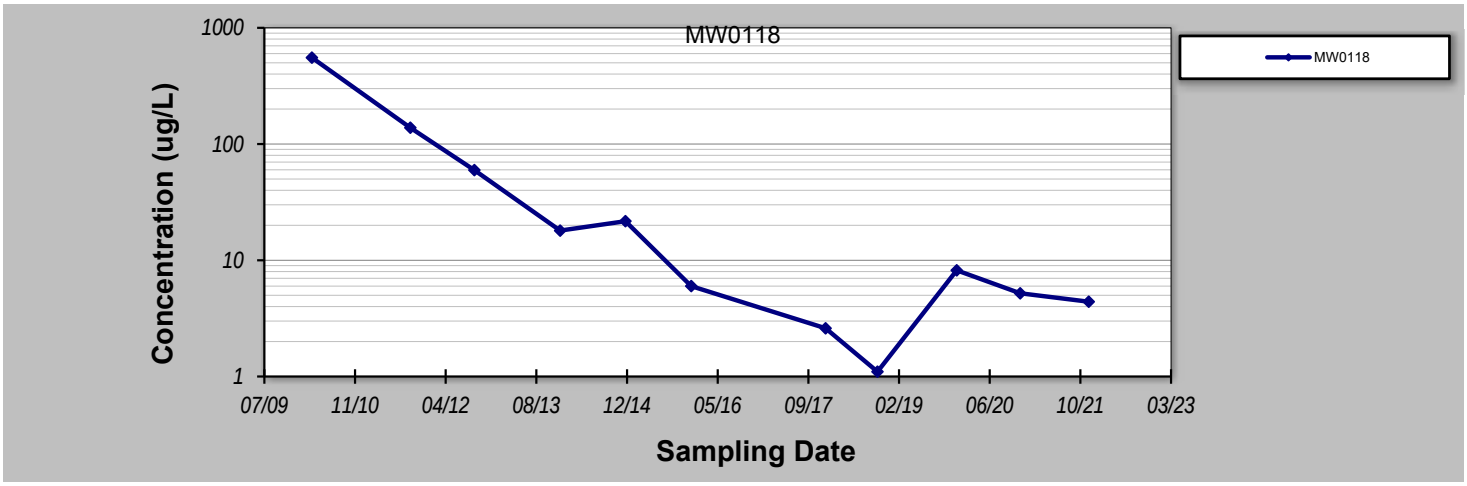
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0118

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	3/25/2010	553.9						
2	9/19/2011	138.2						
3	9/6/2012	59.7						
4	12/23/2013	18.0						
5	12/18/2014	21.7						
6	12/16/2015	6.0	6.0					
7	12/26/2017	2.6	2.6					
8	10/8/2018	1.1	1.1					
9	12/19/2019	8.2	8.2					
10	12/3/2020	5.2	5.2					
11	12/16/2021	4.4	4.4					
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		2.20	0.55					
Mann-Kendall Statistic (S):		-39	-1					
Confidence Factor:		99.9%	50.0%					
Concentration Trend:		Decreasing	Stable					



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 16-Jul-20
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0129

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	9/13/2010	6.4						
2	3/16/2011	2.5						
3	9/20/2011	59.1						
4	12/26/2017	884.0	884.0					
5	10/8/2018	348.8	348.8					
6	5/8/2020	928.0	928.0					
7	12/7/2020	174.2	174.2					
8	12/15/2021	123.3	123.3					
9								
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12								
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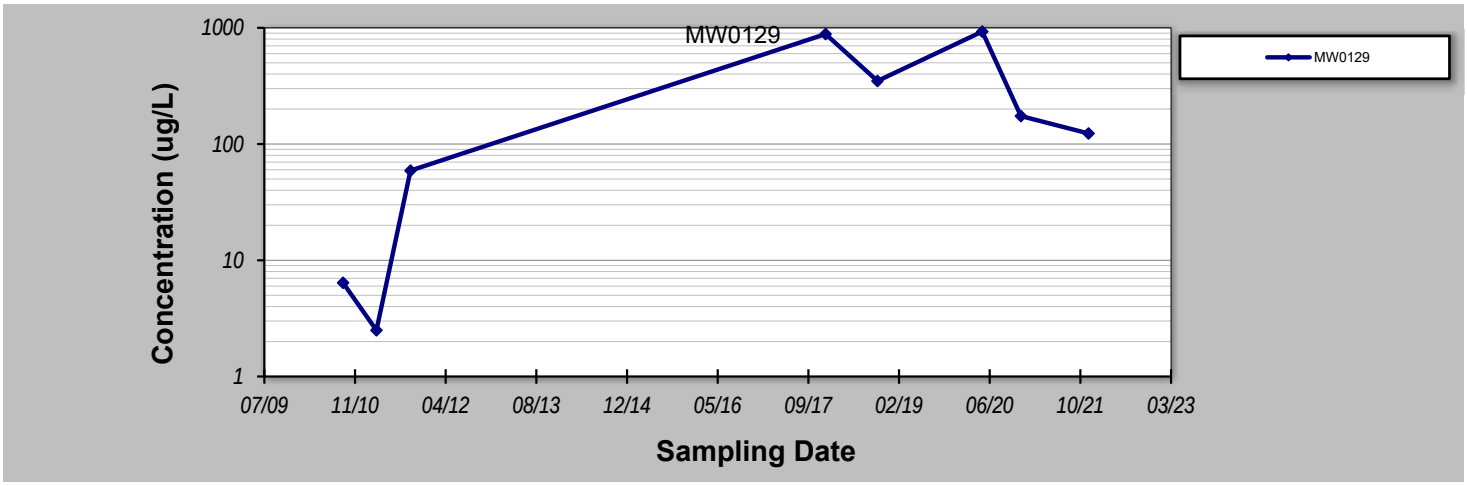
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.21	0.79					
Mann-Kendall Statistic (S):		10	-6					
Confidence Factor:		86.2%	88.3%					
Concentration Trend:		No Trend	Stable					



Notes:

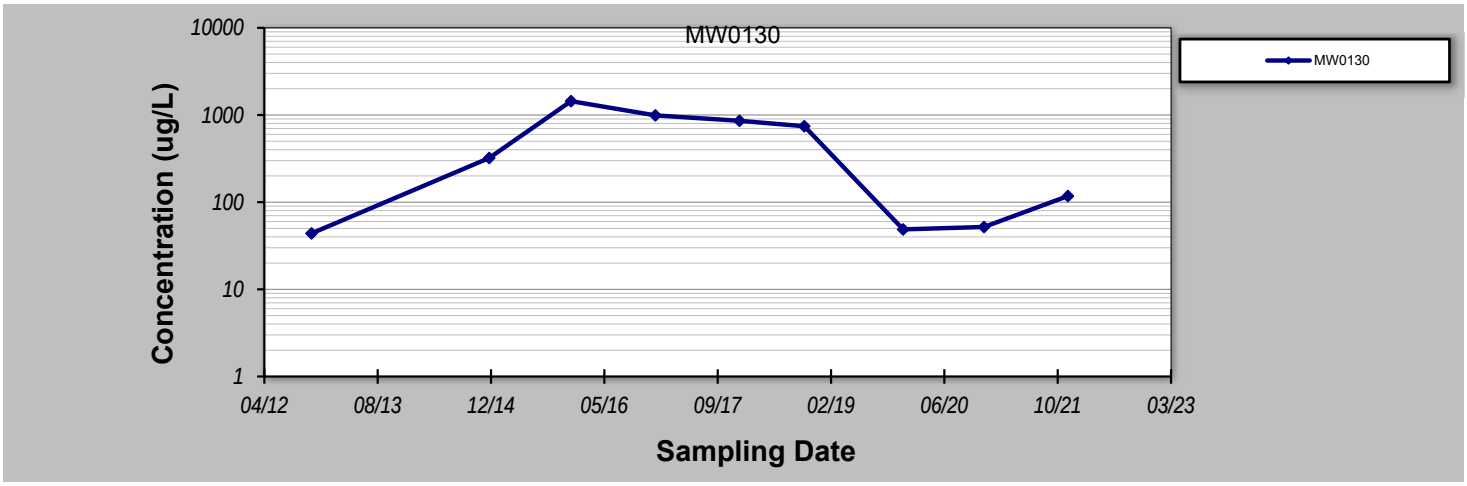
1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: **16-Jul-20**
Facility Name: **Wilson Corners**
Conducted By: **J. Perdicaris**
Job ID:
Constituent: **Equivalent TCE**
Concentration Units: **ug/L**

Sampling Point ID: **MW0130**

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)						
1	10/26/2012	43.8						
2	12/19/2014	321.1						
3	12/15/2015	1441.3	1441.3					
4	12/21/2016	990.4	990.4					
5	12/27/2017	858.1	858.1					
6	10/9/2018	743.5	743.5					
7	12/19/2019	48.7	48.7					
8	12/10/2020	51.9	51.9					
9	12/15/2021	117.5	117.5					
10								
11								
12								
13								
14								
15								
16								
17								
18								
19								
20								
Coefficient of Variation:		1.00	0.90					
Mann-Kendall Statistic (S):		-6	-15					
Confidence Factor:		69.4%	98.5%					
Concentration Trend:		Stable	Decreasing					



Notes:

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2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 30-Mar-22
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0152

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)
1	12/27/2017	1255.7
2	10/8/2018	4.1
3	5/8/2020	27.0
4	12/4/2020	879.8
5	12/17/2021	2114.6
6		
7		
8		
9		
10		
11		
12		
13		
14		
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16		
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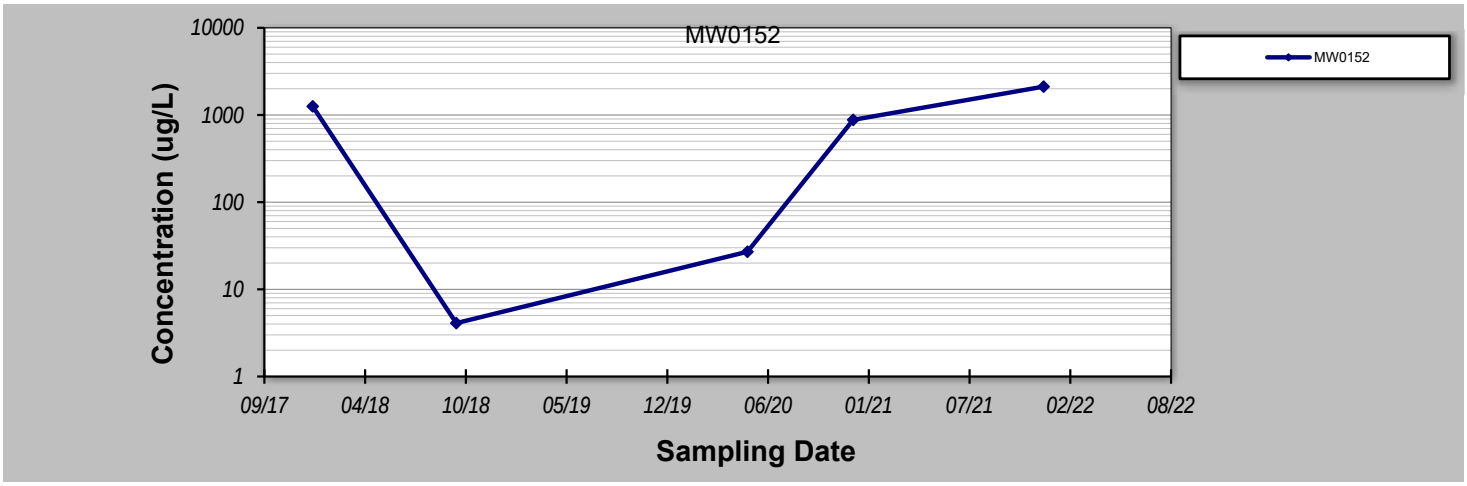
18		
19		
20		
Coefficient of Variation:		1.04
Mann-Kendall Statistic (S):		4
Confidence Factor:		75.8%
Concentration Trend:		No Trend



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.

GSI MANN-KENDALL TOOLKIT
for Constituent Trend Analysis

Evaluation Date: 30-Mar-22
Facility Name: Wilson Corners
Conducted By: J. Perdicaris
Job ID:
Constituent: Equivalent TCE
Concentration Units: ug/L

Sampling Point ID: MW0046D

Sampling Event	Sampling Date	EQUIVALENT TCE CONCENTRATION (ug/L)
1	7/27/2005	85.8
2	12/26/2017	58.2
3	10/8/2018	37.2
4	12/19/2019	8.0
5	12/10/2020	2.6
6	12/15/2021	5.1
7		
8		
9		
10		
11		
12		
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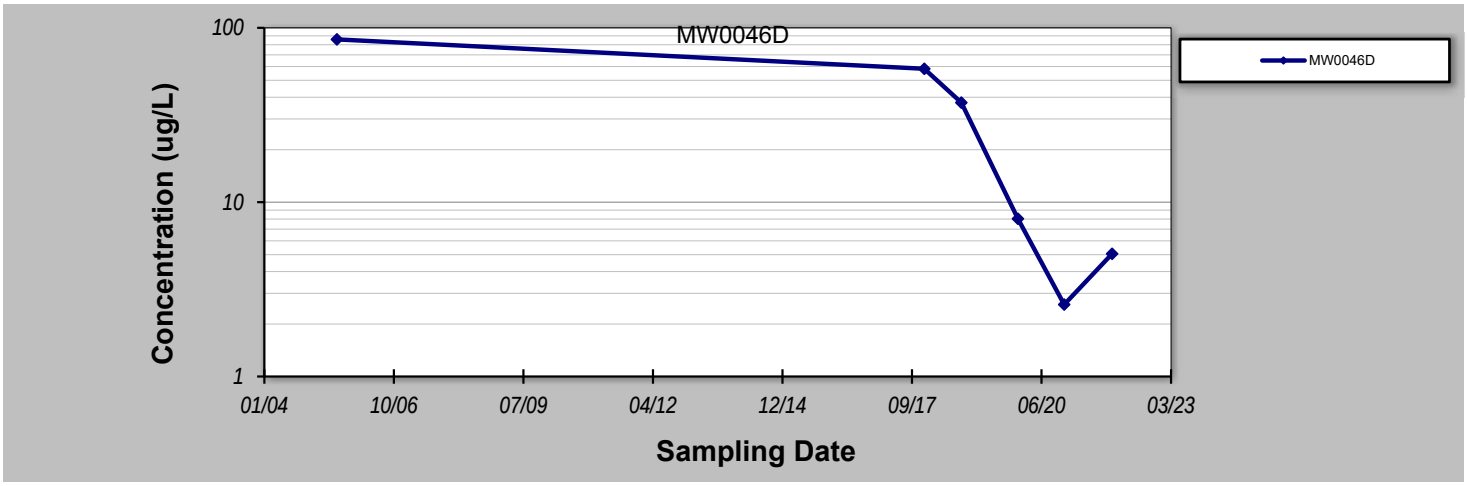
14		
15		
16		
17		
18		
19		
20		
Coefficient of Variation:		1.04
Mann-Kendall Statistic (S):		-13
Confidence Factor:		99.2%
Concentration Trend:		Decreasing



Notes:

1. At least four independent sampling events per well are required for calculating the trend. *Methodology is valid for 4 to 40 samples.*
2. Confidence in Trend = Confidence (in percent) that constituent concentration is increasing (S>0) or decreasing (S<0): >95% = Increasing or Decreasing; ≥ 90% = Probably Increasing or Probably Decreasing; < 90% and S>0 = No Trend; < 90%, S≤0, and COV ≥ 1 = No Trend; < 90% and COV < 1 = Stable.
3. Methodology based on "MAROS: A Decision Support System for Optimizing Monitoring Plans", J.J. Aziz, M. Ling, H.S. Rifai, C.J. Newell, and J.R. Gonzales, *Ground Water* , 41(3):355-367, 2003.