2021 CORRECTIVE MEASURES IMPLEMENTATION AND INTERIM MEASURES ANNUAL STATUS REPORT: SUMMARY OF BIOSPARGE SYSTEM OPERATION AND MAINTENANCE, AND INTERIM GROUNDWATER MONITORING MOBILE LAUNCH PLATFORM REHABILITATION SITES / VEHICLE ASSEMBLY BUILDING AREA (SWMU 056) KENNEDY SPACE CENTER, FLORIDA

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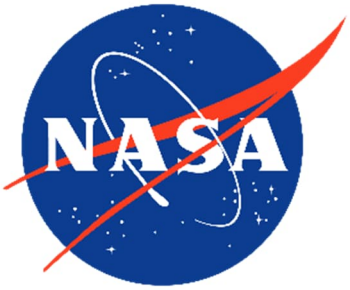

Environmental Assurance Branch
National Aeronautics and Space Administration
Kennedy Space Center, Florida 32899

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June 2022
Revision 0

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In accordance with the provisions of Florida Statutes, Chapter 471, this Corrective Measures Implementation and Interim Measures Annual Status Report for the Kennedy Space Center Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area located in Merritt Island, Florida, has been prepared under the direct supervision of a Professional Engineer registered in the State of Florida. This document and the work described herein comply with standard professional practices and the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.) and other rules of the Florida Department of Environmental Protection according to Rule 62-780.400(1), F.A.C. 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 makes no other warranty, either expressed or implied, and is not responsible for the interpretation by others of these data.

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TABLE OF CONTENTS

1. INTRODUCTION 1-1
1.1 Overview 1-1
1.2 Site Location 1-1
1.3 Background 1-1
1.3.1 Former Hot Spot 1 1-2
1.3.2 Former Hot Spot 2 1-3
1.3.3 Hot Spot 3 and Hot Spot 3 OFW Area 1-5
1.3.4 Hot Spot 4 1-7
1.3.5 Long-Term Groundwater Monitoring Program 1-7
1.4 Purpose 1-8

2. REMEDIAL ACTION FIELD ACTIVITIES 2-1
2.1 Overview 2-1
2.2 Biosparge System 2-1

3. DPT GROUNDWATER SAMPLING AND RESULTS 3-1
3.1 Former Hot Spot 2 (Air Sparge Area) 3-1
3.2 Biosparge Barrier Area for Mitigating the HCP 3-2
3.3 Hot Spot 3 3-3

4. PERFORMANCE AND INTERIM GROUNDWATER MONITORING ACTIVITIES AND RESULTS 4-1
4.1 Groundwater Elevation and Flow Direction 4-1
4.2 Former Hot Spot 2 (Air Sparge) Interim Groundwater Monitoring 4-2
4.2.1 30 feet to 40 feet bls Sampling Interval Results 4-2
4.2.2 40 feet to 50 feet bls Sampling Interval Results 4-3
4.2.3 Summary of Centerline Results 4-3
4.2.4 Summary of Perimeter Results 4-4
4.3 Biosparge Area Performance Monitoring 4-4
4.3.1 25 feet to 35 feet bls Sampling Interval Results 4-5
4.3.2 35 feet to 40 feet bls Sampling Interval Results 4-5
4.3.3 40 feet to 50 feet bls Sampling Interval Results 4-6
4.3.4 Biosparge Barrier Overall Results 4-6
4.4 Hot Spot 3 (OFW Area) Interim Groundwater Monitoring 4-7
4.4.1 15 to 25 feet bls Sampling Interval Results 4-7
4.4.2 25 to 30 feet bls Sampling Interval Results 4-7
4.4.3 Hot Spot 3 (OFW) Overall Results 4-7
4.5 LCP LTM Evaluation 4-7

5. CONCLUSIONS, RECOMMENDATIONS, AND EXIT STRATEGY 5-1
5.1 HCP Interim Measures 5-1

5.1.1 Former Hot Spot 2 5-1
5.1.2 Conclusions 5-1
5.1.3 Recommendations 5-1
5.1.4 Exit Strategy 5-1
5.2 Biosparge Barrier for Mitigating the HCP 5-1
5.2.1 Conclusions 5-1
5.2.2 Recommendations 5-2
5.2.3 Exit Strategies 5-2
5.3 Hot Spot 3 5-2
5.3.1 Conclusions 5-2
5.3.2 Recommendations 5-3
5.3.3 Exit Strategy 5-3
5.4 Hot Spot 3 (OFW) 5-3
5.4.1 Conclusions 5-3
5.4.2 Recommendations 5-3
5.4.3 Exit Strategy 5-3
5.5 LCP LTM 5-3
5.5.1 Conclusions 5-3
5.5.2 Recommendations 5-4
5.5.3 Exit Strategy 5-4
6. REFERENCES 6-1

TABLES

Table 2-1 Biosparge Barrier Dissolved Oxygen Measurements
Table 3-1 DPT Groundwater Sampling Location Coordinates and Depths
Table 3-2 Former Hot Spot 2 DPT Groundwater CVOC Analytical Results
Table 3-3 Biosparge Area DPT Groundwater CVOC Analytical Results
Table 3-4 Hot Spot 3 DPT Groundwater CVOC Analytical Results
Table 3-5 Hot Spot 3 DPT Groundwater Geochemical Analytical Results
Table 4-1 MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Table 4-2 Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Table 4-3 Biosparge Area CVOC Groundwater Analytical Results
Table 4-4 Hot Spot 3 (OFW Area) CVOC Groundwater Analytical Results
Table 4-5 Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Table 4-6 Biosparge Barrier Groundwater Geochemical Parameters
Table 4-7 Hot Spot 3 (OFW Area) Groundwater Geochemical Parameters
Table 4-8 LCP LTM Monitoring Well Network Rationale
Table 4-9 Biennial LCP LTM Plan for 2022
Table 5-1 Sampling and Analysis Plan for 2022

FIGURES

Figure 1-1 Site Location Map
Figure 1-2 Topographic Quadrangle Map
Figure 1-3 Hot Spots
Figure 2-1 Air Sparge and Biosparge System Layout
Figure 3-1 Former Hot Spot 2 DPT Groundwater Analytical Results – 41 to 45 feet bls
Figure 3-2 Former Hot Spot 2 DPT Groundwater Analytical Results – 45 to 49 feet bls
Figure 3-3 Former Hot Spot 2 DPT Groundwater Analytical Results – 51 to 55 feet bls
Figure 3-4 Biosparge Area DPT Groundwater Analytical Results – 31 to 35 feet bls
Figure 3-5 Biosparge Area DPT Groundwater Analytical Results – 35 to 40 feet bls
Figure 3-6 Biosparge Area DPT Groundwater Analytical Results – 41 to 45 feet bls

Figure 3-7 Biosparge Area DPT Groundwater Analytical Results – 45 to 50 feet bls

Figure 3-8 Hot Spot 3 DPT Groundwater Analytical Results – 5 to 9 feet bls

Figure 3-9 Hot Spot 3 DPT Groundwater Analytical Results – 9 to 13 feet bls

Figure 3-10 Hot Spot 3 DPT Groundwater Analytical Results – 14 to 18 feet bls

Figure 3-11 Hot Spot 3 DPT Groundwater Analytical Results – 20 to 24 feet bls

Figure 3-12 Hot Spot 3 DPT Groundwater Analytical Results – 25 to 29 feet bls

Figure 3-13 Hot Spot 3 DPT Groundwater Analytical Results – 36 to 40 feet bls

Figure 3-14 Hot Spot 3 DPT Groundwater Analytical Results – 43 to 47 feet bls

Figure 3-15 Hot Spot 3 DPT Groundwater Analytical Results – 48 to 52 feet bls

Figure 3-16 Hot Spot 3 DPT Groundwater Analytical Results – 54 to 58 feet bls

Figure 4-1 Sitewide Groundwater Contour Map, Shallow Interval (2 to 20 feet bls) – March 18, 2021

Figure 4-2 Sitewide Groundwater Contour Map, Intermediate Interval (20 to 45 feet bls) – March 18, 2021

Figure 4-3 Sitewide Groundwater Contour Map, Deep Interval (45 to 70 feet bls) – March 18, 2021

Figure 4-4 Former Hot Spot 2 Groundwater Analytical Results - Composite CVOC – March and September 2021

Figure 4-5 Biosparge Area Groundwater Analytical Results - Composite CVOC – March, September, and November 2021

Figure 4-6 Former Hot Spot 2 and Biosparge Area – cis-1,2-Dichloroethene Plume Map (30 to 45 feet bls) – 2021 DPT and 2021 IGM

Figure 4-7 Former Hot Spot 2 and Biosparge Area – cis-1,2-Dichloroethene Plume Map (45 to 50 feet bls) – 2021 DPT and 2021 IGM

Figure 4-8 Former Hot Spot 2 and Biosparge Area – Vinyl Chloride Plume Map (30 to 45 feet bls) – 2021 DPT and 2021 IGM

Figure 4-9 Former Hot Spot 2 and Biosparge Area – Vinyl Chloride Plume Map (45 to 50 feet bls) – 2021 DPT and 2021 IGM

Figure 4-10 Hot Spot 3 (OFW) Groundwater Analytical Results - Composite CVOC – September 2021

Figure 4-11 Proposed LCP LTM Monitoring Wells – 1 to 25 feet bls

Figure 4-12 Proposed LCP LTM Monitoring Wells – 20 to 35 feet bls

Figure 4-13 Proposed LCP LTM Monitoring Wells – 35 to 45 feet bls

Figure 4-14 Proposed LCP LTM Monitoring Wells– 40 to 57 feet bls

Figure 4-15 Proposed LCP LTM Monitoring Wells - Composite

Figure 4-16 Composite CVOC Plume Map 2021

Figure 5-1 Proposed Soil Core Locations

APPENDICES

Appendix A Kennedy Space Center Remediation Team Meeting Minutes (September 2021 and March 2022) and March 2022 ADP

Appendix B Biosparge System Photo Log, Field Notes, and O&M Log

Appendix C Field Notes – DPT Groundwater Sampling Activities

Appendix D Mobile Laboratory Analytical Reports – DPT Groundwater Sampling

Appendix E Fixed Laboratory Analytical Reports – DPT Groundwater Sampling

Appendix F September 2021 Hot Spot 3 ADP

Appendix G Field Notes – Groundwater Sampling Activities

Appendix H Groundwater Sampling Logs and Calibration Records

Appendix I Laboratory Analytical Reports – Groundwater Sampling

Appendix J RIS Completion Tickets

Appendix K Water Level Logs

Appendix L Trend Charts

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ABBREVIATIONS, ACRONYMS, AND SYMBOLS

10xNADC	10 times the Natural Attenuation Default Concentration
ADP	Advance Data Package
AECOM	AECOM Technical Services, Inc.
ALF	Analytical Laboratories of Florida, Inc.
bls	below land surface
BTEX	benzene, toluene, ethyl benzene, and xylene
CAO	Corrective Action Objective
CCR	Construction Completion Report
cDCE	cis-1,2-dichloroethene
CMD	Corrective Measures Design
CMI	Corrective Measures Implementation
CVOC	chlorinated volatile organic compound
DO	dissolved oxygen
DPT	direct push technology
EE	Engineering Evaluation
ENCO	Environmental Conservation Laboratories, Inc.
ERD	enhanced reductive dechlorination
FDEP	Florida Department of Environmental Protection
GCTL	Groundwater Cleanup Target Level
Geosyntec	Geosyntec Consultants, Inc.
HCP	High Concentration Plume
IGM	interim groundwater monitoring
IM	Interim Measures
IMWP	Interim Measures Work Plan
ISCR	in situ chemical reduction
KSC	Kennedy Space Center
KSCRT	KSC Remediation Team
LCP	low concentration plume

LNAPL	light non-aqueous phase liquid
LTM	long-term monitoring
mg/L	milligrams per liter
MLP	Mobile Launch Platform
MTBE	methyl tert-butyl ether
NADC	Natural Attenuation Default Concentration
NASA	National Aeronautics and Space Administration
NFA	No Further Action
O&M	operation and maintenance
OFW	Outstanding Florida Water
OM&M	operation, maintenance, and monitoring
PAH	polycyclic aromatic hydrocarbon
PCE	tetrachloroethene
PRES	Press Site
RAE	Remedial Alternatives Evaluation
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
RIS	Remediation Information System
SGS	SGS North America, Inc.
SOP	standard operating procedure
STS	Space Transportation System
SWMU	solid waste management unit
TCE	trichloroethene
tDCE	trans-1,2-dichloroethene
TOC	total organic carbon
USEPA	U.S. Environmental Protection Agency
VAB	Vehicle Assembly Building
VABRA	Vehicle Assembly Building Reassessment Area
VC	vinyl chloride
µg/L	micrograms per liter

EXECUTIVE SUMMARY

This report presents a summary of the Corrective Measures Implementation (CMI) and Interim Measure (IM) implementation activities that occurred from January 2021 through December 2021 at the Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building (VAB) Area, Solid Waste Management Unit 056 (SWMU 056), located at the John F. Kennedy Space Center, Florida.

The following summaries briefly describe areas within SWMU 056 identified by historical site investigation activities where groundwater monitoring and remedial actions have been implemented to date.

Former Hot Spot 1

Former Hot Spot 1 was located near the VAB where trichloroethene (TCE) impacts were previously identified at concentrations greater than 11,000 micrograms per liter (µg/L), which represents 1% of literature solubility (1,100,000 µg/L) and was identified as a source zone during Resource Conservation and Recovery Act Facility Investigation activities, at which time it was designated as Hot Spot 1. Former Hot Spot 1 was addressed through the implementation of bioremediation and the area was transitioned to the VAB area Long-Term Monitoring (LTM) Program in August 2015 after having achieved the corrective measure objectives. Details of subsequent biennial VAB LTM events (now referred to as LCP LTM) are reported as relating to the VAB and surrounding area rather than Hot Spot 1; therefore, no additional activities have been reported for the Hot Spot 1 site.

To mitigate discharge of the dissolved plume that migrated from Former Hot Spot 1 to adjacent wetlands, a biosparge barrier system was installed as a CMI to treat groundwater immediately upgradient of the wetland where vinyl chloride concentrations were greater than 100 µg/L (NASA 2019b). The barrier has been operating since April 2005 and was expanded in February 2016.

The system shut down in December 2019 and remained off while the compressor was removed for repair. The compressor was reinstalled and the system restarted on June 25, 2020. The system operated until December 12, 2020, when it was destroyed by an electrical fire. During operation, the system effectively mitigated concentrations of chlorinated volatile compounds (CVOC). Groundwater performance monitoring and direct push technology (DPT) groundwater sampling performed in 2021 indicate the dissolved plume is migrating between biosparge barrier segments. While operating parameters prior to the system shutting down indicated that the barrier was operating as planned, an expansion of the system is necessary to strengthen mitigation measures for the upgradient high concentration plume (HCP). Operation, maintenance, and monitoring (OM&M) activities will resume once a replacement biosparge barrier remediation system trailer is installed. System operation is expected to resume in the summer or fall of 2022.

Former Hot Spot 2

Former Hot Spot 2 is located downgradient of the Former Hot Spot 1 area and was defined as the area with cis-1,2-dichloroethene concentrations greater than the Florida Department of Environmental Protection (FDEP) Natural Attenuation Default Concentration (NADC) of 700 µg/L and TCE concentrations greater than the NADC of 300 µg/L. Air sparging was implemented in the Hot Spot 2 area in 2012 as an IM (NASA 2019b). The air sparge system operated until April 2018, and groundwater quality continues to be monitored with interim groundwater sampling. DPT groundwater sampling performed in and around the air sparge treatment area, post system shutdown in 2018, to evaluate the air sparge system operation and a possible expansion of the air sparge system indicated the system could remain off. Details of the 2018 air sparge system OM&M and DPT groundwater sampling activities are included in the 2018 CMI and IM Annual Report dated August 2019 (NASA 2019b).

Groundwater monitoring continued since 2018, and contaminant concentrations indicated system expansion was necessary. Additional DPT groundwater data within the Former Hot Spot 2 treatment area were collected in March 2021 to support the development of a Remedial Alternatives Evaluation (RAE). The purpose of the RAE will be to treat a lower permeability fine-grained soil unit, below the air sparge treatment interval, where CVOC concentrations remain above FDEP Groundwater Cleanup Target Levels (GCTLs) and NADCs. Details of the most recent groundwater monitoring events and DPT activities are summarized in this report. The RAE will be submitted under a separate cover.

Hot Spot 3

Hot Spot 3 is located adjacent to and underneath the western MLP structure and was defined as the area where CVOC impacts are greater than 10 times NADCs (10xNADC). Bioremediation and DPT groundwater sampling were implemented as an IM in this area. A summary of the activities associated with the Hot Spot 3 Area Bioremediation IM is included in the 2018 CMI and IM Annual Report (NASA 2019b). The Western MLP Park site was leased to a commercial partner, and access to the area during the lease was restricted (area includes the Hot Spot 3 Bioremediation IM Area). Therefore, the Hot Spot 3 Bioremediation IM area monitoring wells (VABRA-MW0001 through VABRA-MW0005 and VABRA-IW0065 through VABRA-IW0075) were abandoned in April 2019. Following the reinstatement of site access in March 2021, a DPT performance monitoring event was performed to evaluate current conditions and determine whether additional substrate is required to promote continued dissolved plume degradation. Details of the DPT groundwater sampling event are included in this report. Based on the extent of CVOC concentrations, additional bioremediation injection methods are being presented under separate cover for Hot Spot 3 as an Interim Measures Work Plan (IMWP).

Hot Spot 3 (OFW)

The dissolved plume from Hot Spot 3 extends to an area near Outstanding Florida Water (OFW), and the leading edge of the dissolved plume (referred to as the Hot Spot 3 OFW area) is in interim groundwater monitoring (IGM) (NASA 2019b). Per recommendation from AECOM in

the 2019 CMI and IM Annual Report, Hot Spot 3 OFW sampling frequency was transitioned from semi-annually to annually beginning in 2020. Groundwater analytical data presented in the 2020 CMI and IM Annual Report indicate contaminant concentrations remain below FDEP GCTLs in all monitoring wells, and sampling was recommended to continue on an annual basis. The details of the September 2021 annual IGM activities at the Hot Spot 3 OFW area are included in this report.

Hot Spot 4

Hot Spot 4 is located near the northeast corner of the eastern MLP structure and was defined as the area with 2-methylnaphthalene concentrations in groundwater above the NADC of 280 µg/L and where light non-aqueous phase liquid (LNAPL) was identified in one monitoring well (VABRA-MW0010). A passive skimmer was installed in VABRA-MW0010 to recover LNAPL and IGM was performed annually until the future of the MLP structure was determined (NASA 2019b). Monthly inspection of the passive skimmer indicated LNAPL was no longer present or detected with an in-well probe since April 2017. May 2018 IGM data indicated contaminant concentrations from monitoring well VABRA-MW0010 were below FDEP GCTLs; therefore, measurement of LNAPL was discontinued in September 2018. In a letter dated January 30, 2020, FDEP approved removal of the LNAPL skimmer and abandonment of monitoring wells VABRA-MW0007 through VABRA-MW0009. Additional data are needed from VABRA-MW0010 to comply with No Further Action criteria when the remainder of SWMU 056 achieves closure requirements.

Long Term Monitoring

LTM of the low concentration dissolved plume (formerly referred to as the VAB LTM) has been conducted since May 2005 and involves the biennial sampling of monitoring wells throughout the MLP/VAB area. Additional monitoring wells around the VAB and surrounding SWMU area were included in the 2020 LTM event to obtain data in areas with perceived data gaps based on an assessment of the 2018 data. Sampling results from 2020 indicated elevated vinyl chloride at select monitoring wells. The select wells and periphery monitoring wells were resampled and the results were within the same magnitude as data from previous groundwater sampling events since 2014 and DPT groundwater data collected in 2012 and 2013. This report includes details and recommendations following the low concentration plume (LCP) LTM monitoring well network evaluation, which was performed to further monitor plume characteristics.

Groundwater elevations were collected from sampled wells during the 2021 IGM activities (March and September), and a sitewide water gauging event was performed concurrently during the March 2021 event. Sitewide water gauging events are alternated seasonally to capture hydrogeologic conditions during the dry and wet seasons. The March 2021 water gauging event recorded sitewide groundwater elevations during the dry season.

Monitoring locations in the MLP/VAB IGM program fall within semi-annual, annual, or biennial sampling frequencies based on historical trends.

The sampling frequencies for the MLP/VAB areas are as follows:

- Biosparge Area: Semi-annually
- Former Hot Spot 2 (Air Sparge Area): Semi-annually
- Hot Spot 3 (OFW): Annually
- Hot Spot 4: to be sampled during SWMU closure
- VAB area LTM: Biennially

The path forward for each MLP/VAB area is summarized below:

- **Biosparge Barrier for Mitigating the HCP**: The stationary unit will be replaced with a mobile remediation system trailer and operation of the biosparge barrier system will continue, which includes weekly telemetric readings, monthly operation and maintenance activities, semi-annual biosparge well cleanouts (as needed), and semi-annual performance monitoring for CVOCs. Based on 2021 DPT groundwater data, four to five additional treatment wells will be installed in the deep interval within the space between biosparge segments where the highest concentrations of CVOCs have been detected. Additionally, a maximum of nine monitoring wells will be installed downgradient and at each end of the biosparge barrier in order to monitor performance and the CVOC plume behavior.
- **HCP Interim Measures within the Former Hot Spot 2 Area (Air Sparge Area)**: The air sparge system for the Former Hot Spot 2 area will remain off and IGM will continue with a reduced analyte list. Based on 2021 DPT CVOC concentrations, HCP plume migration toward the treatment barrier was observed and the need for additional remediation efforts was confirmed. A RAE is currently being developed. Soil cores will be collected in 2022 to obtain additional lithologic data and analyze soil permeability in the lower permeability soil layer to aid development of the RAE.
- **Hot Spot 3 (Bioremediation IM Area)**: Based on 2021 DPT analytical results, an IMWP for supplemental injections to promote in situ chemical reduction of CVOCs is being developed.
- **Hot Spot 3 (OFW)**: IGM will continue on an annual basis to monitor groundwater quality downgradient of the Hot Spot 3 treatment area.
- **Hot Spot 4**: FDEP approved removal of the LNAPL skimmer monitoring wells MW0007, MW0008, and MW0009 that were abandoned in 2020. Monitoring well MW0010 will remain in active status to be available for confirmation sampling during SWMU closure. No additional activities are planned for this area.
- **LCP LTM**: LTM will continue on a biennial basis with a reduced analyte list and modified monitoring well network. The overall LTM program evaluation determined additional monitoring wells are needed to evaluate the overall GCTL plume. A total of 39 new monitoring wells are proposed and 12 existing monitoring wells will be added to the 2022 biennial sampling plan.

1. INTRODUCTION

1.1 OVERVIEW

The National Aeronautics and Space Administration (NASA), through its Environmental Assurance Branch, is managing cleanup of four sites in the Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building (VAB) Area of Kennedy Space Center (KSC), Florida. The MLP/VAB Area has been designated Solid Waste Management Unit 056 (SWMU 056) under KSC's Resource Conservation and Recovery Action (RCRA) Corrective Action Program.

AECOM Technical Services, Inc. (AECOM) has prepared this report and completed the referenced site activities for NASA under Contract 80KSC019D0010, Task Order 80KSC019F0075. The Advanced Data Packages (ADPs), presented in preparation for this report, received KSC Remediation Team (KSCRT) approval at the March 2022 KSCRT meeting. Meeting minutes are included in **Appendix A**. This report presents the activities, findings, and recommendations associated with corrective measures implementation (CMI) and interim measures (IM) performed at this site. Activities include interim groundwater monitoring (IGM) in former treatment areas, and direct push technology (DPT) groundwater sampling in the Former Hot Spot 2, biosparge barrier area, and Hot Spot 3.

1.2 SITE LOCATION

KSC is located on the east-central Atlantic Coast of Florida in the northern portion of Merritt Island, between the Indian River and Banana River Lagoons in Brevard County (**Figure 1-1**). The MLP/VAB Area is located within KSC in Sections 7, 8, 17, and 18 of Township 22 South, Range 37 East, as shown on the Orsino, Florida Quadrangle map (United States Geological Survey 1976) (**Figure 1-2**).

The MLP/VAB facilities were originally built to support the Apollo/Saturn V vehicle assembly and were later modified (1975) to support Space Transportation System (STS) shuttle missions. The MLP area was used to repair post launch corrosion and/or blast damage on the launch platforms prior to reuse. The VAB was used to stack and prepare the space vehicles prior to launch (NASA 2019b).

1.3 BACKGROUND

During the RCRA Facility Investigation (RFI) and pre-Corrective Measures Design (CMD) activities, chlorinated volatile organic compound (CVOC) groundwater impacts encompassing an area of approximately 115 acres were delineated (NASA 2000, 2003). In addition, a trichloroethene (TCE) source area was identified (within the CVOC impacted area) beneath the parking lot northeast of the VAB, which was associated with an anecdotal TCE spill

(approximately 4,000 gallons) that occurred in 1966. A CMD presented a multicomponent remedial strategy developed for the source area and the 115-acre CVOC plume (NASA 2004).

Additional investigations that occurred at the site included a reassessment of the VAB area commissioned by Ground Systems Development & Operations following the completion of the STS Program. The reassessment activities were performed throughout the VAB Reassessment Area (VABRA) from 2012 through 2014. These activities evaluated the absence or presence of groundwater and soil impacts associated with electrical equipment (NASA 2015d). Groundwater samples were collected from a 112-acre area surrounding the VAB to recharacterize the overall low concentration plume (LCP) and ancillary plumes. A total of 4,922 DPT samples were collected from 556 locations as well as several hundred soil samples to evaluate soil impacts of electrical equipment. Details are summarized in the 2015 Environmental Conditions Assessment Report (NASA 2015d). These sampling efforts also identified two new hot spots (Hot Spot 3 and Hot Spot 4). Through the multiple site investigations, four hot spot areas were identified (Hot Spot 1 through Hot Spot 4) (**Figure 1-3**). Beginning in 2020, the groundwater sampling associated with SWMU 056 was removed from the VAB Long-Term Monitoring (LTM) Program to allow all site groundwater to be evaluated and documented within one report under the separate MLP/VAB (SWMU 056) sampling program. **Sections 1.3.1** through **1.3.5** provide details regarding the impacts identified in each hot spot area and a brief description of remedial actions implemented.

1.3.1 Former Hot Spot 1

Former Hot Spot 1 is the area near the VAB (**Figure 1-3**) where TCE impacts were identified at concentrations greater than 11,000 micrograms per liter (µg/L), which represents 1% of literature solubility (1,100,000 µg/L), and was identified as a source zone during RFI activities and later renamed Hot Spot 1. The CMD to address the 115-acre CVOC plume and Hot Spot 1 included:

- LTM of the low concentration dissolved plume (2005 to present);
- Enhanced bioremediation of the source area (Hot Spot 1) from 2006 to 2009; and
- Biosparging (2005 to 2020) with air to promote the in situ aerobic bioremediation of vinyl chloride (VC) to mitigate the potential discharge of the associated high concentration VC plume (concentrations greater than the Florida Department of Environmental Protection [FDEP] Natural Attenuation Default Concentration [NADC] of 100 µg/L) to adjacent wetland areas (surface water).

LTM of the low concentration dissolved plume has been conducted since May 2005 and involves the sampling of monitoring wells throughout the VAB and surrounding area. The results of the LTM sampling and data evaluation through 2018 were submitted under separate cover. The last LTM report submitted separately was the 2018 Biennial Groundwater Monitoring Results report (NASA 2019c). Details of subsequent VAB LTM activities have been incorporated into the

MLP/VAB reports beginning with the 2020 sampling event detailed in the 2020 CMI and IM Annual Report (NASA 2021).

Enhanced bioremediation of the TCE source area was implemented from August 2006 until March 2009 using ethyl lactate as an electron donor. The Corrective Action Objective (CAO) was achieved, and documentation of the enhanced bioremediation activities and results are presented in the Biotreatability Study Implementation Annual Reports (NASA 2008, 2009). IGM (which was previously referred to as interim LTM) of the TCE source zone was recommended to the KSCRT and was implemented following KSCRT approval in 2009. IGM was terminated in 2015 and two of the monitoring wells in the former source area (SAMW0001 and SAMW0003) were transitioned into the VAB LTM program (documented in the 2015 CMI and IM Annual Report [NASA 2015b]).

The biosparge barrier that was installed to mitigate migration from the Former Hot Spot 1 area has been operating since April 2005 and was expanded in February 2016 (NASA 2016a). Monthly operation and maintenance (O&M) activities have been performed on the biosparge barrier, along with scheduled groundwater sampling of performance monitoring wells. In the 2019 CMI and IM Annual Report Revision 1 submitted in December 2020 (NASA 2020), it was recommended to continue operation of the biosparge system and performance monitoring as the biosparge barrier was effectively mitigating contaminant migration to the adjacent wetlands. In December 2020, the biosparge system was shut down due to a fire within the treatment trailer. A new trailer was mobilized and installed in November 2021 and startup of the biosparge system is expected to occur in summer of 2022. Based on IGM data from the March and September 2020 sampling events, it was recommended to modify the monitoring well network to include three additional wells in order to capture CVOC plume activity between the biosparge barrier segments. Additional recommendations were made for supplemental DPT groundwater sampling around the biosparge system to further evaluate the CVOC plume and determine whether expansion of the biosparge system is necessary. This report details the 2021 semi-annual biosparge performance monitoring and DPT groundwater sampling events. Following completion of active remediation in the former Hot Spot 1 area, the biosparge barrier performance is discussed in relation to the plume from the upgradient Former Hot Spot 2 area, which is discussed in the next section.

1.3.2 Former Hot Spot 2

Following achievement of the CAO within Hot Spot 1, supplemental assessment activities occurred within the area downgradient of Former Hot Spot 1 to refine the understanding of the CVOC mass distribution of the dissolved plume (primary plume swath) that extended from Former Hot Spot 1 toward the biosparge barrier. During supplemental assessment activities, investigations followed the KSCRT multi-step Engineering Evaluation (EE) Process (NASA 2012). During this process TCE and cis-1,2-dichloroethene (cDCE) were delineated to their respective FDEP Groundwater Cleanup Target Levels (GCTL), and VC was delineated to its

NADC. The area of the primary plume swath with TCE concentrations greater than the NADC of 300 µg/L and cDCE concentrations greater than 7,000 µg/L (10 times the NADC [10xNADC] of 700 µg/L) was designated as Hot Spot 2 (**Figure 1-3**).

An air sparge IM was implemented in Hot Spot 2 and the air sparge system was installed in 2012, with system start-up in August 2012 (NASA 2013b). The existing remediation system used for operation of the biosparge barrier was modified to add two legs to supply the Hot Spot 2 air sparge wells so that both biosparge and air sparge operations could run off the same compressor. Additional details on the EE Process for Hot Spot 2 and air sparge system implementation are provided in the following documents:

- Site Characterization EE ADP (formerly referred to as a Step 1 EE) (NASA 2011c);
- Remedial Alternative Evaluation (RAE) EE ADP (formerly referred to as a Step 2 EE) (NASA 2011d);
- 2011 CMI Report: Summary of Interim LTM, Supplemental Assessment, and Biosparge System O&M (NASA 2011b);
- Air Sparge IM Work Plan EE ADP (formerly referred to as a Step 3 EE) (NASA 2011e);
- Air Sparge IM Work Plan (NASA 2011a);
- Air Sparge Construction Completion Report (CCR) ADP (formerly referred to as a Step 4a EE) (NASA 2012);
- Air Sparge System CCR (NASA 2013b); and
- Air Sparge System and Biosparge System Re-Start and Initial Performance Monitoring (Re-Start through Month 6) ADP (NASA 2014c).

As documented in the 2013 CMI and IM report (NASA 2013a), the compressor for the sparge system, which delivered air to both the biosparge and the air sparge well networks, reached the end of its useful life in September 2012 and the sparge system was shut down. The sparge system compressor was replaced in May 2013, and operation of the biosparge and air sparge systems began in June and July 2013, respectively, following troubleshooting activities. System restart after the compressor replacement and results from the following 3 years of operation are documented in the 2014 CMI and IM Annual Report (NASA 2014b) and associated ADP (NASA 2014a), the 2015 CMI and IM Annual Report (NASA 2015b) and associated ADP (NASA 2015a), the 2016 CMI and IM Annual Report (NASA 2016c) and the associated ADP (NASA 2016b).

The sparge system again ceased operations in May 2016 due to compressor failure. The compressor was unable to be successfully repaired by a certified manufacturer technician; therefore, a new compressor was provided and successfully restarted in May 2017. After 1 year of operation, the Hot Spot 2 air sparge system was shut down in April 2018 to evaluate effectiveness. Post shut-down performance monitoring events in May 2018 and March 2019 indicated limited rebound of CVOC concentrations occurred in the treatment area, an overall

reduction in NADC plume footprint, and no detections under the treatment area (55 feet to 65 feet at MLPV-IW0030).

In addition to post shutdown groundwater monitoring, results from the DPT groundwater sampling events (February and June 2018) within and outside the air sparge treatment area supported the evaluation and decision to shut down the Hot Spot 2 air sparge system. Details of these activities are summarized in the 2018 CMI and IM Annual Report (NASA 2019b) and associated ADP (NASA 2019a). Based on the analyses, it was recommended for the air sparge system to remain off and groundwater monitoring to continue for 1 year. Following 1 year of monitoring, the sampling frequency and locations were to be evaluated, and statistical analysis performed to evaluate trends after air sparge system shutdown.

October 2019 IGM data indicated that dissolved plumes remained stable since the shutdown of the air sparge system. The air sparge system remained off and IGM continued annually with a reduced analyte list of TCE, cDCE, trans-1,2-dichloroethene (tDCE), and VC only beginning in 2020. Following the 2020 IGM event, plume analytics indicated a significant mass and concentration of cDCE and VC remain below the treatment interval and are not expected to attenuate to target levels in the short term. The 2020 CMI and IM Annual Report (NASA 2021) recommended continued IGM sampling for analysis of cDCE, tDCE and VC only and additional DPT groundwater sampling for evaluation of remedial alternatives for the cDCE and VC concentrations present in lower permeability soil under the vertical extent of the air sparge wells. This report summarizes two semi-annual IGM sampling events and the DPT groundwater sampling event performed in 2021.

1.3.3 Hot Spot 3 and Hot Spot 3 OFW Area

During VAB reassessment activities, an area with CVOC concentrations greater than 10xNADC was identified adjacent to the western MLP structure (NASA 2015d). This area (Hot Spot 3) is located partially beneath and south of the western MLP structure and adjacent to the crawler tracks (**Figure 1-3**). Other groundwater impacts associated with Hot Spot 3 include a TCE source zone (TCE greater than 11,000 µg/L), a high concentration plume (HCP) (CVOC greater than NADCs), and an LCP (CVOC greater than FDEP GCTL). The activities in this area followed the KSCRT multi-step EE process and details are provided in the following documents:

- Site Characterization EE ADP (formerly referred to as Step 1 EE) (NASA 2015c);
- Remedial Alternative Evaluation EE ADP (formerly referred to as Step 2 EE) (NASA 2016e);
- Hot Spot 3 Bioremediation IM Work Plan (NASA 2016d);
- Hot Spot 3 Bioremediation Implementation Work Plan (NASA 2017a);
- Hot Spot 3 Bioremediation CCR (NASA 2018c); and
- Hot Spot 3 Bioremediation IM Annual Report (NASA 2018b).

In the Hot Spot 3 Bioremediation IM Annual Report, it was recommended to (1) perform semi-annual performance monitoring; (2) discontinue underground injection control monitoring; (3) complete a DPT groundwater sampling event within the bioremediation treatment area to evaluate CVOC concentration changes since the pre-IM DPT sampling event; and (4) utilize performance monitoring results and DPT groundwater sampling results to develop a Bioremediation Implementation Work Plan Addendum for additional injection activities. Details of the Hot Spot 3 Bioremediation IM activities from October 2018 through April 2019 are included in the 2018 CMI and IM Annual Report (NASA 2019b). Analytical data following bioremediation activities indicated an approximate 80% to 100% mass reduction of CVOC down to 30 feet below land surface (bls), aquifer conditions are favorable to microbial reductive dechlorination in both the shallow and deep treatment areas, and microbial reduction of CVOC was occurring. Due to the access restrictions imposed from a commercial leasing partner in 2019, the site monitoring wells were abandoned. Access to the site was reinstated in 2021 and data from additional DPT groundwater sampling performed in March and April 2021 is provided in this report.

In October 2015, two monitoring wells (MW0011 and MW0012) were installed northwest of the railroad tracks to evaluate the extent of the dissolved VC plume identified adjacent to the Outstanding Florida Water (OFW) that is the portion of the LCP downgradient from the Hot Spot 3 area. Groundwater samples collected from those monitoring wells indicated that VC concentrations were greater than the NADC and/or the GCTL. Subsequent sampling events completed in January and July 2016 indicated that VC concentrations in groundwater samples collected from both monitoring wells were less than the NADC but were greater than the GCTL. Due to the fluctuating VC concentrations, an investigation of the area (using DPT groundwater sampling) was performed to evaluate whether an additional source area was present. No additional source areas were identified during this investigation. The results of the investigation and the delineation of the 1 µg/L VC plume were presented in the Hot Spot 3 OFW Site Characterization ADP (NASA 2018d). In the Hot Spot 3 OFW Site Characterization ADP, KSCRT consensus was obtained to transition the area to IGM with semi-annual sampling and to install two additional monitoring wells in the area. Monitoring wells VABRA-MW0013 and VABRA-MW0014 were installed on September 13, 2018. DPT groundwater sampling was performed in March 2019 at four historical DPT locations (DPT0578, DPT0579, DPT0597, and DPT0601) to evaluate downgradient VC concentrations in the OFW area. Additional details of the monitoring well installation and the DPT IGM sampling are provided in the 2018 CMI and IM Annual Report (NASA 2019b). In October 2019, groundwater sampling was performed and CVOC concentrations remained less than the GCTL, with the exception of VC in monitoring well VABRA-MW0013. It was recommended to continue sampling in this area, with a modification in frequency from semi-annually to annually, as well as a reduced analyte list of TCE, cDCE, tDCE, and VC only. This report summarizes the annual sampling event performed on September 15, 2021.

1.3.4 Hot Spot 4

During the VAB reassessment activities, light non-aqueous phase liquid (LNAPL) was identified in samples collected from monitoring well VABRA-MW0006, which was located near the eastern MLP structure (**Figure 1-3**). Hot Spot 4 is defined as the area around monitoring well VABRA-MW0006 where the concentration of 2-methylnaphthalene was greater than its NADC. Other groundwater contaminants of concern identified within Hot Spot 4 included polycyclic aromatic hydrocarbons (PAH) 1-methlynaphthalene and naphthalene at concentrations greater than their respective GCTLs. Details of the Hot Spot 4 delineation activities are presented in the Site Characterization EE ADP (NASA 2015c) and IGM was selected to monitor the stability of the LNAPL and groundwater concentrations until the future of the MLP structure is known.

Monitoring well VABRA-MW0006 was over-drilled with a larger diameter well (VABRA-MW0010) to allow installation of a passive LNAPL skimmer in November 2015. A passive remedial action was selected because the area of impact is in the immediate vicinity of the MLP structure construction activities and implementing active remediation for the very limited area of LNAPL was not feasible at the time due to site constraints. Following recommendations from the 2017 CMI and IM Annual Report (NASA 2018a), the skimmer was monitored monthly and no LNAPL was collected. An oil/water interface probe did not detect LNAPL greater than 0.01 foot in monitoring wells VABRA-MW0007 through VABRA-MW0009 and only a sheen was identified in VABRA-MW0010; therefore, a groundwater sample was collected from monitoring well VABRA-MW0010 in May 2018. The analytical results indicated that PAHs, benzene, toluene, ethyl benzene, and xylene (BTEX), methyl tert-butyl ether (MTBE), and total recoverable petroleum hydrocarbon concentrations were not detected. Details of the associated activities are provided in the 2018 CMI and IM Annual Report (NASA 2019b), which recommended the skimmer be removed and monitoring wells be abandoned. No Further Action (NFA) for Hot Spot 4 was requested. Per FDEP letter dated January 30, 2020, NFA will be approved once the entire SWMU achieves NFA requirements. FDEP approval was granted on the LNAPL skimmer removal from monitoring well VABRA-MW0010, and remaining monitoring wells may be appropriately abandoned. Additional sampling of VABRA-MW0010 will occur before NFA.

1.3.5 Long-Term Groundwater Monitoring Program

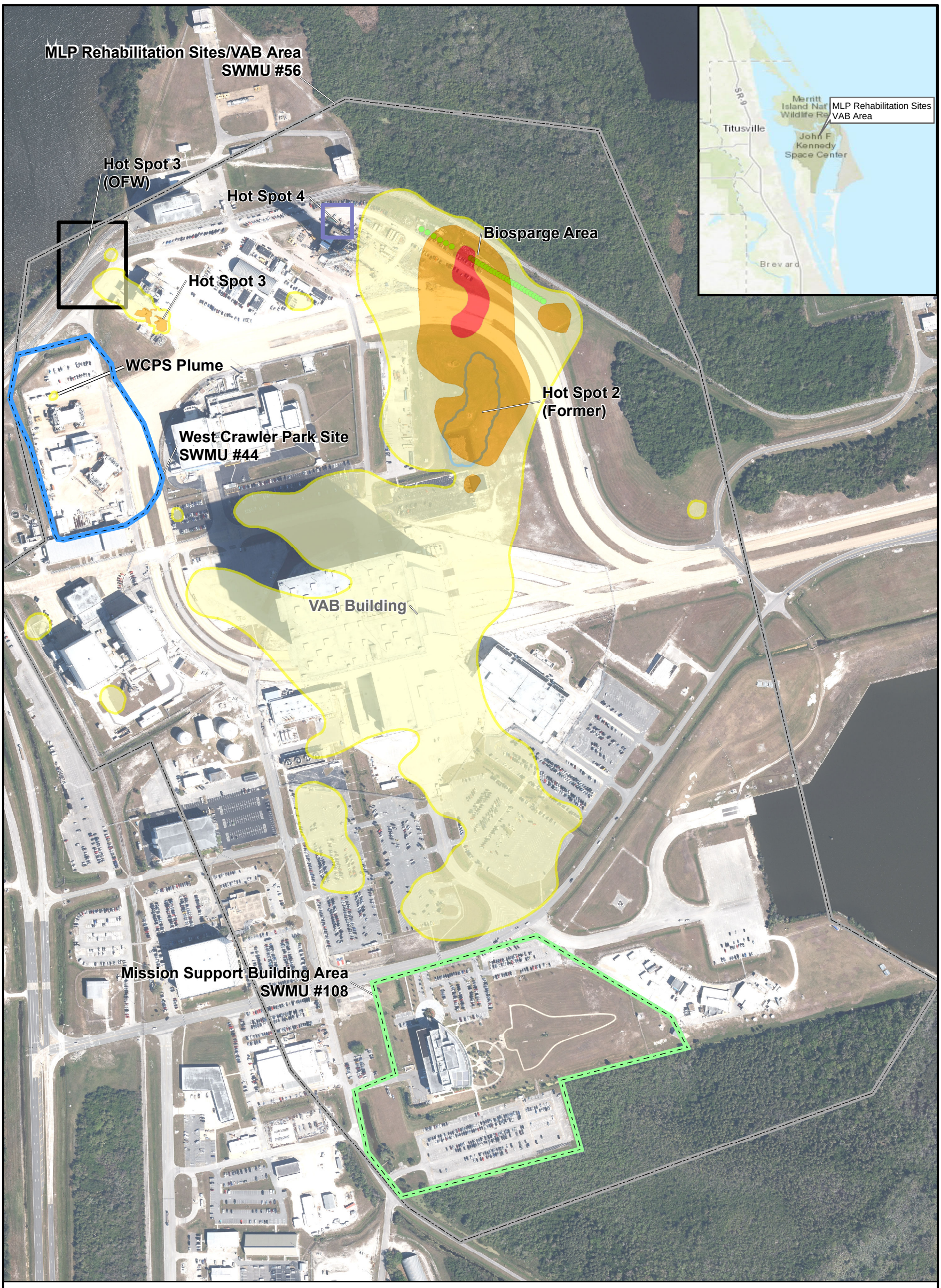
The MLP/VAB site was one of several sites located within SWMU 056. Prior to 2018, sampling results were documented in annual and biennial reports under the VAB LTM Program. Beginning in 2020, groundwater monitoring associated with SWMU 056 in the VAB LTM Program was transitioned to the MLP/VAB sampling program to allow for data to be combined into one program and to allow for a more comprehensive evaluation of the sitewide dissolved plume characteristics.

Sampling frequency for LTM remains biennial and the sampling program is now referenced as LCP LTM. This report summarizes the 2021 evaluation of the monitoring well network within the LTM program.

1.4 PURPOSE

The purpose of this report is to provide an updated status on CMI and IM activities by summarizing the field activities in 2021 and presenting the results associated with:

- CMI activities related to the biosparge barrier;
- IGM activities within the Former Hot Spot 2 and Hot Spot 3 OFW areas;
- LTM monitoring well network evaluation with the VAB area; and
- DPT groundwater sampling within the Former Hot Spot 2 and biosparge barrier area, and Hot Spot 3.



Legend

- Biosparge Well Location
- Air sparge area of influence
- Composite NADC Isocontour (2012-2020 Data)
- Composite GCTL Isocontour (2012-2020 Data)
- MLP Rehabilitation Sites /VAB Area - SWMU #56
- Mission Support Building Area - SWMU #108
- West Crawler Park Site - SWMU #44
- OFW Investigation area

Notes:
1. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit [SWMU] 056)
2. IGM = Interim groundwater monitoring
3. Source of plume boundaries: 2021 IGM data, 2021 Direct push technology data.
4. GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
5. NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.

N

0 400 800 Feet

FIGURE 1-1
Site Location Map

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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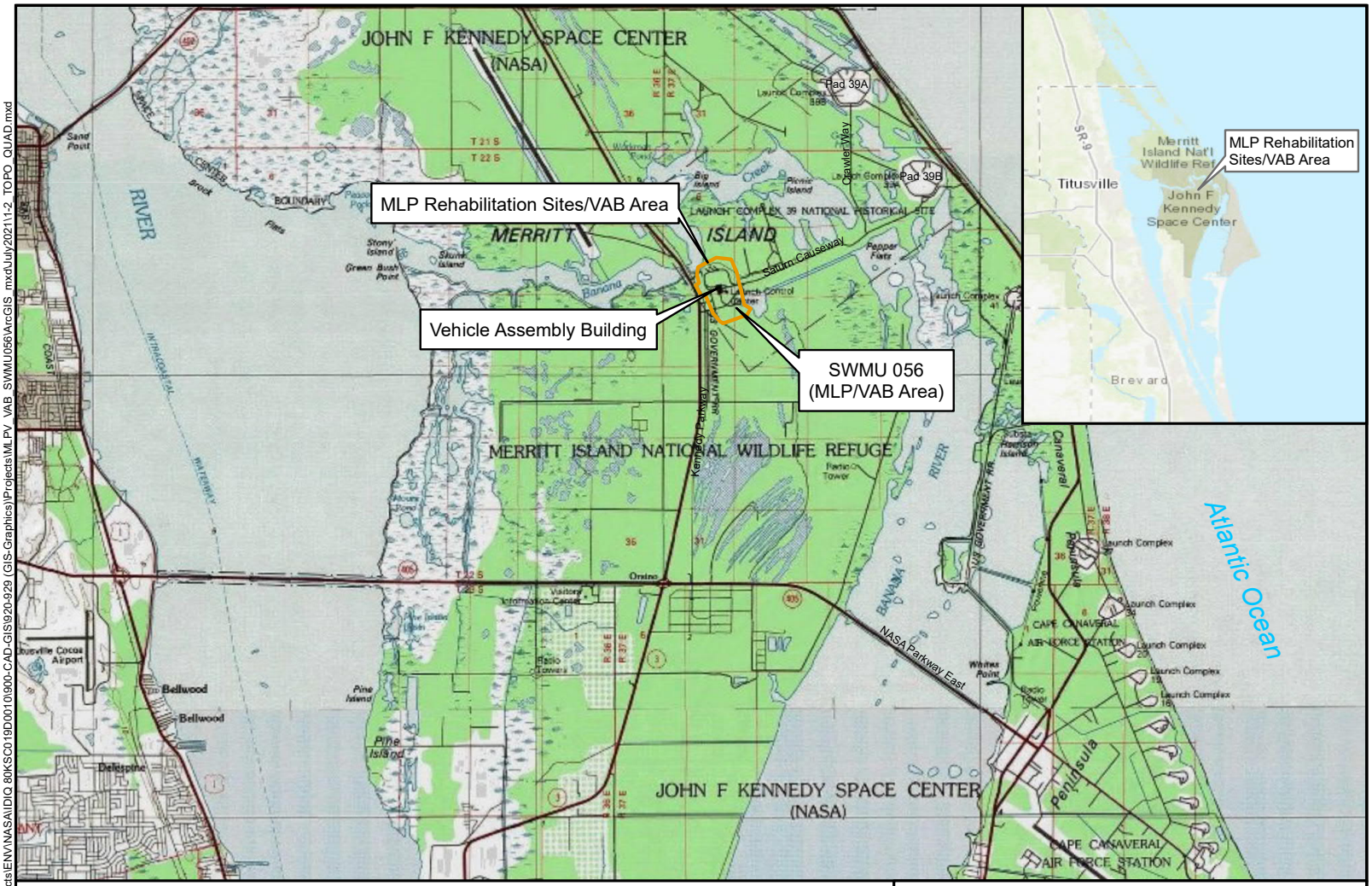

Notes:
1. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building (VAB).
2. Service Layer Credits: Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

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FIGURE 1-2
Topographic Quadrangle Map

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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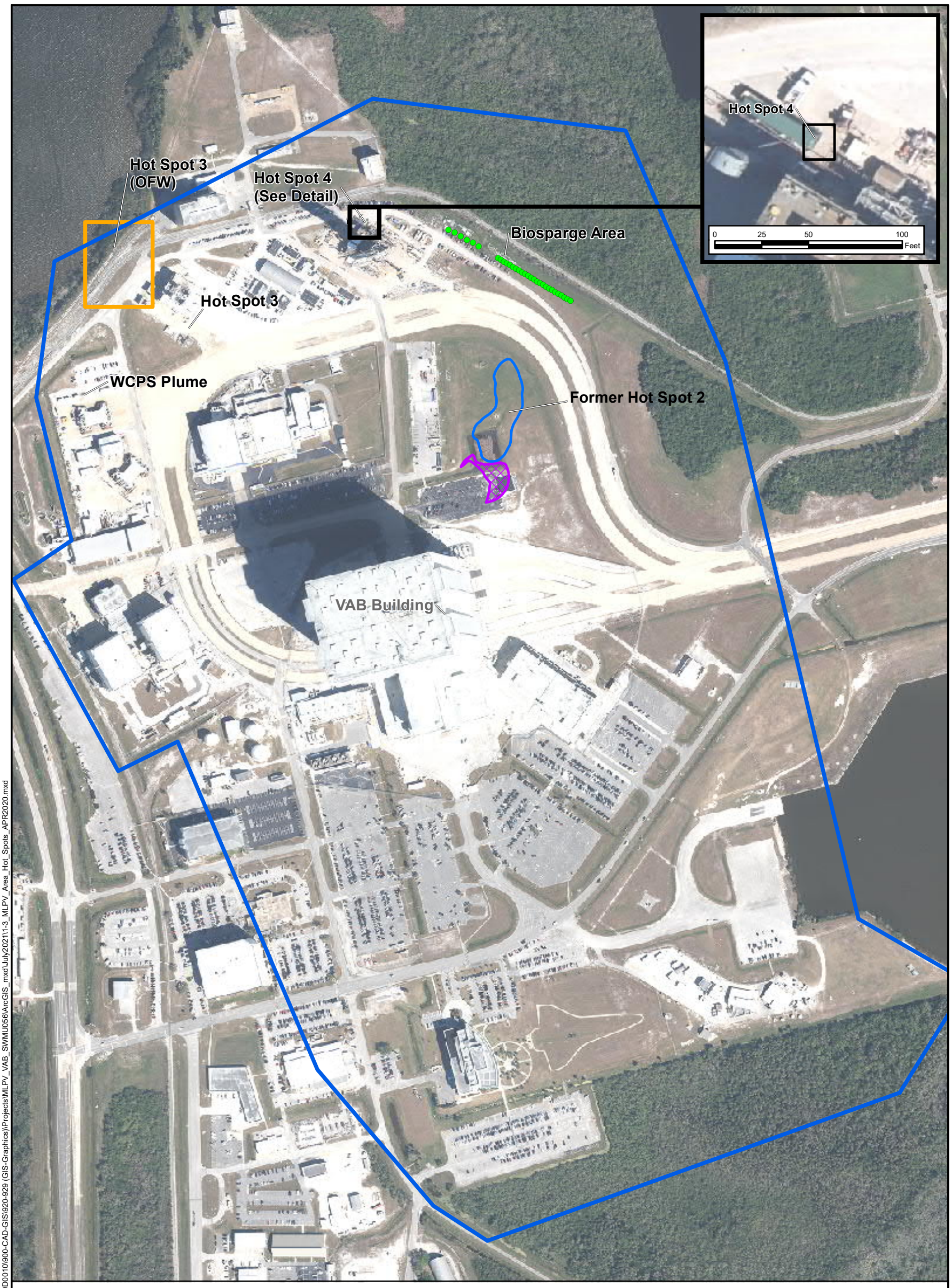

FIGURE 1-3
Hot Spots

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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2. REMEDIAL ACTION FIELD ACTIVITIES

2.1 OVERVIEW

As reported in **Chapter 1.0**, three historical remedial action efforts have been implemented at this site (air sparge system, bioremediation, and passive LNAPL skimmer), and are complete or no longer active. Remedial action (bioremediation) within Former Hot Spot 1 (the former source area) was implemented through the CMD and is complete (NASA 2008, 2009). One remedial action effort, the biosparge system, continued operation through December 12, 2020. Operation was discontinued following an electrical fire that destroyed the system and housing structure.

2.2 BIOSPARGE SYSTEM

A rental biosparge system trailer was mobilized to the site on November 17, 2021. Upon receipt of special order parts, sparge line connections were completed on December 8, 2021. The new system is scheduled for startup in the summer of 2022. A photolog of the new system trailer and associated field notes are provided in **Appendix B**. Details from the previous O&M activities are found in the 2020 CMI and IM Report (NASA 2021). Details of the power supply installation and startup of the new system will be included in the next annual report. The biosparge system layout is presented on **Figure 2-1**.

On March 4, 2021, groundwater parameters were collected from perimeter wells ASPZ-1R, ASPZ-2, ASMW-1 through ASMW-6, MLPV-IW0031, MLPV-IW0061 through MLPV-IW0064, and MLPV-IW0006IR to observe groundwater conditions since biosparging stopped. Dissolved oxygen (DO) was the main parameter evaluated as aerobic conditions are an indicator for lasting sparging impacts. Biosparge barrier DO measurements are provided in **Table 2-1**. The March 2021 O&M log is also provided in **Appendix B**.

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Table 2-1
Biosparge Barrier Dissolved Oxygen Measurements
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	ASMW01	ASMW02	ASMW03	ASMW04	ASMW05	ASMW06	ASPZ01R*	ASPZ02
Screen Interval (feet BLS)	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	30 to 40	30 to 40
Sample Date	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)
05/19/2007	0.99	1.23	1.21	0.77	2.64	1.29	8.51	8.30
06/28/2007	1.50	0.87	0.91	1.11	1.25	1.57	7.99	8.03
07/30/2007	1.00	0.90	0.90	1.00	1.10	1.10	5.49	6.02
08/28/2007	0.00	0.25	0.27	0.27	0.62	0.00	0.29	4.28
11/27/2007	0.90	1.00	1.04	3.75	5.42	4.98	4.51	3.93
12/31/2007	0.50	0.50	0.70	2.19	2.93	1.98	3.95	2.98
01/31/2008	1.09	1.00	1.25	2.40	2.99	1.78	2.31	2.11
02/29/2008	1.05	1.23	1.09	2.11	1.97	1.59	1.50	2.30
03/31/2008	1.95	1.89	2.05	2.04	1.59	1.60	2.00	3.10
04/28/2008	2.16	1.61	1.91	2.00	1.14	1.41	1.51	2.59
05/29/2008	2.06	1.25	1.39	2.25	1.00	1.12	1.50	2.95
06/27/2008	0.02	0.00	0.00	0.00	0.00	0.00	NR	NR
07/29/2008	2.09	1.57	1.50	2.39	1.15	2.87	1.39	3.01
08/27/2008	2.14	1.27	1.93	2.04	3.02	2.85	2.09	2.58
09/22/2008	0.00	0.00	0.00	0.80	0.90	0.51	0.00	0.91
10/23/2008	NR	NR	NR	NR	NR	NR	1.63	1.98
11/25/2008	0.86	0.00	0.00	0.52	0.67	0.12	0.86	2.35
12/18/2008	1.46	1.05	1.09	0.87	1.23	1.01	NR	NR
12/30/2008	1.79	1.12	1.98	2.08	0.73	1.05	1.02	1.98
01/30/2009	0.54	0.86	0.92	0.84	0.62	0.71	NR	0.92
02/27/2009	1.01	0.99	1.23	1.15	1.12	1.17	1.07	0.94
03/05/2009	0.93	1.02	0.82	0.63	1.15	1.05	0.73	6.28
03/31/2009	1.16	0.92	0.88	0.82	1.22	0.72	0.87	1.34
04/29/2009	0.90	0.80	0.59	0.47	0.95	0.47	1.75	3.74
05/29/2009	1.74	2.01	1.24	1.68	1.89	2.00	2.09	2.97
06/29/2009	0.98	0.68	0.43	0.69	0.31	0.25	2.35	1.75
08/12/2009	0.25	0.17	0.17	0.19	1.45	0.27	0.10	4.78
09/08/2009	1.61	1.14	1.00	1.65	1.70	1.21	1.50	1.82
09/30/2009	2.00	1.01	0.98	0.52	0.99	1.01	1.29	1.97
10/27/2009	2.00	1.43	1.85	1.81	0.56	1.00	1.35	1.89
11/23/2009	1.09	0.65	0.48	0.50	0.81	0.50	1.69	2.98
12/31/2009	1.09	1.10	0.98	0.69	1.07	1.02	1.25	2.00
01/29/2010	1.54	1.98	1.74	1.82	1.69	1.73	1.45	2.06
03/02/2010	1.98	1.73	1.79	2.22	1.20	2.30	2.12	2.39
03/19/2010	0.62	0.46	0.43	0.41	1.30	0.28	0.45	6.35
04/20/2010	0.28	0.30	0.23	0.26	0.71	0.20	0.16	6.12
05/28/2010	1.78	1.80	1.09	0.73	1.06	1.41	0.72	6.95
06/30/2010	0.23	0.08	0.19	0.26	0.61	0.33	0.29	6.62
07/29/2010	0.89	1.00	0.95	0.92	1.25	1.40	0.59	0.90
08/28/2010	0.90	0.89	0.93	0.98	1.01	1.02	0.48	0.79
09/25/2010	0.32	0.14	0.11	0.31	0.89	0.29	NR	NR
10/29/2010	1.14	0.53	0.53	0.45	0.52	0.39	0.46	7.27
11/29/2010	0.63	0.25	0.31	0.19	0.30	0.56	0.50	2.98
12/23/2010	0.34	0.48	0.77	0.40	1.55	0.29	0.38	7.13
01/26/2011	0.60	0.72	0.95	0.28	0.81	0.64	0.25	6.20
03/01/2011	1.03	0.98	0.37	0.53	0.93	0.31	0.96	7.68
03/15/2011	1.46	0.96	0.51	1.17	2.19	1.95	NR	NR
04/01/2011	1.73	1.39	1.29	0.58	0.81	0.79	1.10	6.75
04/26/2011	2.27	1.81	0.82	0.19	0.55	0.18	0.62	7.43
05/31/2011	0.67	0.42	0.62	0.77	1.01	0.78	1.53	7.67
06/23/2011	1.92	1.23	0.97	1.75	0.95	0.89	1.69	5.93
07/27/2011	2.73	2.69	1.98	2.34	2.39	1.75	1.25	4.65
08/29/2011	0.29	0.25	0.50	0.85	2.34	0.62	0.79	1.93
09/23/2011	NR	1.64	0.72	NR	1.93	1.03	NR	NR
09/26/2011	0.26	NR	NR	1.22	NR	NR	NR	NR
09/28/2011	0.26	0.16	0.95	1.22	1.29	0.22	0.25	3.75
10/24/2011	0.20	0.17	0.79	1.05	1.21	0.30	0.19	1.23
11/21/2011	0.46	0.24	0.25	0.54	0.94	0.26	0.35	4.76
12/30/2011	0.45	0.25	0.19	0.59	0.45	0.14	0.29	2.31
05/30/2012	0.85	0.54	0.60	0.29	0.30	0.45	0.50	2.39
06/29/2012	0.24	0.27	0.23	0.64	1.64	0.30	0.17	2.36
08/28/2012	0.94	0.81	0.26	1.78	0.91	0.29	0.35	0.39
08/29/2012	1.03	0.76	0.71	0.62	0.69	0.70	0.64	1.64
08/30/2012	1.04	0.68	0.35	0.40	0.72	0.57	0.72	0.57
09/07/2012	1.25	0.74	0.51	0.53	1.04	0.30	1.25	0.74
09/14/2012	2.82	2.18	1.76	1.73	2.26	2.04	1.35	3.76
09/21/2012	2.29	1.93	1.29	1.89	2.50	2.02	1.49	2.75
06/12/2013	NR	NR	NR	NR	NR	NR	NR	NR
06/14/2013	0.68	0.61	0.54	0.52	0.56	0.65	0.49	0.54

Table 2-1
Biosparge Barrier Dissolved Oxygen Measurements
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	ASMW01	ASMW02	ASMW03	ASMW04	ASMW05	ASMW06	ASPZ01R*	ASPZ02
Screen Interval (feet BLS)	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	30 to 40	30 to 40
Sample Date	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)
07/17/2013	NR	NR	NR	NR	NR	NR	NR	NR
07/18/2013	0.46	0.48	0.61	0.40	0.31	0.36	0.37	1.02
07/19/2013	0.56	0.50	0.51	0.60	0.28	0.35	0.57	1.02
07/26/2013	0.37	0.25	0.18	0.42	0.14	0.21	0.19	1.96
08/02/2013	0.46	0.52	0.88	0.59	0.40	0.45	0.54	4.13
08/09/2013	0.41	0.52	0.88	0.54	0.38	0.52	0.43	0.48
08/16/2013	0.57	0.64	0.91	0.61	0.44	0.48	0.38	3.11
10/29/2013	1.68	1.28	1.00	1.13	1.18	1.12	0.76	1.03
11/26/2013	0.47	0.33	0.20	0.55	0.17	0.19	0.10	2.55
12/30/2013	0.52	0.31	0.36	0.58	0.34	0.35	0.23	1.41
01/31/2014	0.22	0.19	0.16	0.54	0.18	0.14	0.10	4.68
02/26/2014	0.24	0.15	0.15	0.86	0.18	0.17	0.28	2.90
03/28/2014	0.61	0.35	0.21	0.77	0.25	0.25	0.26	5.54
05/05/2014	0.85	0.37	0.33	0.18	0.36	0.26	0.08	0.23
05/30/2014	0.47	0.20	0.22	0.52	0.14	0.20	0.16	4.85
06/27/2014	0.37	0.25	0.28	0.86	0.17	0.19	0.14	4.36
07/30/2014	0.29	0.09	0.23	0.37	0.10	0.26	0.30	1.20
08/28/2014	0.42	0.39	0.30	0.77	0.46	0.70	0.66	4.85
09/29/2014	1.19	0.50	0.51	1.21	0.43	0.44	0.37	2.26
10/27/2014	NR	NR	NR	1.20	0.79	0.45	NR	NR
11/26/2014	0.48	0.35	0.39	NR	1.07	NR	0.81	4.82
12/30/2014	0.50	0.29	0.35	0.21	1.00	0.26	0.65	1.65
01/29/2015	1.00	0.65	0.47	0.20	0.63	0.43	0.50	1.23
02/27/2015	1.43	0.87	0.67	2.41	1.01	0.50	0.37	6.14
03/30/2015	0.16	0.17	0.16	1.51	0.82	0.22	0.22	4.99
04/29/2015	1.02	0.88	1.39	2.23	1.25	0.88	1.21	4.49
05/29/2015	0.49	0.35	0.32	1.88	0.86	0.27	0.37	5.22
07/28/2015	0.42	0.37	0.68	1.17	0.56	0.07	0.46	3.50
08/28/2015	1.16	0.20	0.28	1.99	0.98	1.39	0.17	1.75
09/30/2015	0.36	0.64	0.37	2.73	1.00	0.17	0.17	1.58
10/30/2015	0.24	0.16	0.16	1.93	0.88	0.07	0.32	3.14
11/25/2015	0.16	0.59	0.13	1.91	0.74	0.24	0.11	2.20
12/30/2015	0.40	0.32	0.27	2.10	0.94	0.21	0.57	2.37
01/28/2016	1.44	0.51	0.90	2.80	1.00	0.33	0.95	2.60
02/25/2016	0.45	0.37	2.78	3.14	1.81	0.36	0.62	3.76
03/31/2016	0.53	0.14	0.51	2.47	3.22	0.41	0.13	3.82
04/28/2016	0.48	0.15	0.20	2.23	1.33	0.07	0.11	5.55
05/23/2017	0.63	2.49	0.20	0.19	0.46	0.22	0.24	0.18
06/26/2017	0.21	0.24	0.20	0.35	0.16	0.32	0.14	5.66
07/31/2017	0.11	0.03	1.29	0.25	0.10	0.29	0.20	1.23
08/31/2017	0.86	0.11	0.81	0.31	0.14	0.35	1.18	0.16
09/26/2017	0.31	1.79	0.19	0.61	0.19	0.38	0.18	5.24
10/24/2017	1.07	0.18	1.35	0.68	0.19	0.79	1.57	0.37
11/27/2017	0.16	0.35	0.23	0.14	1.72	0.12	0.10	0.13
12/20/2017	0.66	0.20	0.14	0.20	1.63	0.12	0.38	3.53
01/30/2018	0.71	0.37	0.19	0.24	2.05	0.10	0.43	3.58
02/27/2018	0.13	0.06	0.05	0.60	1.56	0.04	0.07	0.06
03/27/2018	0.15	0.08	0.07	0.71	1.35	0.06	0.09	0.08
04/24/2018	0.19	0.10	0.09	0.85	1.12	0.09	0.11	0.10
05/22/2018	0.58	0.51	0.24	1.17	3.70	0.31	5.09	0.24
06/26/2018	0.62	0.48	0.29	1.29	3.07	0.45	4.78	0.31
07/23/2018	0.79	0.55	0.42	1.55	2.98	0.55	4.55	0.39
08/27/2018	0.75	0.61	0.45	1.77	3.19	0.51	4.27	0.45
09/25/2018	0.88	0.75	0.68	1.55	2.89	0.55	3.56	0.49
10/30/2018	2.49	0.70	0.81	0.71	0.38	0.54	0.25	4.07
11/20/2018	1.37	1.14	1.13	0.65	1.66	1.01	3.75	2.59
12/18/2018	1.51	1.09	0.31	3.05	5.08	0.32	0.37	8.37
01/31/2019	0.43	0.69	0.19	1.43	2.83	0.40	0.64	2.79
02/28/2019	1.57	1.33	0.91	1.29	2.20	0.77	0.65	4.40
03/27/2019	1.79	1.59	1.12	1.42	2.42	0.96	0.78	4.10
04/23/2019	2.11	1.62	1.29	1.55	2.63	1.26	0.88	4.25
05/29/2019	2.29	2.25	1.56	2.08	2.25	1.58	1.02	3.56
06/27/2019	2.59	2.15	1.86	1.69	2.14	1.85	1.22	3.25
07/31/2019	2.17	2.41	2.07	1.85	2.27	1.62	1.29	2.89
08/27/2019	1.88	1.95	1.75	1.58	2.07	1.55	1.36	2.51
09/24/2019	1.96	2.19	1.95	1.51	2.22	1.69	1.54	2.36
11/04/2019	3.80	3.78	4.77	2.95	5.34	2.73	8.22	3.12
11/26/2019	6.22	5.56	4.46	4.23	4.41	4.86	0.76	8.08
12/30/2019[a]	5.55	4.75	3.49	4.77	3.61	0.74	0.94	2.64

Table 2-1
Biosparge Barrier Dissolved Oxygen Measurements
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	ASMW01	ASMW02	ASMW03	ASMW04	ASMW05	ASMW06	ASPZ01R*	ASPZ02
Screen Interval (feet BLS)	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	35 to 40	30 to 40	30 to 40
Sample Date	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)	DO (mg/L)
01/30/2020	6.16	4.46	2.21	5.60	4.62	1.51	0.78	5.76
06/26/2020	1.04	5.38	4.63	1.75	3.42	1.72	3.13	1.29
07/29/2020	1.71	1.39	6.97	2.57	2.16	0.57	4.91	0.64
08/28/2020	NR	NR	NR	4.77	NR	NR	NR	6.07
09/29/2020	5.74	3.78	3.61	0.51	5.23	0.62	1.25	6.65
10/28/2020	6.39	4.53	4.56	1.48	6.20	3.70	1.34	7.50
11/30/2020	6.67	5.59	4.58	2.83	6.20	5.41	3.19	7.63
03/04/2021	0.66	3.63	0.58	0.69	5.35	4.72	0.59	0.57
Historical Avg	**1.10**	**0.94**	**0.91**	**1.26**	**1.38**	**0.81**	**1.22**	**3.22**

Notes:
Avg = Average
BLS = Below land surface
DO = Dissolved oxygen
mg/L = Milligrams per liter
NR = Not recorded
SWMU = Solid Waste Management Unit
* = The original biosparge well ASPZ01 was replaced with ASPZ01R (same construction details) on October 16 2008
[a] = Compressor had been inactive for 32 days when these readings were collected
Gray highlighting indicates that the operational parameters were collected during the reporting period (May through December 2019)
March 4, 2021 readings are part of baseline data collected due to biosparge system fire in December 2020

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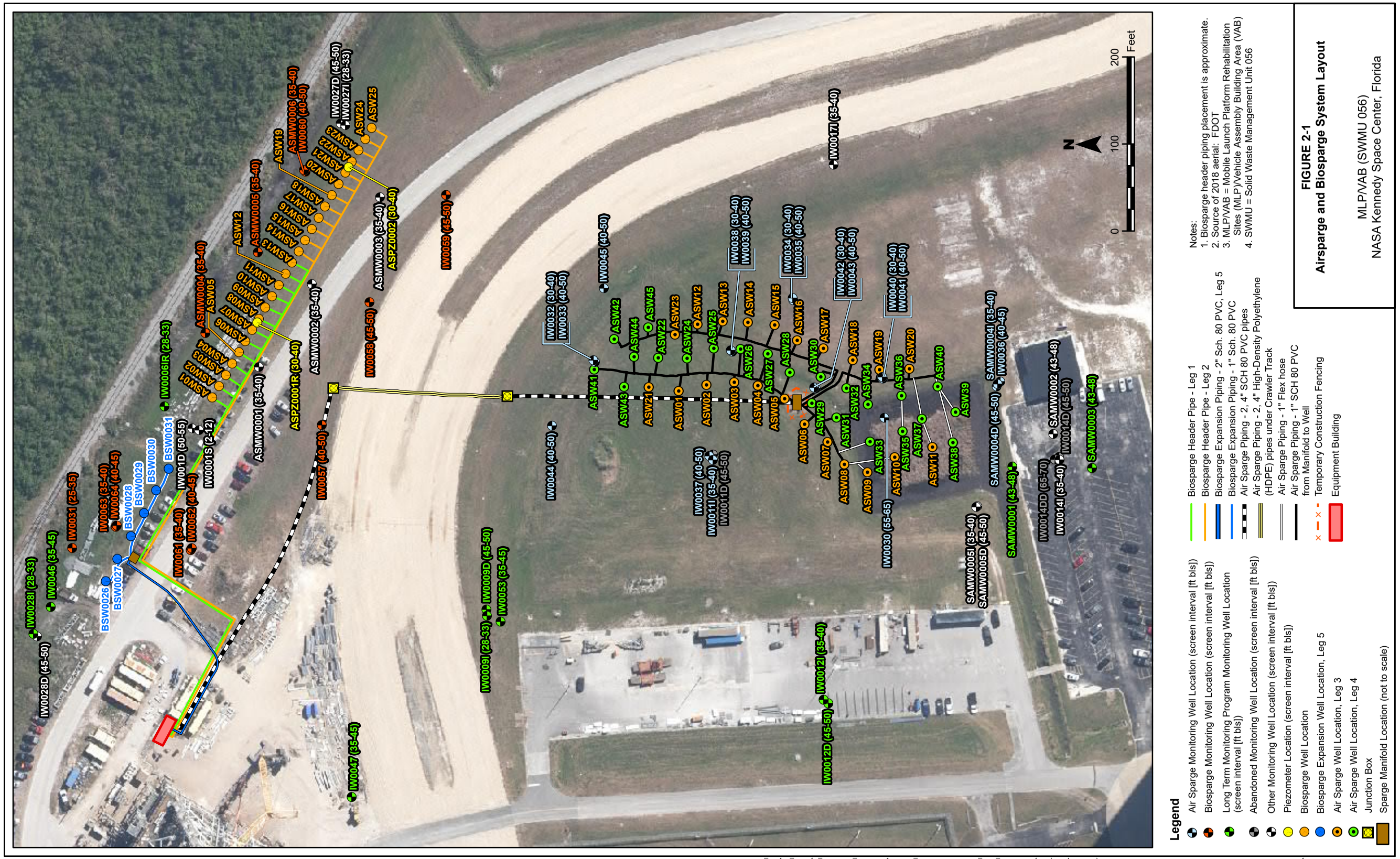
Legend
Air Sparge Monitoring Well Location (screen interval [ft bls])
Biosparge Monitoring Well Location (screen interval [ft bls])
Long Term Monitoring Program Monitoring Well Location (screen interval [ft bls])
Abandoned Monitoring Well Location (screen interval [ft bls])
Other Monitoring Well Location (screen interval [ft bls])
Piezometer Location (screen interval [ft bls])
Biosparge Well Location
Biosparge Expansion Well Location, Leg 5
Air Sparge Well Location, Leg 3
Air Sparge Well Location, Leg 4
Junction Box
Sparge Manifold Location (not to scale)
Biosparge Header Pipe - Leg 1
Biosparge Header Pipe - Leg 2
Biosparge Expansion Piping - 2" Sch. 80 PVC, Leg 5
Biosparge Expansion Piping - 1" Sch. 80 PVC
Air Sparge Piping - 2, 4" SCH 80 PVC pipes
Air Sparge Piping - 2, 4" High-Density Polyethylene (HDPE) pipes under Crawler Track
Air Sparge Piping - 1" Flex hose
Air Sparge Piping - 1" SCH 80 PVC from Manifold to Well
Temporary Construction Fencing
Equipment Building
Notes:
1. Biosparge header piping placement is approximate.
2. Source of 2018 aerial: FDOT
3. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building Area (VAB)
4. SWMU = Solid Waste Management Unit 056
FIGURE 2-1
Airsparge and Biosparge System Layout
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida
N
0
100
200
Feet
Document Path: P:\DCS\Projects\ENV\NASA\IDIQ 80KSC019D0010\900-CAD-GIS\920-929 (GIS-Graphics)\Projects\MLP_VAB_SWMU056\ArcGIS_mxd\July2021\2-1-Remedial_System_Layout_20210603.mxd

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3. DPT GROUNDWATER SAMPLING AND RESULTS

From March 29 through April 16, 2021, DPT groundwater sampling was completed at the Former Hot Spot 2, Biosparge Area, and Hot Spot 3 to evaluate CVOC plume characteristics. At the time of sampling, the biosparge barrier system had been off for approximately 3 months. The DPT coordinates and corresponding depth intervals are presented in **Table 3-1**. Field notes from the DPT event are provided in **Appendix C**. Mobile and fixed laboratory analytical reports are provided in **Appendix D** and **Appendix E**, respectively.

3.1 FORMER HOT SPOT 2 (AIR SPARGE AREA)

DPT groundwater samples were collected from this area with the purpose of evaluating current site conditions and developing an RAE for treatment options in the fine-grained lower permeability unit. A total of 25 DPT groundwater samples from 12 locations (MLPV-DPT0632 through MLPV-DPT0643) were collected at 4-foot intervals of 41 feet to 45 feet bls and 45 feet to 49 feet bls. One deep sample was collected at MLPV-DPT0632 from 51 feet to 55 feet bls to confirm the vertical boundary of the HCP. Groundwater samples were submitted to an on-site mobile laboratory, Analytical Laboratories of Florida, Inc. (ALF), for CVOC analysis of tetrachloroethene (PCE), TCE, cDCE, tDCE, 1-1-DCE, and VC by U.S. Environmental Protection Agency (USEPA) Method 5030. DPT groundwater analytical results are summarized in **Table 3-2** and illustrated on **Figure 3-1** through **Figure 3-4**.

Results from 41 feet to 45 feet bls indicate:

- VC concentrations exceeded its GCTL at each (12) location and exceeded its NADC at nine locations (MLPV-DPT0632, MLPV-DPT0633, MLPV-DPT0635, MLPV-DPT0637 through MLPV-DPT0639, and MLPV-DPT0640). The highest concentration was observed at MLPV-DPT0642 (880 µg/L) at the northernmost end of the area, north of the treatment area on the south side of the Crawlerway.
- cDCE exceeded its GCTL at two locations (MLPV-DPT0635 and MLPV-DPT0640). The highest concentration was observed at DPT0640 (170 µg/L) to the south of the treatment area.

Results from 45 feet to 49 feet bls indicate:

- VC concentrations exceeded its GCTL at each (12) location, its NADC at 8 locations (MLPV-DPT0632, MLPV-DPT0633, MLPV-DPT0635 through MLPV-DPT0637, and MLPV-DPT0639 through MLPV-DPT0642), and 10xNADC at MLPV-DPT0632. The highest concentration was observed at MLPV-DPT0632 (1,100 µg/L) at the northernmost end of the area, north of the treatment area on the south side of the Crawlerway.
- cDCE concentrations exceeded its GCTL at six locations (MLPV-DPT0632, MLPV-DPT0635, MLPV-DPT0636, MLPV-DPT0637, MLPV-DPT0639, and MLPV-DPT0640).

The highest concentration was observed at MLPV-DPT0637 (300 milligrams per liter [mg/L]) located within the northeast edge of the treatment area.

Results from 51 feet to 55 feet bls at the one deep location, MLPV-DPT0642, showed that only the VC concentration was above its GCTL and no contaminant concentrations were above NADCs.

Evaluation of DPT data indicate VC remains the predominant contaminant within the Former Hot Spot 2 treatment area, with the highest concentrations located north of the treatment area (MLPV-DPT0632 and MLPV-DPT0642). VC concentrations that exceed its NADC indicate an HCP persists in the deeper lower permeability layer and is migrating toward the treatment barrier at higher concentrations than in shallower groundwater that was treated by the air sparge system. The overall evaluation confirms the need for additional remediation efforts**.**

3.2 BIOSPARGE BARRIER AREA FOR MITIGATING THE HCP

Since the biosparge barrier serves to mitigate contaminant mass flux from the upgradient HCP, DPT groundwater samples were collected from areas around the barrier to evaluate current site conditions and determine the need for system modifications. A total of 33 DPT groundwater samples were collected at 4-foot intervals from depths of 31 feet to 35 feet bls, 35 feet to 39 feet bls, and 41 feet to 45 feet bls at 11 locations (MLPV-DPT0626 through MLPV-DPT0631 and MLPV-DPT0703, MLPV-DPT0704, and MLPV-DPT0706 through MLPV-DPT0708). Additional samples were collected from a deeper interval of 45 feet to 50 feet bls at five locations around the eastern barrier (MLPV-DPT0631, MLPV-DPT0630, MLPV-DPT0706, MLPV-DPT0707, and MLPV-DPT0708). One location, MLPV-DPT705, between the Former Hot Spot 2 area and the biosparge barrier, was sampled at the two deeper intervals only (41 feet to 45 feet bls and 45 feet to 50 feet bls). Groundwater samples were submitted to an on-site mobile laboratory, ALF, for CVOC analysis of PCE, TCE, cDCE, tDCE, 1-1-DCE, and VC by USEPA Method 5030. DPT groundwater analytical results are summarized in **Table 3-3** and illustrated on **Figure 3-4** through **Figure 3-7**.

Results from 31 feet to 35 feet bls indicate VC concentrations above its GCTL at six locations (MLPV-DPT0628, MLPV-DPT0631, MLPV-DPT0703, MLPV-DPT0704, MLPV-DPT0707, and MLPV-DPT0708). The highest concentration was observed at MLPV-DPT0704 (8 µg/L), downgradient and northwest of the biosparge barrier.

Results from 35 feet to 40 feet bls indicate VC concentrations above its GCTL at six locations (MLPV-DPT0627, MLPV-DPT0630, MLPV-DPT0631, MLPV-DPT0703, MLPV-DPT0704, and MLPV-DPT0708). The highest concentration was observed at MLPV-DPT0631 (37 µg/L), downgradient of the biosparge barrier and in the space between barrier segments.

Results from 41 feet to 45 feet bls indicate VC concentrations above its GCTL at six locations (MLPV-DPT0626, MLPV-DPT0627, MLPV-DPT0629, MLPV-DPT0703, MLPV-DPT0704, and MLPV-DPT0708), NADC at two locations (MLPV-DPT0631 and MLPV-DPT0707), and

10xNADC at two locations (MLPV-DPT0631 and MLPV-DPT0705). The highest VC concentration was observed at MLPV-DPT0705 (1,900 µg/L), located between the Former Hot Spot 2 area and the biosparge barrier. This location is also upgradient of MLPV-DPT0630, between the barrier segments, which had the second highest VC concentration.

Results from 45 feet to 50 feet bls indicated VC concentrations were greater than its GCTL at one location (MLPV-DPT0707), NADC at four locations (MLPV-DPT0630, MLPV-DPT0631, MLPV-DPT0706, and MLPV-DPT0708), and 10xNADC at one location (MLPV-DPT0705). The highest concentration was observed at MLPV-DPT0705 (1,600 µg/L), located between the Former Hot Spot 2 area and the biosparge barrier. cDCE was also detected above its GCTL at MLPV-DP0705. cDCE was not detected in the remaining samples at this depth or from the remaining DPT sampling locations in the biosparge area.

Evaluation of the DPT data around the biosparge barriers indicates VC remains the predominant contaminant within the biosparge area and plume migration has occurred since the biosparge system shut down. The highest concentrations are observed in the 40 feet to 45 feet and 45 feet to 50 feet bls depth intervals upgradient of the barrier (north of the Former Hot Spot 2 air sparge area), in the area between the barrier segments, and downgradient of the biosparge barrier, indicating the HCP has migrated beyond the treatment barrier. In comparison to 2018 DPT results, VC concentrations remain greater than its NADC at the depth interval of 45 feet to 50 feet bls upgradient of the biosparge barrier, indicating CVOCs mass remaining in the low permeability soil in Hot Spot 2 is a source of VC discharging to the biosparge barrier.

3.3 HOT SPOT 3

In March 2021, site access to Hot Spot 3 was reinstated and DPT performance monitoring was implemented to evaluate the extent of current CVOC contamination above NADCs and whether additional treatment is required to promote continued dissolved plume degradation. This data will be used to prepare an Interim Measures Work Plan (IMWP) for Hot Spot 3.

A total of 188 DPT groundwater samples from 62 locations (MLPV-DPT0644 through MLPV-DPT0702 and MLPV-DPT0709 through MLPV-DPT0711) were completed at 4-foot intervals at depths varying from 5 feet to 58 feet bls. Groundwater samples were submitted to an on-site mobile laboratory, ALF, for CVOC analysis of PCE, TCE, cDCE, tDCE, 1-1-DCE, and VC by USEPA Method 5030. Additionally, 43 groundwater samples were analyzed for geochemical parameters sulfate, sulfide, and total organic carbon (TOC) by USEPA Method 9060a, and dissolved gasses ethane, ethene, and methane by laboratory method RSK 175. DPT groundwater analytical results for CVOCs in Hot Spot 3 are summarized in **Table 3-4** and illustrated on **Figure 3-8** through **Figure 3-16**. The DPT groundwater geochemical analytical results are provided in **Table 3-5**. Results were evaluated using Rockworks modeling software and observations are summarized below.

Shallow interval (above 28 feet bls):

- Maximum CVOC concentrations are TCE at 129,000 µg/L, cDCE at 88,000 µg/L, and VC at 21,000 µg/L.
- Center of plumes, and likely TCE source, is still near southeast corner of former mobile launch (MLP) platform location (platform was removed in 2021).
- Potential treatment areas, defined as where concentrations exceed NADCs, vary by contaminant:
  - TCE: An approximate 30 foot diameter and consistent to 28 feet bls.
  - cDCE: Area expands from approximately 10 feet to 30 feet in diameter with depth and to the south.
  - VC: 20 foot by 30 foot area.

Deep interval (below 40 feet bls):

- CVOC concentrations are less than in the shallow groundwater interval and generally decrease with depth.
- Center of plumes and treatment areas vary by contaminant:
  - TCE: Approximately 25 foot by 40 foot area with maximum concentrations at the center, about 10 feet east of the center in shallower groundwater.
  - cDCE: Coincides with TCE plus two other areas south and downgradient but with lower concentrations.
  - VC: Similar to cDCE (three areas) with larger downgradient areas.

Geochemistry results (**Table 3-5**) indicate the following:

- Groundwater anaerobic redox conditions and neutral pH are conducive for enhanced reductive dechlorination (ERD) but TOC concentrations, which serves as the electron donor during ERD, is depleted and not optimal.
- Sulfate concentrations are high and sulfate reducing microbes are competing for electron donor (TOC) with Dehalococcoides (*Dhc*) and other microbes that support ERD.
- Sulfide concentrations are high, indicating limited natural iron is available to remove sulfide as iron sulfide precipitate. The elevated sulfide concentrations also have the potential to inhibit microbial activity and ERD.
- Although TOC concentrations (greater than 10 mg/L) can support ERD, TOC concentrations are not at optimal concentrations to support complete reduction of CVOCs.
- Detection of ethene indicates complete ERD in both the shallow and deeper intervals.
- Methane concentrations are high and indicate strong methanogenesis and highly anaerobic redox conditions, which is required for ERD. However, methanogens consume electron

donor (TOC) and high methanogenic activity indicates inefficient use of TOC that was injected to support ERD.

Details of the April 2021 DPT sampling were presented at the September 2021 KSCRT and team consensus was reached to proceed with an IMWP to implement additional in situ chemical reduction (Decision Item 2109-D35). A copy of the MLP/VAB Hot Spot 3 ADP from September 2021 provides interpolated plume extents calculated by Rockworks modeling software and recommendations for remedial strategy. The September 2021 ADP is provided in **Appendix F**. Meeting minutes are provided in **Appendix A**.

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Table 3-1
DPT Groundwater Sampling Location Coordinates and Depths
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Site	DPT Location ID	Northing (NAD83)	Easting (NAD83)	Sampling Interval Depth (ft bls)
Biosparge Area	MLPV-DPT0626	471748.399	234114.213	31 to 35
				35 to 39
				41 to 45
	MLPV-DPT0627	471732.981	234147.711	31 to 35
				35 to 39
				39 to 43
	MLPV-DPT0628	471710.942	234190.815	31 to 35
				35 to 39
				41 to 45
	MLPV-DPT0629	471725.085	234199.992	31 to 35
				35 to 39
				41 to 45
	MLPV-DPT0630	471687.668	234228.542	31 to 35
				35 to 39
				41 to 45
				45 to 49
	MLPV-DPT0631	471703.095	234236.224	31 to 35
				35 to 39
				41 to 45
				45 to 49
Former Hot Spot 2	MLPV-DPT0632	471587.921	234226.779	41 to 45
				45 to 49
	MLPV-DPT0633	471539.319	234243.844	41 to 45
				45 to 49
	MLPV-DPT0634	471480.177	234180.924	41 to 45
				45 to 49
	MLPV-DPT0635	471485.463	234207.613	41 to 45
				45 to 49
	MLPV-DPT0636	471493.548	234243.684	41 to 45
				45 to 49
	MLPV-DPT0637	471499.854	234277.804	41 to 45
				45 to 49
	MLPV-DPT0638	471506.027	234304.393	41 to 45
				45 to 49
	MLPV-DPT0639	471442.080	234266.137	41 to 45
				45 to 49
	MLPV-DPT0640	471384.927	234239.111	41 to 45
				45 to 49
	MLPV-DPT0641	471586.043	234190.984	41 to 45
				45 to 49
	MLPV-DPT0642	471584.929	234226.788	41 to 45
				45 to 49
				51 to 55
	MLPV-DPT0643	471533.118	234207.571	41 to 45
				45 to 49
Hot Spot 3	MLPV-DPT0644	471583.365	233841.196	43 to 47
				48 to 52
	MLPV-DPT0645	471589.008	233838.148	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0646	471591.682	233843.128	43 to 47
				48 to 52
	MLPV-DPT0647	471593.115	233840.288	36 to 40
				43 to 47
				48 to 52
	MLPV-DPT0648	471592.329	233836.768	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0649	471593.586	233849.775	36 to 40
				43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0650	471596.564	233844.973	5 to 9
				9 to 13
				14 to 18
				36 to 40
				43 to 47
				48 to 52
				54 to 58

Table 3-1
DPT Groundwater Sampling Location Coordinates and Depths
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Site	DPT Location ID	Northing (NAD83)	Easting (NAD83)	Sampling Interval Depth (ft bls)
Hot Spot 3	MLPV-DPT0651	471597.662	233841.546	5 to 9
				9 to 13
				14 to 18
				20 to 24
				25 to 29
				36 to 40
				43 to 47
				48 to 52
	MLPV-DPT0652	471597.880	233840.078	9 to 13
				14 to 18
				43 to 47
				48 to 52
	MLPV-DPT0653	471597.224	233843.210	5 to 9
				9 to 13
				14 to 18
				36 to 40
	MLPV-DPT0654	471598.445	233843.891	9 to 13
				14 to 18
				36 to 40
				43 to 47
	MLPV-DPT0655	471598.995	233842.618	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0656	471595.547	233838.226	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0657	471604.298	233836.636	9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0658	471585.701	233844.124	43 to 47
				48 to 52
	MLPV-DPT0659	471588.572	233840.594	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0660	471599.714	233822.857	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0661	471605.814	233824.600	14 to 18
				20 to 24
				43 to 47
				48 to 52
	MLPV-DPT0662	471600.553	233844.668	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0663	471588.668	233835.410	43 to 47
				48 to 52
	MLPV-DPT0664	471598.566	233847.510	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0665	471586.046	233848.623	43 to 47
				48 to 52
	MLPV-DPT0666	471591.027	233846.456	43 to 47
				48 to 52
	MLPV-DPT0667	471596.163	233821.107	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0668	471597.066	233827.071	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0669	471613.114	233819.590	14 to 18
				20 to 24
				25 to 29
				36 to 40
				43 to 47
				48 to 52
				54 to 58

Table 3-1
DPT Groundwater Sampling Location Coordinates and Depths
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Site	DPT Location ID	Northing (NAD83)	Easting (NAD83)	Sampling Interval Depth (ft bls)
Hot Spot 3	MLPV-DPT0670	471603.593	233822.846	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0671	471613.259	233831.426	14 to 18
				20 to 24
				25 to 29
	MLPV-DPT0672	471613.244	233826.046	14 to 18
				20 to 24
				25 to 29
	MLPV-DPT0673	471612.537	233811.571	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0674	471618.604	233801.772	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0675	471615.095	233814.792	43 to 47
				48 to 52
	MLPV-DPT0676	471602.916	233818.740	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0677	471590.417	233826.992	43 to 47
				48 to 52
	MLPV-DPT0678	471604.221	233848.374	5 to 9
				9 to 13
	MLPV-DPT0679	471584.790	233835.616	43 to 47
				48 to 52
	MLPV-DPT0680	471605.871	233805.721	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0681	471586.975	233824.752	43 to 47
				48 to 52
	MLPV-DPT0682	471601.659	233843.784	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0683	471598.661	233841.837	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0684	471596.774	233840.766	5 to 9
				9 to 13
				43 to 47
				48 to 52
	MLPV-DPT0685	471598.560	233845.456	5 to 9
				9 to 13
	MLPV-DPT0686	471601.280	233827.841	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0687	471595.007	233843.021	5 to 9
				9 to 13
	MLPV-DPT0688	471596.437	233839.300	5 to 9
				9 to 13
	MLPV-DPT0689	471595.333	233840.770	5 to 9
				9 to 13
	MLPV-DPT0690	471593.862	233830.406	43 to 47
				48 to 52
				54 to 58
				61 to 65
	MLPV-DPT0691	471603.098	233843.487	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0692	471601.994	233844.664	5 to 9
				9 to 13
				14 to 18
				20 to 24
	MLPV-DPT0693	471601.443	233845.741	5 to 9
				9 to 13
				14 to 18
				20 to 24

Table 3-1
DPT Groundwater Sampling Location Coordinates and Depths
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Site	DPT Location ID	Northing (NAD83)	Easting (NAD83)	Sampling Interval Depth (ft bls)
Hot Spot 3	MLPV-DPT0694	471613.836	233800.710	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0695	471620.811	233798.342	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0696	471621.711	233802.937	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0697	471602.949	233830.282	43 to 47
				48 to 52
				54 to 58
	MLPV-DPT0698	471605.207	233844.361	5 to 9
				9 to 13
	MLPV-DPT0699	471600.674	233848.385	5 to 9
				9 to 13
	MLPV-DPT0700	471610.390	233797.296	48 to 52
	MLPV-DPT0701	471623.787	233792.856	48 to 52
	MLPV-DPT0702	471626.701	233804.194	48 to 52
				54 to 58
Biosparge Area	MLPV-DPT0703	471749.270	234146.783	31 to 35
				36 to 40
				41 to 45
	MLPV-DPT0704	471738.590	234170.877	31 to 35
				36 to 40
				41 to 45
	MLPV-DPT0705	471647.780	234231.495	41 to 45
				46 to 50
	MLPV-DPT0706	471614.268	234330.193	31 to 35
				36 to 40
				41 to 45
				46 to 50
	MLPV-DPT0707	471612.138	234359.740	31 to 35
				36 to 40
				41 to 45
				46 to 50
	MLPV-DPT0708	471588.719	234347.875	31 to 35
				36 to 40
				41 to 45
				46 to 50
Hot Spot 3	MLPV-DPT0709	471600.350	233851.027	5 to 9
				9 to 13
	MLPV-DPT0710	471631.626	233782.366	48 to 52
				54 to 58
	MLPV-DPT0711	471615.014	233786.523	48 to 52
				54 to 58

Notes:
DPT = Direct Push Technology
ft bls = feet below land surface
NAD83 = United States Plane, North American Datum of 1983, Florida East, meters
SWMU = Solid Waste Management Unit

Table 3-2
Former Hot Spot 2 DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	3	70	100	7	1
State of Florida NADCs (µg/L)			300	300	700	1000	70	100
Location ID	**Sample Date**	**Sample Depth (feet bls)**						
MLPV-DPT0632	3/30/2021	41 to 45	1 U	1 U	**3**	**9**	1 U	**660**
		45 to 49	3 U	3 U	**91**	3 U	3 U	**1100**
MLPV-DPT0633	3/30/2021	41 to 45	1 U	1 U	**12**	**1**	1 U	**190**
		45 to 49	2 U	2 U	**21**	2 U	2 U	**92**
MLPV-DPT0634	3/30/2021	41 to 45	1 U	1 U	**37**	1 U	1 U	**89**
		45 to 49	1 U	1 U	**4**	1 U	1 U	**29**
MLPV-DPT0635	3/30/2021	41 to 45	1 U	1 U	**93**	**1**	1 U	**370**
	3/31/2021	45 to 49	1 U	1 U	**160**	1 U	1 U	**420 J**
		DUP	3 U	3 U	**150**	3 U	3 U	**460**
MLPV-DPT0636	3/31/2021	41 to 45	1 U	1 U	**2**	1 U	1 U	**46**
		45 to 49	1 U	1 U	**230**	**1**	1 U	**310**
MLPV-DPT0637	3/31/2021	41 to 45	3 U	3 U	**21**	**12**	3 U	**550**
		45 to 49	3 U	3 U	**300**	3 U	3 U	**310**
MLPV-DPT0638	3/31/2021	41 to 45	1 U	1 U	1 U	**3**	1 U	**120**
		45 to 49	1 U	1 U	**9**	1 U	1 U	**48**
MLPV-DPT0639	3/31/2021	41 to 45	1 U	1 U	1 U	1 U	1 U	**14**
		45 to 49	3 U	3 U	**280**	**9**	3 U	**500**
MLPV-DPT0640	3/31/2021	41 to 45	1 U	1 U	**170**	**20**	1 U	**270**
		45 to 49	3 U	3 U	**210**	**31**	3 U	**320**
MLPV-DPT0641	3/31/2021	41 to 45	3 U	3 U	**20**	3 U	3 U	**360**
		45 to 49	2 U	2 U	**53**	2 U	2 U	**330**
MLPV-DPT0642	3/31/2021	41 to 45	5 U	5 U	5 U	5 U	5 U	**880**
		45 to 49	5 U	5 U	5 U	**7**	5 U	**800**
		51 to 55	1 U	1 U	1 U	1 U	1 U	**8**
MLPV-DPT0643	4/1/2021	41 to 45	2 U	2 U	**44**	2 U	2 U	**780 J**
		DUP	3 U	3 U	**42**	3 U	3 U	**810**
		45 to 49	3 U	3 U	**33**	3 U	3 U	**220**

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
bls = Below land surface
CVOC = Chlorinated volatile organic compound
DPT = Direct Push Technology .
GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
J = Estimated value
NADCs = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (April 2005)
SWMU = Solid Waste Management Unit
U = The analyte was not detected
µg/L = Micrograms per liter

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Table 3-3
Biosparge Area DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	3	70	100	7	1
State of Florida NADCs (µg/L)			300	300	700	1000	70	100
Location ID	**Sample Date**	**Sample Depth (feet bls)**						
MLPV-DPT0626	3/29/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	1 U
		35 to 39	1 U	1 U	1 U	1 U	1 U	1 U
		41 to 45	1 U	1 U	1 U	1 U	1 U	**3**
		DUP	1 U	1 U	1 U	1 U	1 U	**3**
MLPV-DPT0627	3/29/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**1**
		35 to 39	1 U	1 U	**2**	1 U	1 U	**9**
		39 to 43	1 U	1 U	**2**	1 U	1 U	**9**
MLPV-DPT0628	3/29/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**22**
		35 to 39	1 U	1 U	**2**	1 U	1 U	1 U
		41 to 45	1 U	1 U	**1**	1 U	1 U	1 U
MLPV-DPT0629	3/29/2021	31 to 35	1 U	1 U	**1**	1 U	1 U	1 U
		35 to 39	1 U	1 U	**2**	1 U	1 U	1 U
		41 to 45	1 U	1 U	**2**	1 U	1 U	**5**
MLPV-DPT0630	3/30/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**1**
		35 to 39	1 U	1 U	1 U	1 U	1 U	**3**
		41 to 45	1 U	1 U	1 U	**2**	1 U	**1200**
		45 to 49	3 U	3 U	**30**	3 U	3 U	**370**
		DUP	3 U	2 U	**29**	2 U	3 U	**350**
MLPV-DPT0631	3/30/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**2**
		35 to 39	1 U	1 U	1 U	1 U	1 U	**37**
		41 to 45	1 U	1 U	**11**	1 U	1 U	**270**
		45 to 49	1 U	1 U	**12**	1 U	1 U	**180**
MLPV-DPT0703	4/15/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**6**
		36 to 40	1 U	1 U	**3**	1 U	1 U	**25**
		41 to 45	1 U	1 U	1 U	1 U	1 U	**8**
MLPV-DPT0704	4/15/2021	31 to 35	1 U	**2**	**1**	1 U	1 U	**8**
		36 to 40	1 U	1 U	1 U	1 U	1 U	**20**
		41 to 45	1 U	1 U	1 U	1 U	1 U	**11**
MLPV-DPT0705	4/15/2021	41 to 45	1 U	1 U	**10**	**8**	1 U	**1900**
		46 to 50	10 U	10 U	**97**	10 U	10 U	**1600**
		DUP	10 U	10 U	**84**	10 U	10 U	**1400**
MLPV-DPT0706	4/16/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	1 U
		36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		41 to 45	1 U	1 U	1 U	1 U	1 U	1 U
		46 to 50	10 U	10 U	10 U	**15**	10 U	**850**
MLPV-DPT0707	4/16/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**4**
		36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		41 to 45	5 U	5 U	**14**	**8**	5 U	**240**
		46 to 50	1 U	1 U	1 U	1 U	1 U	**15**
MLPV-DPT0708	4/16/2021	31 to 35	1 U	1 U	1 U	1 U	1 U	**6**
		36 to 40	1 U	1 U	1 U	1 U	1 U	**9**
		41 to 45	1 U	1 U	1 U	1 U	1 U	**7**
		46 to 50	1 U	1 U	**24**	**2**	1 U	**200**

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
bls = Feet below land surface
CVOC = Chlorinated volatile organic compound
DPT = Direct Push Technology
GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
J = An estimated value
NADCs = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (April 2005)
SWMU = Solid Waste Management Unit
U = The analyte was not detected
µg/L = Micrograms per liter

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Table 3-4
Hot Spot 3 DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	3	70	100	7	1
State of Florida NADCs (µg/L)			300	300	700	1000	70	100
Location ID	Sample Date	Sample Depth (feet bls)						
MLPV-DPT0644	4/1/2021	43 to 47	1 U	1 U	**7**	1 U	1 U	**3**
		48 to 52	1 U	1 U	**20**	1 U	1 U	**28**
MLPV-DPT0645	4/1/2021	43 to 47	1 U	1 U	**1**	1 U	1 U	**2**
		48 to 52	1 U	1 U	**2400**	**22**	1 U	**810**
		54 to 58	1 U	1 U	**2**	1 U	1 U	**2**
MLPV-DPT0646	4/1/2021	43 to 47	2 U	2 U	**6**	**130**	2 U	**130**
		48 to 52	1 U	1 U	1 U	**7**	1 U	**4**
MLPV-DPT0647	4/1/2021	36 to 40	1 U	1 U	1 U	1 U	1 U	**2**
		43 to 47	3 U	3 U	3 U	3 U	3 U	**10**
		48 to 52	1 U	1 U	1 U	1 U	1 U	**2**
MLPV-DPT0648	4/1/2021	43 to 47	1 U	1 U	**3**	1 U	1 U	1 U
	4/2/2021	48 to 52	1 U	1 U	1 U	**1**	1 U	1 U
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0649	4/2/2021	36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	1 U	1 U	1 U	1 U	1 U	1 U
		48 to 52	1 U	1 U	1 U	1 U	1 U	1 U
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0650	4/14/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	**2**
	4/2/2021	9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	20 U	**3000**	**2900**	**220**	**48**	**15000 J**
		DUP	100 U	**2800**	**2600**	**200**	100 U	**15400**
	4/6/2021	48 to 52	20 U	20 U	**4600**	**90**	20 U	**7600**
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0651	4/2/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	1 U
		9 to 13	10 U	**2300**	**2600**	**33**	10 U	**910**
		14 to 18	2 U	**130**	**4**	2 U	2 U	**6**
		20 to 24	1 U	**2**	1 U	1 U	1 U	1 U
		25 to 29	1 U	**4**	**2**	1 U	1 U	1 U
		36 to 40	1 U	1 U	1 U	1 U	1 U	**1**
		43 to 47	100 U	**8900**	**5700**	100 U	100 U	**5400**
		48 to 52	1 U	1 U	1 U	**2**	1 U	1 U
MLPV-DPT0652	4/5/2021	9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	2 U	**93**	**7**	2 U	2 U	**9**
		48 to 52	2 U	2 U	2 U	2 U	2 U	**3**
MLPV-DPT0653	4/5/2021	5 to 9	1 U	1 U	**20**	**6**	1 U	**470 J**
		DUP	2 U	2 U	**19**	**6**	2 U	**430**
		9 to 13	20 U	20 U	**2100**	**84**	20 U	**4200**
		14 to 18	100 U	**2100**	**88000 J**	**790**	**100**	**21000**
		36 to 40	1 U	1 U	**1**	1 U	1 U	1 U
MLPV-DPT0654	4/5/2021	9 to 13	1 U	1 U	**20**	**6**	1 U	**190**
		14 to 18	1 U	1 U	**4**	**1**	1 U	**88**
		36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	200 U	**55000**	**14000**	**29**	200 U	**17000**
MLPV-DPT0655	4/5/2021	5 to 9	2 U	2 U	**3**	2 U	2 U	**14**
		9 to 13	200 U	**25000**	**5200**	**220**	200 U	**2900**
		14 to 18	20 U	**120**	**360**	20 U	20 U	**3200**
		20 to 24	1 U	**16**	1 U	1 U	1 U	**1**
MLPV-DPT0656	4/5/2021	43 to 47	3 U	**21**	**13**	3 U	3 U	**16**
		48 to 52	1 U	1 U	1 U	1 U	1 U	1 U
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0657	4/6/2021	9 to 13	1 U	**11**	1 U	1 U	1 U	**2**
		DUP	1 U	**14**	1 U	1 U	1 U	**3**
		14 to 18	1 U	**1**	1 U	1 U	1 U	1 U
		20 to 24	2 U	**14**	2 U	2 U	2 U	**14**

Table 3-4
Hot Spot 3 DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	3	70	100	7	1
State of Florida NADCs (µg/L)			300	300	700	1000	70	100
Location ID	Sample Date	Sample Depth (feet bls)						
MLPV-DPT0658	4/6/2021	43 to 47	2 U	**25**	**8**	2 U	2 U	**4**
		48 to 52	1 U	**1**	**420**	**4**	1 U	**210**
MLPV-DPT0659	4/6/2021	43 to 47	40 U	**55**	**4600**	**200**	40 U	**9000**
		48 to 52	40 U	40 U	**4300**	**520**	40 U	**9700**
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0660	4/6/2021	43 to 47	1 U	1 U	1 U	**4**	1 U	**3**
		48 to 52	20 U	20 U	**2700**	**32**	20 U	**3000**
		54 to 58	1 U	1 U	**1**	1 U	1 U	**3**
MLPV-DPT0661	4/6/2021	14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
	4/7/2021	20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	2 U	2 U	2 U	2 U	2 U	2 U
		48 to 52	10 U	10 U	**1600**	**12**	10 U	**770**
		DUP	10 U	10 U	**1800**	**13**	10 U	**840**
MLPV-DPT0662	4/7/2021	5 to 9	1 U	**4**	**2**	1 U	1 U	**140**
		9 to 13	1 U	1 U	1 U	1 U	1 U	**1**
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		20 to 24	1 U	**2**	**1**	1 U	1 U	1 U
MLPV-DPT0663	4/7/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**1**
		48 to 52	3 U	3 U	**780**	**6**	3 U	**160**
MLPV-DPT0664	4/7/2021	5 to 9	1 U	**1**	**8**	**2**	1 U	**54**
		9 to 13	1 U	1 U	1 U	1 U	1 U	**5**
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0665	4/7/2021	43 to 47	1 U	1 U	**11**	1 U	1 U	**3**
		48 to 52	1 U	1 U	1 U	1 U	1 U	**8**
MLPV-DPT0666	4/7/2021	43 to 47	1 U	**2**	1 U	**2**	1 U	**4**
		48 to 52	1 U	**2**	**16**	**21**	1 U	**74**
MLPV-DPT0667	4/8/2021	43 to 47	1 U	1 U	**6**	1 U	1 U	**1**
		48 to 52	1 U	1 U	**8**	1 U	1 U	**4**
		DUP	1 U	1 U	**8**	1 U	1 U	**5**
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0668	4/8/2021	43 to 47	1 U	1 U	**2**	**4**	1 U	**3**
		48 to 52	40 U	40 U	**7100**	**50**	40 U	**2800**
		54 to 58	10 U	10 U	**750**	10 U	10 U	**93**
MLPV-DPT0669	4/8/2021	14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		20 to 24	1 U	1 U	**8**	1 U	1 U	**27**
		25 to 29	1 U	1 U	1 U	1 U	1 U	1 U
		36 to 40	1 U	1 U	1 U	1 U	1 U	1 U
		43 to 47	1 U	1 U	**1**	**1**	1 U	**3**
		48 to 52	20 U	20 U	**820**	20 U	20 U	**360**
		54 to 58	2 U	2 U	**5**	2 U	2 U	**9**
MLPV-DPT0670	4/8/2021	43 to 47	2 U	2 U	2 U	2 U	2 U	2 U
		48 to 52	1 U	1 U	1 U	1 U	1 U	1 U
		54 to 58	1 U	1 U	**1**	1 U	1 U	1 U
MLPV-DPT0671	4/8/2021	14 to 18	1 U	1 U	1 U	1 U	1 U	**5**
		20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
		25 to 29	1 U	**9**	**5**	1 U	1 U	**14**
MLPV-DPT0672	4/8/2021	14 to 18	1 U	1 U	1 U	1 U	1 U	**1**
	4/9/2021	20 to 24	1 U	1 U	1 U	1 U	1 U	**6**
		25 to 29	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0673	4/9/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**3**
		48 to 52	5 U	5 U	**130**	5 U	5 U	**160**
		DUP	5 U	5 U	**130**	5 U	5 U	**180**
		54 to 58	1 U	1 U	**11**	1 U	1 U	**38**
MLPV-DPT0674	4/9/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	1 U
		48 to 52	10 U	10 U	**430**	**13**	10 U	**380**
		54 to 58	3 U	3 U	**76**	3 U	3 U	**63**
MLPV-DPT0675	4/9/2021	43 to 47	1 U	1 U	**4**	1 U	1 U	**1**
		48 to 52	1 U	1 U	**12**	**2**	1 U	**17**

Table 3-4
Hot Spot 3 DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			**3**	**3**	**70**	**100**	**7**	**1**
State of Florida NADCs (µg/L)			**300**	**300**	**700**	**1000**	**70**	**100**
Location ID	**Sample Date**	**Sample Depth (feet bls)**						
MLPV-DPT0676	4/9/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**2**
		48 to 52	1 U	1 U	1 U	1 U	1 U	1 U
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0677	4/9/2021	43 to 47	1 U	1 U	**3**	1 U	1 U	**36**
		48 to 52	3 U	3 U	**11**	3 U	3 U	**160**
MLPV-DPT0678	4/9/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	1 U
		9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0679	4/9/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**3**
		48 to 52	1 U	1 U	**8**	1 U	1 U	**65**
MLPV-DPT0680	4/12/2021	43 to 47	1 U	1 U	**2**	**1**	1 U	1 U
		DUP	1 U	1 U	**2**	1 U	1 U	1 U
		48 to 52	1 U	1 U	**22**	1 U	1 U	**5**
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0681	4/12/2021	43 to 47	1 U	1 U	**7**	1 U	1 U	1 U
		48 to 52	1 U	1 U	**12**	1 U	1 U	**41**
MLPV-DPT0682	4/12/2021	5 to 9	20 U	20 U	20 U	20 U	20 U	**1100**
		9 to 13	20 U	**120**	**150**	20 U	20 U	**920**
	4/14/2021	14 to 18	1 U	1 U	1 U	1 U	1 U	**8**
		20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0683	4/12/2021	5 to 9	40 U	**5700**	**2300**	40 U	40 U	**310**
		9 to 13	100 U	**129000**	**25000**	100 U	100 U	**3000**
	4/14/2021	14 to 18	1000 U	**100000**	**49000**	1000 U	1000 U	**11000**
		20 to 24	3 U	**37**	**22**	3 U	3 U	**7**
MLPV-DPT0684	4/12/2021	5 to 9	10 U	**380**	**28**	10 U	10 U	10 U
		9 to 13	3 U	**260**	**4**	3 U	3 U	**3**
		43 to 47	2 U	2 U	2 U	2 U	2 U	**3**
		48 to 52	10 U	10 U	**360**	**14**	10 U	**250**
MLPV-DPT0685	4/12/2021	5 to 9	2 U	2 U	**3**	2 U	2 U	**130**
		9 to 13	1 U	1 U	1 U	**2**	1 U	**2**
MLPV-DPT0686	4/13/2021	43 to 47	2 U	2 U	2 U	2 U	2 U	2 U
		48 to 52	200 U	200 U	**8100**	200 U	200 U	**5900**
		DUP	100 U	100 U	**7700**	100 U	100 U	**5700**
		54 to 58	20 U	20 U	**850**	20 U	20 U	**51**
MLPV-DPT0687	4/13/2021	5 to 9	3 U	**250**	**9**	3 U	3 U	**8**
		9 to 13	3 U	**190**	**10**	3 U	3 U	**7**
MLPV-DPT0688	4/13/2021	5 to 9	1 U	**2**	**2**	1 U	1 U	1 U
		9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0689	4/13/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	1 U
		9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0690	4/13/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**5**
		48 to 52	10 U	10 U	**800**	10 U	10 U	**260**
		54 to 58	2 U	2 U	**49**	2 U	2 U	**14**
		61 to 65	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0691	4/13/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	1 U
		9 to 13	1 U	1 U	**1**	1 U	1 U	1 U
		14 to 18	1 U	1 U	1 U	1 U	1 U	**2**
		20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0692	4/14/2021	5 to 9	1 U	1 U	**12**	1 U	1 U	**280 J**
		DUP	2 U	2 U	**11**	2 U	2 U	**290**
		9 to 13	2 U	2 U	**6**	2 U	2 U	**440**
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		20 to 24	1 U	1 U	**1**	1 U	1 U	**1**
MLPV-DPT0693	4/14/2021	5 to 9	3 U	3 U	**4**	3 U	3 U	**130**
		9 to 13	1 U	1 U	1 U	1 U	1 U	**11**
		14 to 18	1 U	1 U	1 U	1 U	1 U	1 U
		20 to 24	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0694	4/14/2021	43 to 47	1 U	1 U	**2**	**1**	1 U	1 U
		48 to 52	10 U	10 U	**270**	10 U	10 U	**350**
		54 to 58	1 U	1 U	**1**	1 U	1 U	**3**

Table 3-4
Hot Spot 3 DPT Groundwater CVOC Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites/Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs) by Method 8260					
Analyte			TETRACHLOROETHENE	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	1,1-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			**3**	**3**	**70**	**100**	**7**	**1**
State of Florida NADCs (µg/L)			**300**	**300**	**700**	**1000**	**70**	**100**
Location ID	**Sample Date**	**Sample Depth (feet bls)**						
MLPV-DPT0695	4/14/2021	43 to 47	1 U	1 U	**5**	1 U	1 U	**3**
		48 to 52	10 U	10 U	**640**	10 U	10 U	**420**
		54 to 58	1 U	**1**	**1**	1 U	1 U	**2**
MLPV-DPT0696	4/14/2021	43 to 47	1 U	1 U	**2**	1 U	1 U	**2**
		48 to 52	3 U	3 U	**250**	3 U	3 U	**250**
		54 to 58	5 U	**1300 J**	**100**	5 U	5 U	**66**
		DUP	10 U	**1300**	**95**	10 U	10 U	**59**
MLPV-DPT0697	4/15/2021	43 to 47	1 U	**10**	**2**	**2**	1 U	**6**
		48 to 52	10 U	10 U	**1500**	**11**	10 U	**860**
		54 to 58	1 U	1 U	**84**	1 U	1 U	**32**
MLPV-DPT0698	4/15/2021	5 to 9	1 U	1 U	**2**	1 U	1 U	**9**
		9 to 13	1 U	1 U	1 U	1 U	1 U	**4**
MLPV-DPT0699	4/15/2021	5 to 9	2 U	2 U	**40**	**3**	2 U	**180**
		9 to 13	1 U	1 U	**19**	**2**	1 U	**130**
MLPV-DPT0700	4/15/2021	48 to 52	1 U	**5**	**3**	1 U	1 U	**15**
MLPV-DPT0701	4/15/2021	48 to 52	10 U	10 U	**450**	10 U	10 U	**330**
MLPV-DPT0702	4/15/2021	48 to 52	1 U	1 U	**24**	1 U	1 U	**73**
		54 to 58	1 U	1 U	**1**	1 U	1 U	**4**
MLPV-DPT0709	4/16/2021	5 to 9	1 U	1 U	1 U	1 U	1 U	**6**
		9 to 13	1 U	1 U	1 U	1 U	1 U	1 U
MLPV-DPT0710	4/16/2021	48 to 52	1 U	1 U	**31**	1 U	1 U	**3**
		54 to 58	1 U	1 U	1 U	1 U	1 U	**2**
MLPV-DPT0711	4/16/2021	48 to 52	1 U	1 U	1 U	1 U	1 U	1 U
		54 to 58	1 U	1 U	1 U	1 U	1 U	1 U

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 and date
CVOC = Chlorinated volatile organic compound
DPT = Direct Push Technology
ft bls = feet below land surface
GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
J = Indicates an estimated value
NADCs = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (April 2005)
SWMU = Solid Waste Management Unit
U = Indicates the analyte was not detected
µg/L = Micrograms per liter

Table 3-5
Hot Spot 3 DPT Groundwater Geochemical Analytical Results
Mobile Launch Platform (MLP) and Vehicle Assembly Building (VAB) Area, SWMU 056

Category			General Chemistry			Dissolved Gases		
Analyte			SULFATE	SULFIDE	TOTAL ORGANIC CARBON	ETHANE	ETHENE	METHANE
State of Florida GCTLs (µg/L)			250,000					
State of Florida NADCs (µg/L)			2,500,000					
Location ID	Sample Date	Sample Depth (feet bls)						
MLPV-DPT0644	4/1/2021	43 to 47	1200000	5100	19000	5.10 U	5.10 U	230
		48 to 52	490000	480 I	12000	5.10 U	23.5	5200
MLPV-DPT0645	4/1/2021	48 to 52	370000	1400	11000	5.10 U	1160	8590
MLPV-DPT0646	4/1/2021	43 to 47	570000	120000	31000	5.10 U	5490	10200
MLPV-DPT0650	4/6/2021	43 to 47	1100000	52000	130000	18.3	4740	5500
		48 to 52	440000	2700	16000	5.10 U	128	177
MLPV-DPT0651	4/2/2021	9 to 11	17000	800 I	22000	123	65.3	16400
	4/7/2021	25 to 29	8800	14000	15000	5.10 U	5.10 U	7330
	4/2/2021	36 to 40	73000	39000	150000	5.10 U	13.2	9200
		43 to 47	9800 I	78000	850000	5.10 U	409	7690
		48 to 52	3200 I	2100	28000	5.10 U	5.10 U	7120
MLPV-DPT0653	4/5/2021	9 to 11	1800 I	450 U	22000	648	791	7970 J
MLPV-DPT0654	4/5/2021	9 to 11	1900 I	2100	28000	100	16.0	10600
		14 to 18	1500 I	2400	19000	5.10 U	5.10 U	602
		36 to 40	18000	4300	12000	5.10 U	5.10 U	7490
MLPV-DPT0655	4/5/2021	9 to 11	2200 I	2400	16000	115	386	12300
		14 to 18	3400 I	3400	51000	451	620	9820
		20 to 24	15000	17000	7100	5.10 U	5.10 U	13400
MLPV-DPT0656	4/5/2021	43 to 47	7900 I	130000	370000 V	97.9	6060	6400
		48 to 52	130 U	2700	81000	13.9	26.9	6370
		54 to 58	66 U	1100	28000	5.10 U	5.10 U	10200
MLPV-DPT0658	4/6/2021	43 to 47	9900 I	54000	2800000	9.11	167	10100
		48 to 52	230000	1800	13000	5.10 U	11.5	8580
MLPV-DPT0659	4/6/2021	43 to 47	1100000	14000	23000	5.10 U	295	7680
		48 to 52	51000	16000	50000 V	11.4	12100	3680
MLPV-DPT0660	4/6/2021	48 to 52	340000	960 I	14000	17.4	592	6950
MLPV-DPT0662	4/7/2021	5 to 9	3700 I	920 I	11000	66.8	32.8	11100
MLPV-DPT0663	4/7/2021	48 to 52	360000	600 I	11000	5.10 U	266	2450
MLPV-DPT0667	4/8/2021	48 to 52	530000	1200	14000	5.10 U	5.10 U	200
MLPV-DPT0668	4/8/2021	48 to 52	320000	920 I	13000	46.0	848	7760
MLPV-DPT0670	4/8/2021	48 to 52	130 U	1200	26000	5.10 U	5.10 U	10400
MLPV-DPT0671	4/8/2021	20 to 24	25000	13000	7200	6.79	5.10 U	5950
MLPV-DPT0672	4/9/2021	20 to 24	24000	10000	9200	17.4	5.10 U	14200
MLPV-DPT0683	4/12/2021	5 to 9	11000	450 U	14000	75.1	25.1	4090
MLPV-DPT0684	4/12/2021	5 to 9	10000	450 U	2800	5.10 U	5.10 U	9150
MLPV-DPT0685	4/12/2021	5 to 9	2600 I	450 U	12000	198	34.2	9230
MLPV-DPT0686	4/13/2021	48 to 52	400000	1100	10000	13.3	1150	2250
MLPV-DPT0687	4/13/2021	5 to 9	84000	480 I	4400	7.33	5.10 U	7720
		9 to 11	10000	2900	7500	50.6	11.4	11200
MLPV-DPT0688	4/13/2021	5 to 9	7200	450 U	1500	5.10 U	5.10 U	88.8
		9 to 11	5800	2700	5500	5.10 U	5.10 U	4.00 U
MLPV-DPT0691	4/13/2021	5 to 9	10000	1400	43000	5.10 U	5.10 U	1820
		9 to 11	11000	2600	38000	5.10 U	5.10 U	1490

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
bls = Below land surface
DPT = Direct Push Technology .
GCTL = Groundwater Cleanup Target Level, Chapter 62-777 Florida Administrative Code, Table 1 (2005)
I = Result is greater than or equal to the laboratory MDL but less than the PQL
J = Indicates an estimated value
MDL = Minimum Detection Limit
NADCs = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (April 2005)
PQL = Practical Quantitation Limit
SWMU = Solid Waste Management Unit
U = Indicates the analyte was not detected
V = Indicates that the analyte was detected in both the sample and the associated method blank

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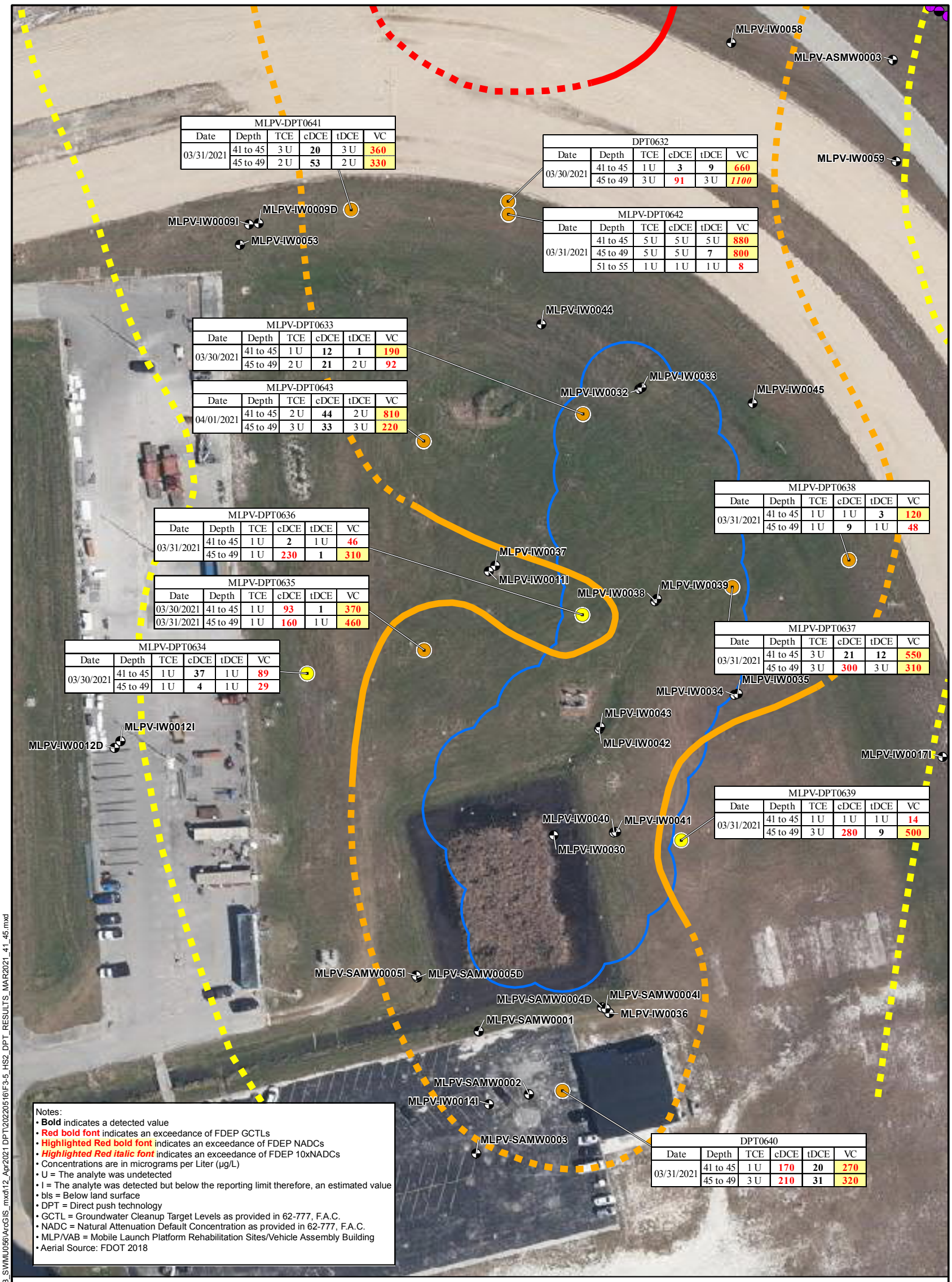


MLPV-DPT0641

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	3 U	**20**	3 U	**360**
	45 to 49	2 U	**53**	2 U	**330**

DPT0632

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**3**	**9**	**660**
	45 to 49	3 U	**91**	3 U	***1100***

MLPV-DPT0642

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	5 U	5 U	5 U	**880**
	45 to 49	5 U	5 U	**7**	**800**
	51 to 55	1 U	1 U	1 U	**8**

MLPV-DPT0633

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**12**	**1**	**190**
	45 to 49	2 U	**21**	2 U	**92**

MLPV-DPT0643

Date	Depth	TCE	cDCE	tDCE	VC
04/01/2021	41 to 45	2 U	**44**	2 U	**810**
	45 to 49	3 U	**33**	3 U	**220**

MLPV-DPT0638

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	1 U	**3**	**120**
	45 to 49	1 U	**9**	1 U	**48**

MLPV-DPT0636

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	**2**	1 U	**46**
	45 to 49	1 U	**230**	**1**	**310**

MLPV-DPT0635

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**93**	**1**	**370**
03/31/2021	45 to 49	1 U	**160**	1 U	**460**

MLPV-DPT0637

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	3 U	**21**	**12**	**550**
	45 to 49	3 U	**300**	3 U	**310**

MLPV-DPT0634

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**37**	1 U	**89**
	45 to 49	1 U	**4**	1 U	**29**

MLPV-DPT0639

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	1 U	1 U	**14**
	45 to 49	3 U	**280**	**9**	**500**

DPT0640

Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	**170**	**20**	**270**
	45 to 49	3 U	**210**	**31**	**320**

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Legend

- DPT sampling location
- Monitoring well location
- 1 µg/L VC isopleth (dashed where inferred)
- 100 µg/L VC isopleth (dashed where inferred)
- 1,000 µg/L VC isopleth (dashed where inferred)
- Air sparge area of influence (based on 35 ft radius of influence)

Symbology Color Coding

- VC concentration less than or equal to 1 µg/L (GCTL)
- VC concentration greater than 1 µg/L (GCTL) and less than or equal to 100 µg/L (NADC)
- VC concentration greater than 100 µg/L (NADC) and less than or equal to 1,000 µg/L (10xNADC)
- VC concentration greater than 1,000 µg/L (10xNADC)
- Location not sampled at this depth interval

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

N

0 70 140 Feet

FIGURE 3-1
DPT Groundwater Sampling Results
41 to 45 Feet bls

Former Hot Spot 2
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Document Path: M:\Gisprojects\Projects\NASA\KSC\MLPV_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\20220516\F3-5_HS2_DPT_RESULTS_MAR2021_41_45.mxd

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Legend

- DPT sampling location
- Monitoring well location (screen interval (ft bls)) (most recent VC concentration (µg/L))
- 1 µg/L VC isopleth (dashed where inferred)
- 100 µg/L VC isopleth (dashed where inferred)
- 1,000 µg/L VC isopleth

Symbology Color Coding

- VC concentration less than or equal to 1 µg/L (GCTL)
- VC concentration greater than 1 µg/L (GCTL) and less than or equal to 100 µg/L (NADC)
- VC concentration greater than 100 µg/L (NADC) and less than or equal to 1,000 µg/L (10xNADC)
- VC concentration greater than 1,000 µg/L (10xNADC)
- Location not sampled at this depth interval

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

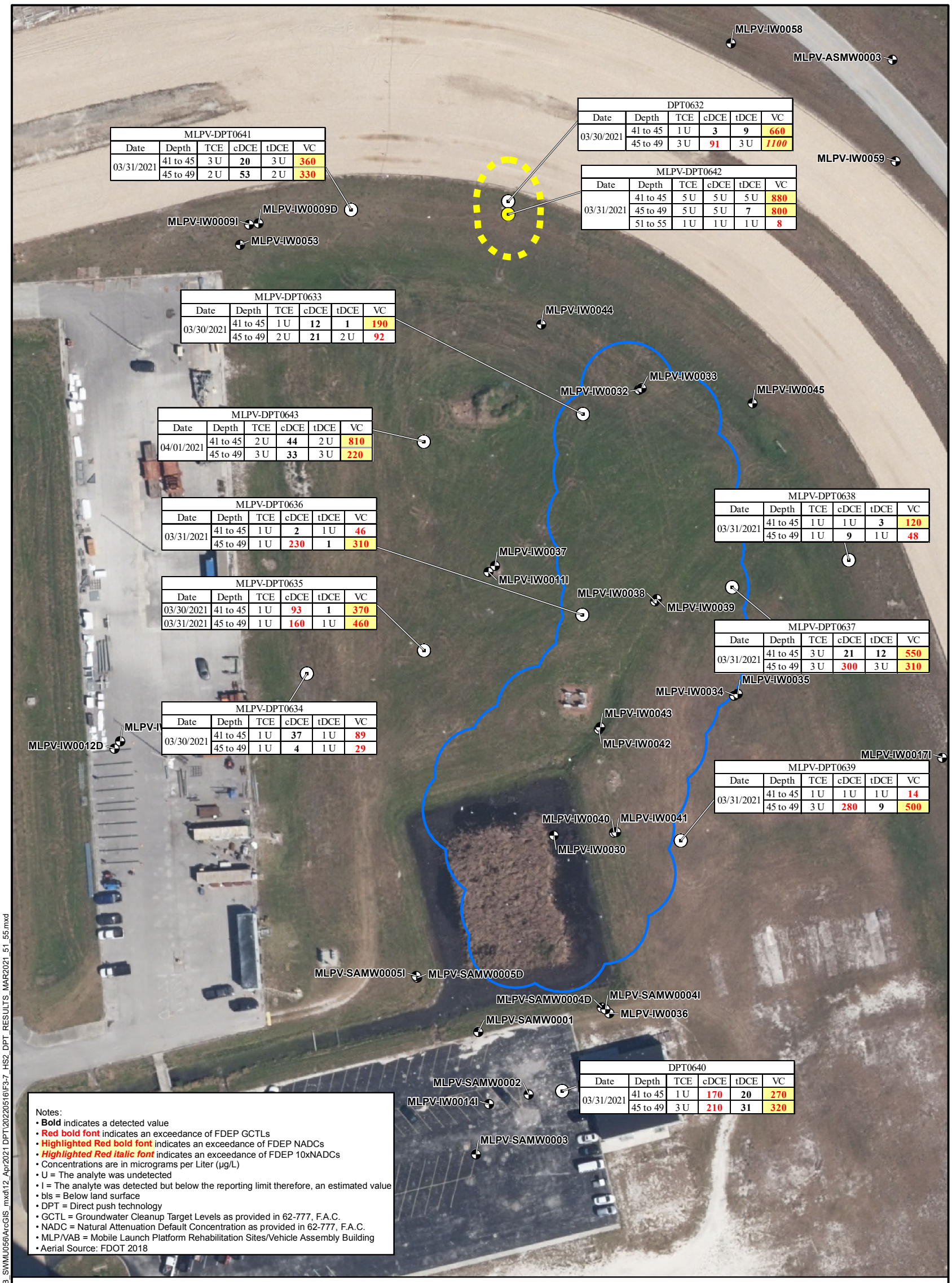
N

0 90 180 Feet

FIGURE 3-2
DPT Groundwater Sampling Results
45 to 49 Feet bls

Former Hot Spot 2
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Document Path: M:\Gisprojects\Projects\NASA\KSC\MLPV_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\20220516\F3-6_HS2_DPT_RESULTS_MAR2021_45_49.mxd



MLPV-DPT0641					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	3 U	**20**	3 U	**360**
	45 to 49	2 U	**53**	2 U	**330**

DPT0632					
Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**3**	**9**	**660**
	45 to 49	3 U	**91**	3 U	***1100***

MLPV-DPT0642					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	5 U	5 U	5 U	**880**
	45 to 49	5 U	5 U	**7**	**800**
	51 to 55	1 U	1 U	1 U	**8**

MLPV-DPT0633					
Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**12**	**1**	**190**
	45 to 49	2 U	**21**	2 U	**92**

MLPV-DPT0643					
Date	Depth	TCE	cDCE	tDCE	VC
04/01/2021	41 to 45	2 U	**44**	2 U	**810**
	45 to 49	3 U	**33**	3 U	**220**

MLPV-DPT0636					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	**2**	1 U	**46**
	45 to 49	1 U	**230**	**1**	**310**

MLPV-DPT0638					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	1 U	**3**	**120**
	45 to 49	1 U	**9**	1 U	**48**

MLPV-DPT0635					
Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**93**	**1**	**370**
03/31/2021	45 to 49	1 U	**160**	1 U	**460**

MLPV-DPT0637					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	3 U	**21**	**12**	**550**
	45 to 49	3 U	**300**	3 U	**310**

MLPV-DPT0634					
Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	41 to 45	1 U	**37**	1 U	**89**
	45 to 49	1 U	**4**	1 U	**29**

MLPV-DPT0639					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	1 U	1 U	**14**
	45 to 49	3 U	**280**	**9**	**500**

DPT0640					
Date	Depth	TCE	cDCE	tDCE	VC
03/31/2021	41 to 45	1 U	**170**	**20**	**270**
	45 to 49	3 U	**210**	**31**	**320**

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Legend

- DPT sampling location
- Monitoring well location
- 1 µg/L VC isopleth (dashed where inferred)
- Air sparge area of influence (based on 35 ft radius of influence)

Symbology Color Coding

- VC concentration less than or equal to 1 µg/L (GCTL)
- VC concentration greater than 1 µg/L (GCTL) and less than or equal to 100 µg/L (NADC)
- VC concentration greater than 100 µg/L (NADC) and less than or equal to 1,000 µg/L (10xNADC)
- VC concentration greater than 1,000 µg/L (10xNADC)
- Location not sampled at this depth interval

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

N

0 70 140 Feet

FIGURE 3-3
DPT Groundwater Sampling Results
51 to 55 Feet bls

Former Hot Spot 2
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Document Path: M:\Gisprojects\Projects\NASA\KSC\MLPV_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\20220516\F3-7_HS2_DPT_RESULTS_MAR2021_51_55.mxd

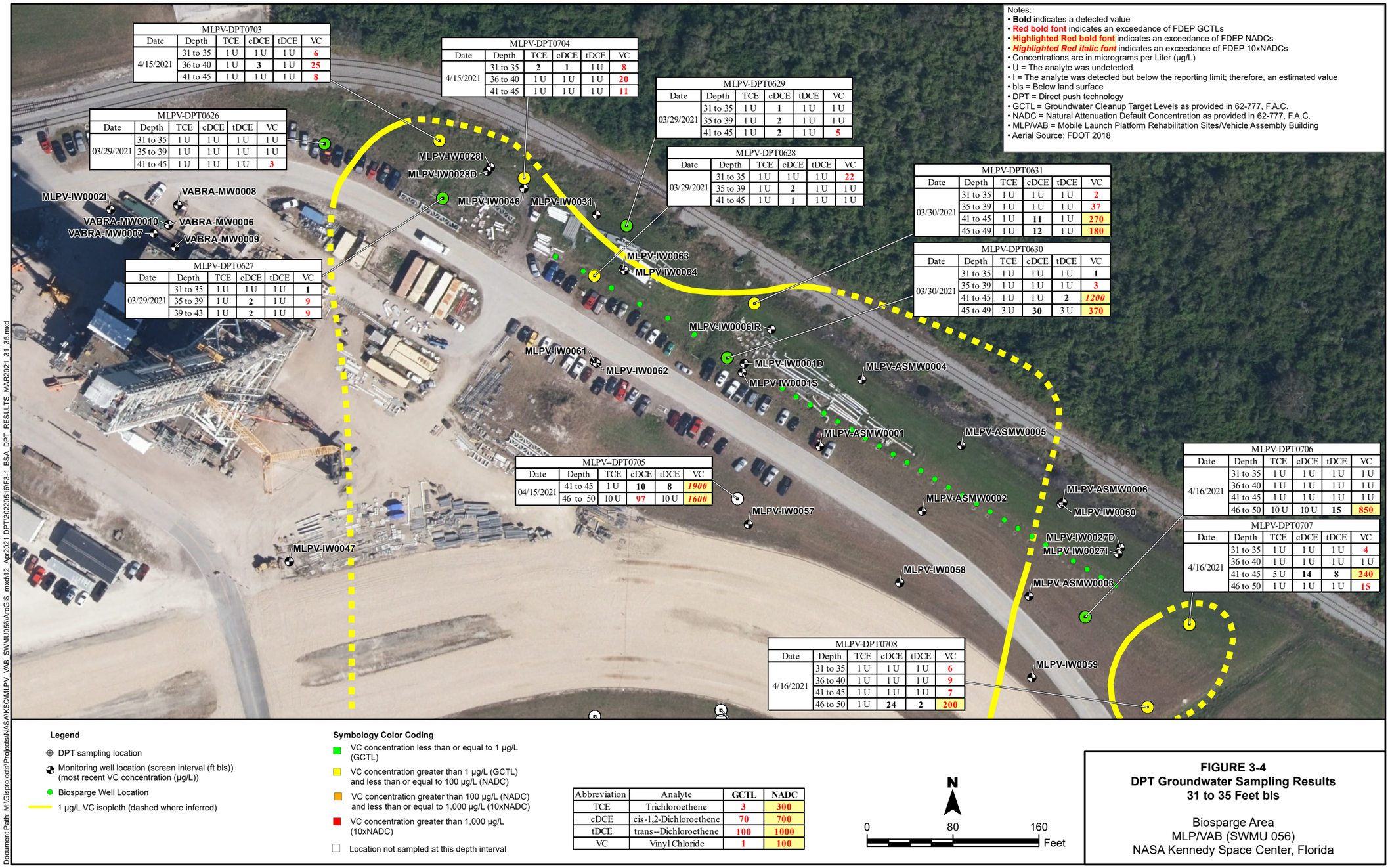
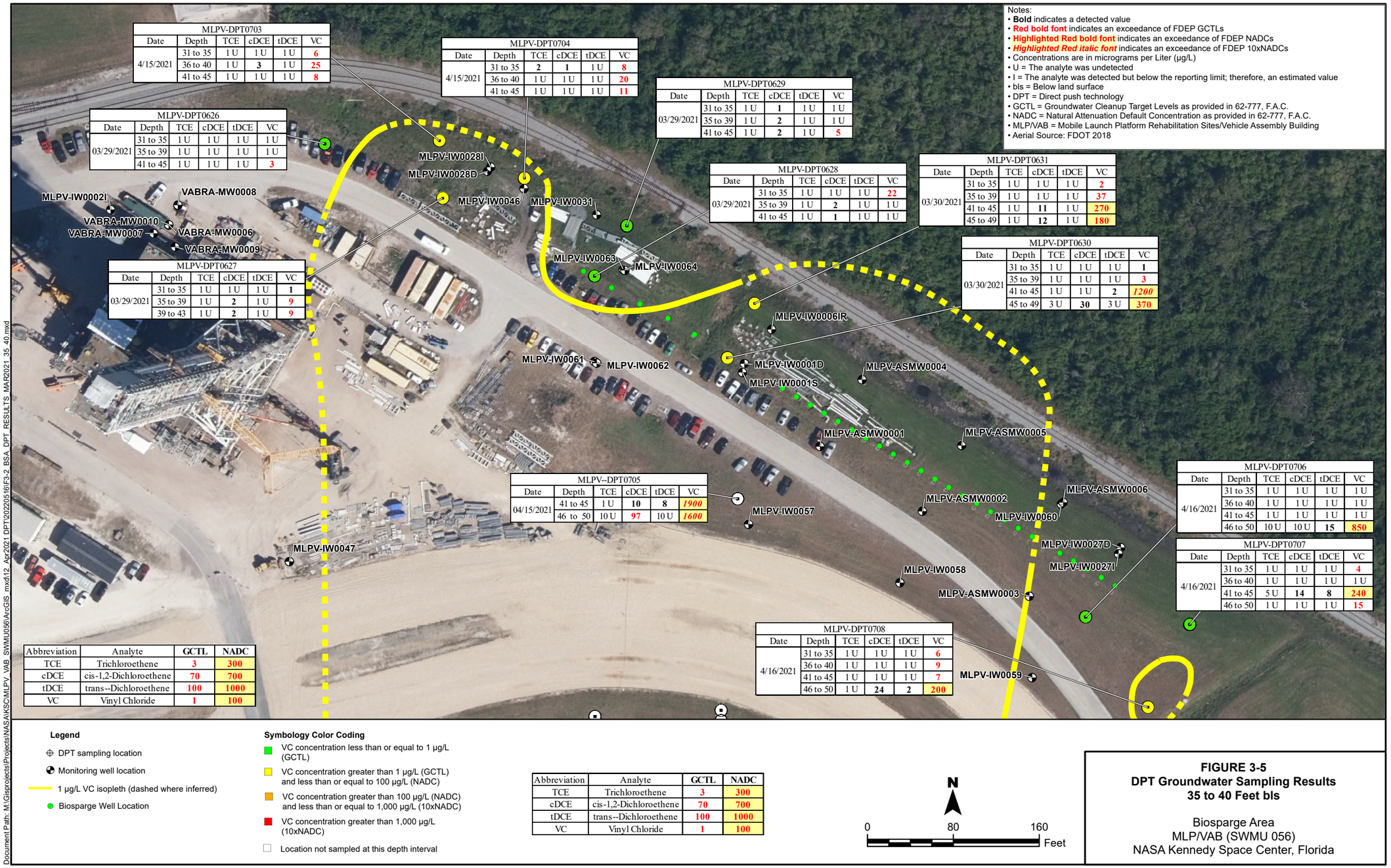


FIGURE 3-4
DPT Groundwater Sampling Results
31 to 35 Feet bls

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



MLPV-DPT0703

Date	Depth	TCE	cDCE	tDCE	VC
4/15/2021	31 to 35	1 U	1 U	1 U	6
	36 to 40	1 U	**3**	1 U	**25**
	41 to 45	1 U	1 U	1 U	8

MLPV-DPT0704

Date	Depth	TCE	cDCE	tDCE	VC
4/15/2021	31 to 35	**2**	**1**	1 U	8
	36 to 40	1 U	1 U	1 U	**20**
	41 to 45	1 U	1 U	1 U	**11**

MLPV-DPT0629

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	**1**	1 U	1 U
	35 to 39	1 U	**2**	1 U	1 U
	41 to 45	1 U	**2**	1 U	**5**

MLPV-DPT0626

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	1 U
	35 to 39	1 U	1 U	1 U	1 U
	41 to 45	1 U	1 U	1 U	**3**

MLPV-DPT0628

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	**22**
	35 to 39	1 U	**2**	1 U	1 U
	41 to 45	1 U	**1**	1 U	1 U

MLPV-DPT0631

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	31 to 35	1 U	1 U	1 U	**2**
	35 to 39	1 U	1 U	1 U	**37**
	41 to 45	1 U	**11**	1 U	**270**
	45 to 49	1 U	**12**	1 U	**180**

MLPV-DPT0627

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	**1**
	35 to 39	1 U	**2**	1 U	**9**
	39 to 43	1 U	**2**	1 U	**9**

MLPV-DPT0630

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	31 to 35	1 U	1 U	1 U	**1**
	35 to 39	1 U	1 U	1 U	**3**
	41 to 45	1 U	1 U	**2**	***1200***
	45 to 49	3 U	**30**	3 U	**370**

MLPV--DPT0705

Date	Depth	TCE	cDCE	tDCE	VC
04/15/2021	41 to 45	1 U	**10**	**8**	***1900***
	46 to 50	10 U	**97**	10 U	***1600***

MLPV-DPT0706

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	1 U
	36 to 40	1 U	1 U	1 U	1 U
	41 to 45	1 U	1 U	1 U	1 U
	46 to 50	10 U	10 U	**15**	**850**

MLPV-DPT0707

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	**4**
	36 to 40	1 U	1 U	1 U	1 U
	41 to 45	5 U	**14**	**8**	**240**
	46 to 50	1 U	1 U	1 U	**15**

MLPV-DPT0708

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	**6**
	36 to 40	1 U	1 U	1 U	**9**
	41 to 45	1 U	1 U	1 U	**7**
	46 to 50	1 U	**24**	**2**	**200**

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

FIGURE 3-5
DPT Groundwater Sampling Results
35 to 40 Feet bls

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

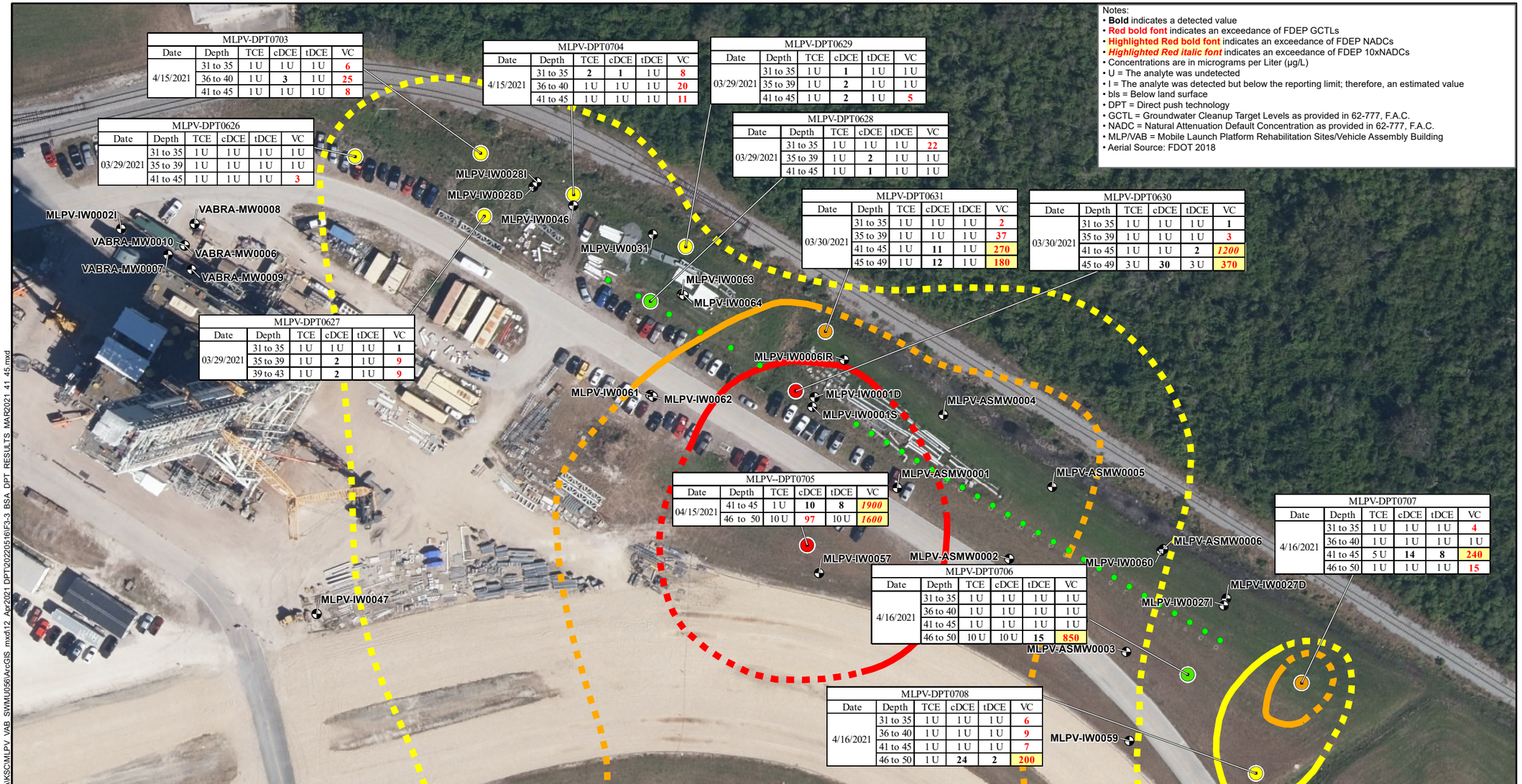


FIGURE 3-6
DPT Groundwater Sampling Results
41 to 45 Feet bls

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

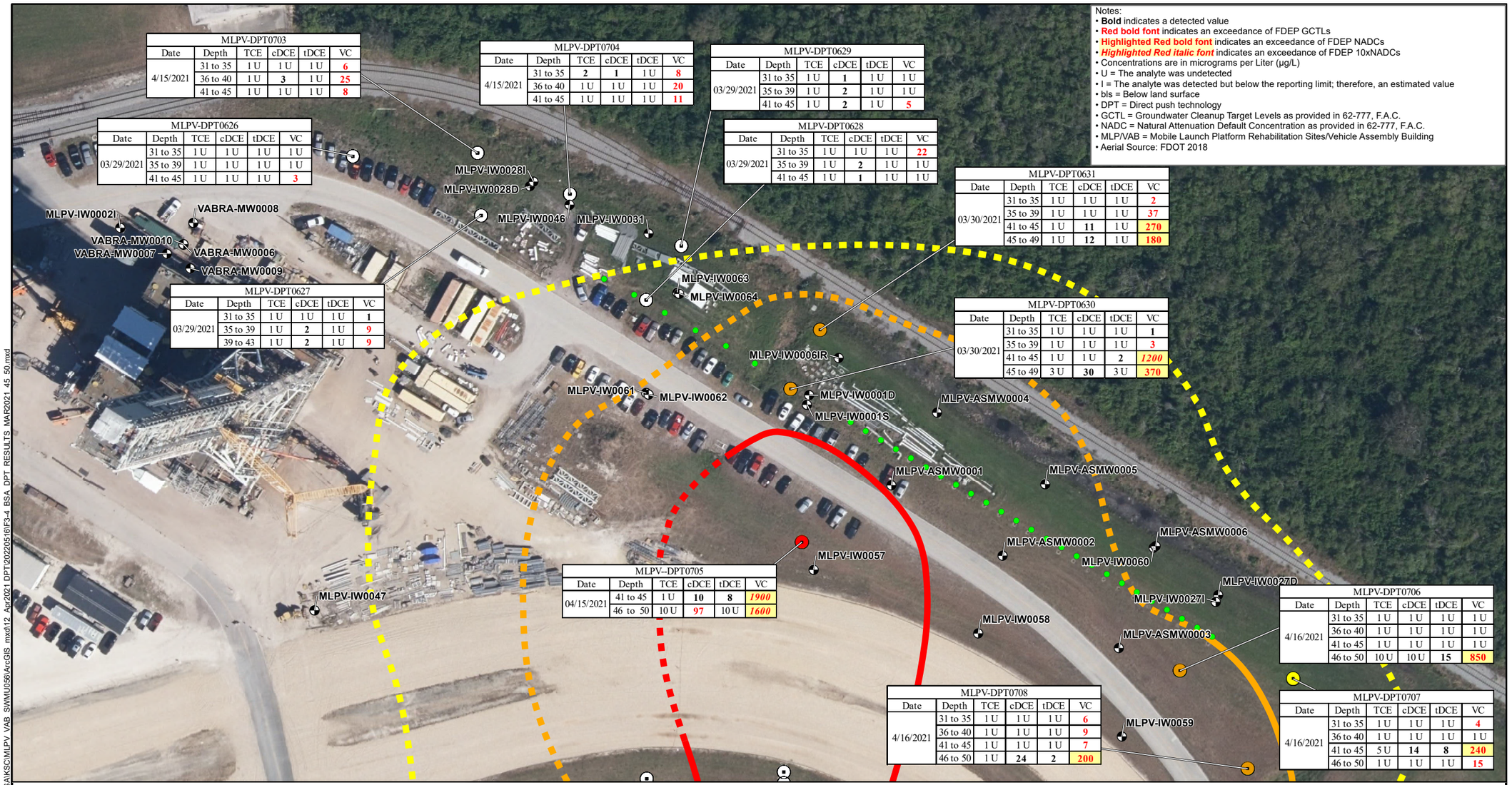
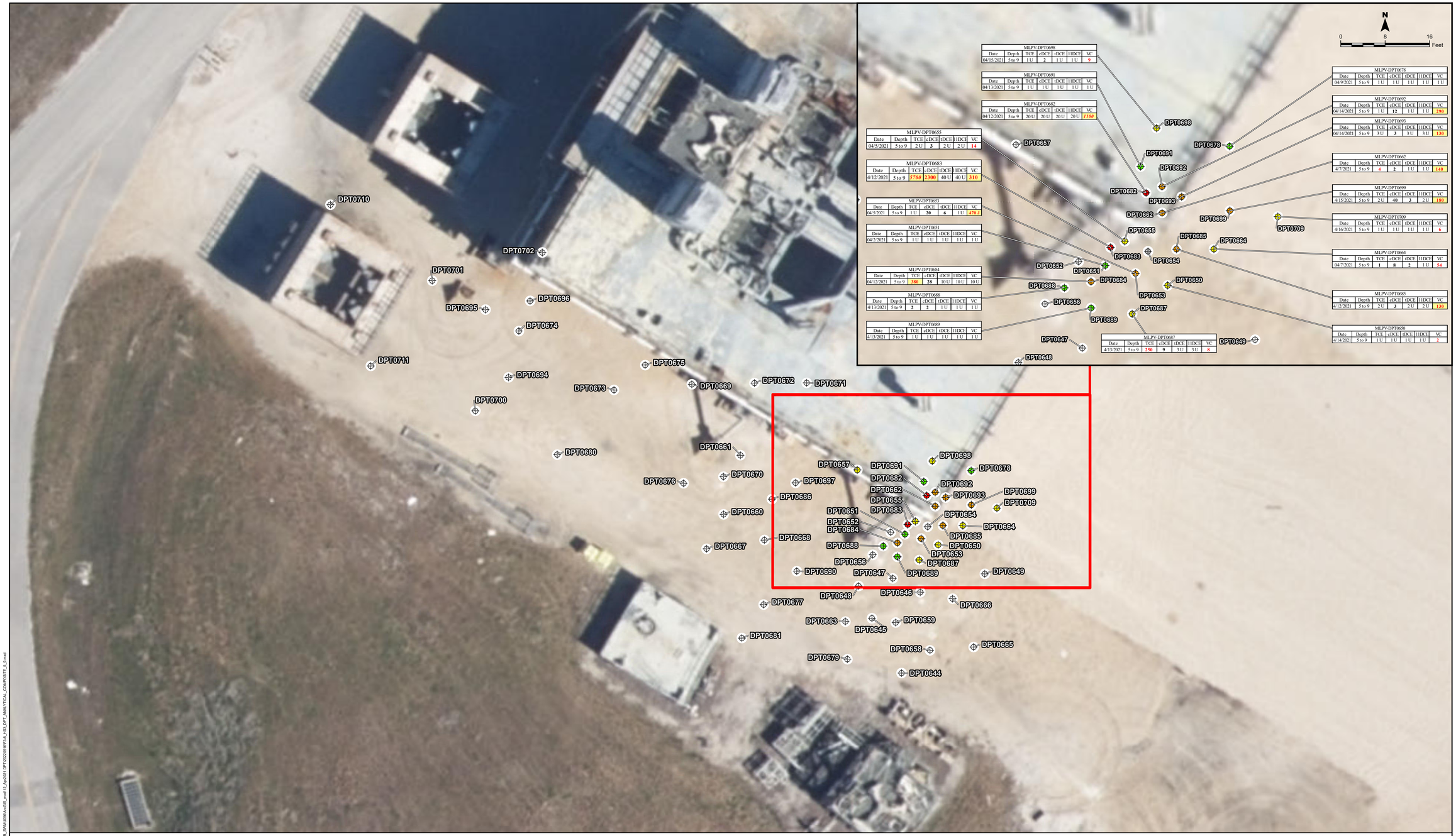


FIGURE 3-7
DPT Groundwater Sampling Results
45 to 50 Feet bls

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



Legend

- DPT sampling location

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

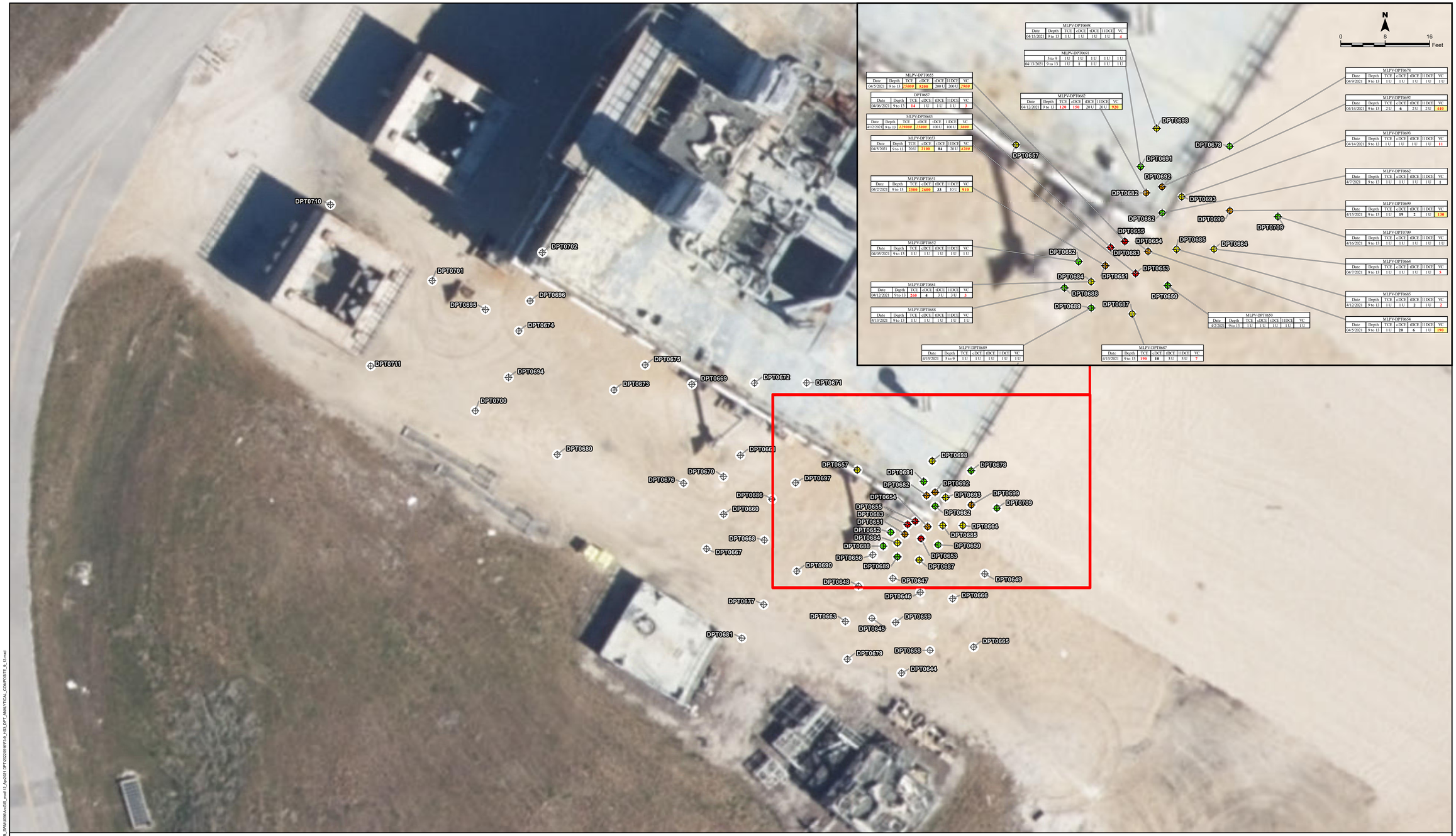
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0
15
30
Feet

FIGURE 3-9
DPT Groundwater Analytical Results
5 to 9 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 6/1/2022
Document Path: M:\Gannett\Projects\NASA\KSC\MLPV_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\2022\06\FIG\8_HS3_DPT_ANALYTICAL_COMPOSITE_5_9.mxd



Legend

- DPT sampling location

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
11DCE	cis-1,2-Dichloroethene	7	70
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0 15 30 Feet

FIGURE 3-9
DPT Groundwater Analytical Results
9 to 13 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 6/1/2022
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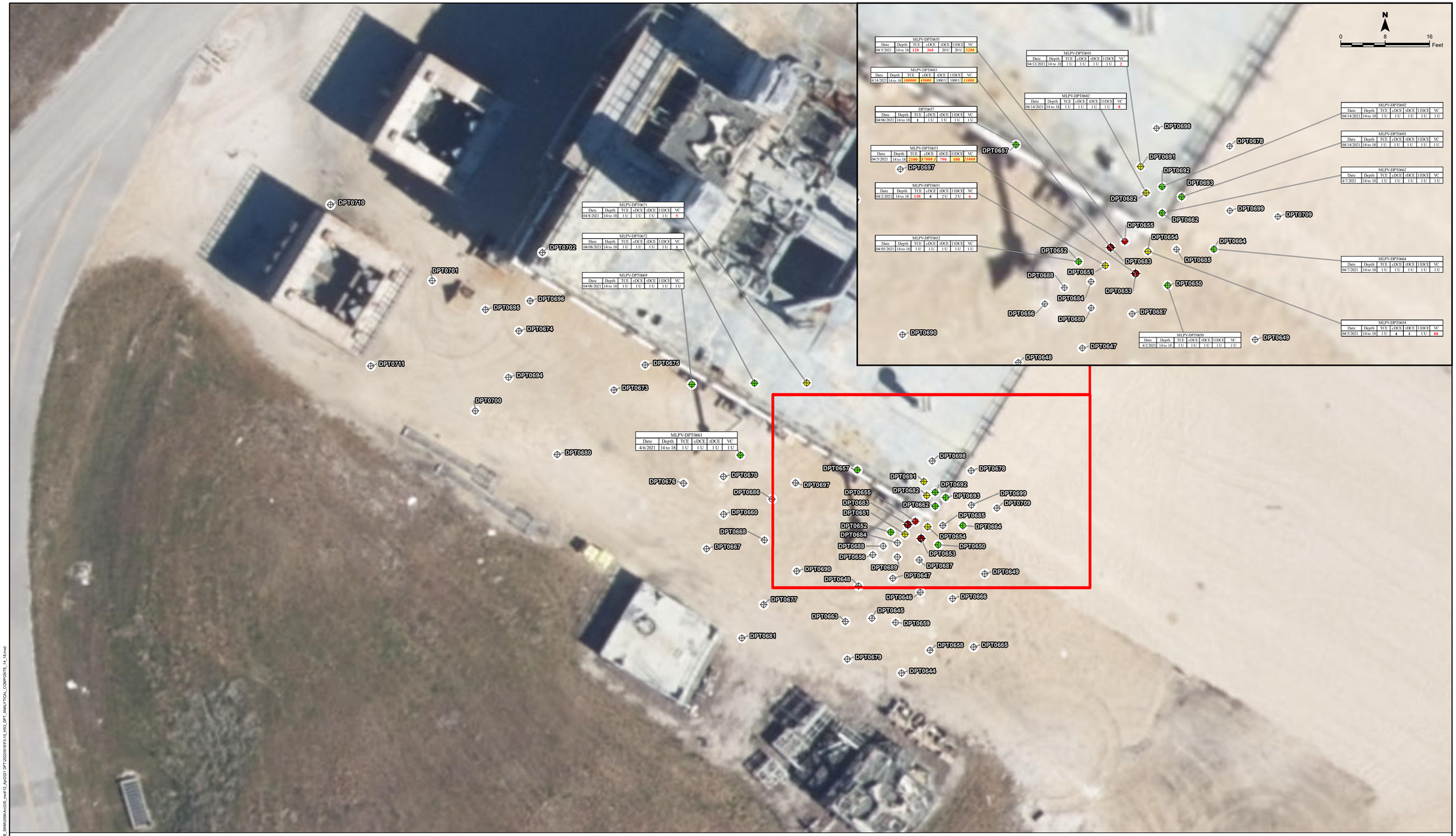

Legend
- DPT sampling location

Symbology Color Coding
- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- J = Estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
11DCE	cis-1,2-Dichloroethene	7	70
tDCE	trans-Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0 15 30 Feet

FIGURE 3-10
DPT Groundwater Analytical Results
14 to 18 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 6/1/2022
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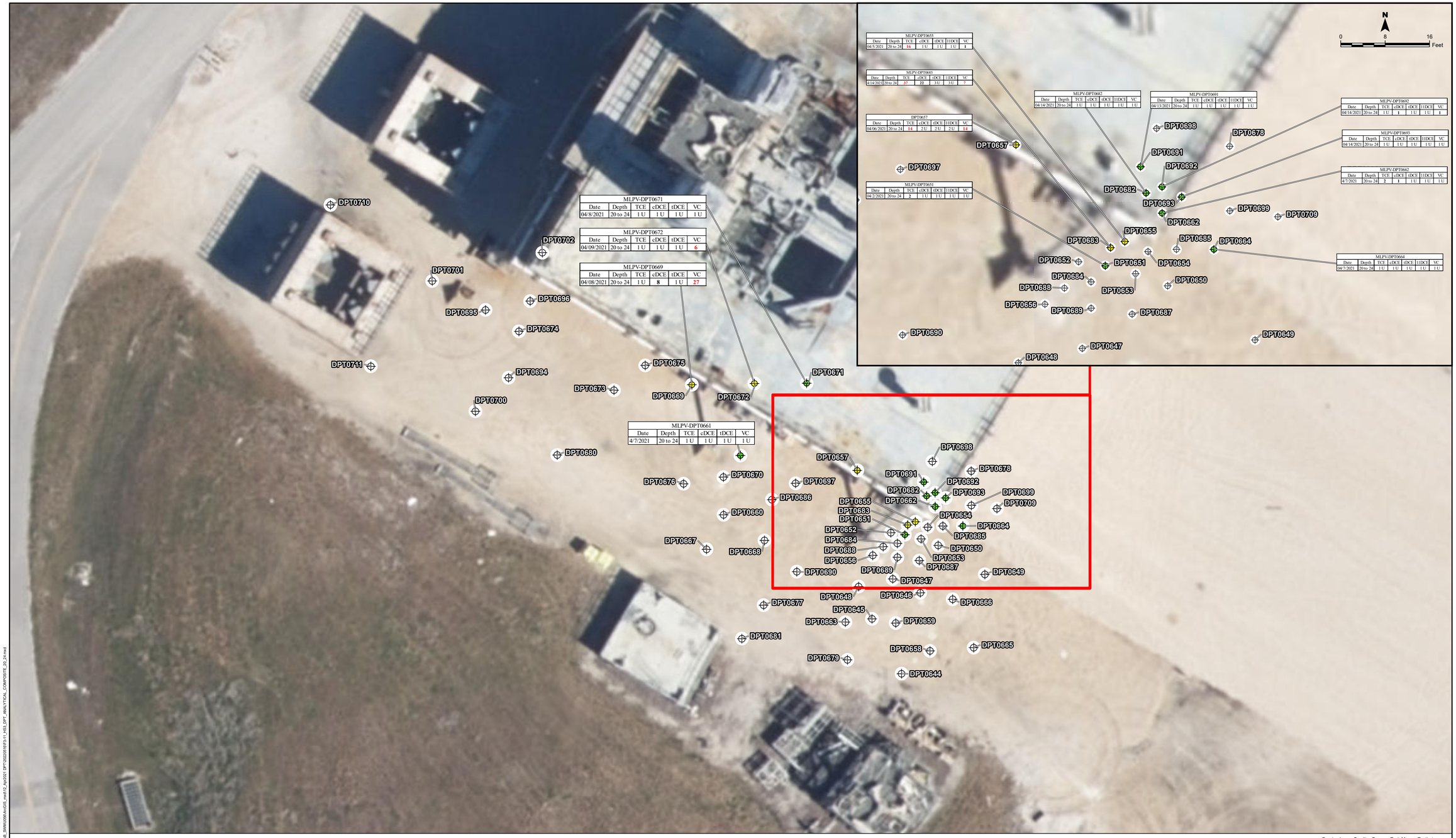


Legend
- DPT sampling location

Symbology Color Coding
- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red Italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
11DCE	cis-1,2-Dichloroethene	7	70
tDCE	trans-1Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

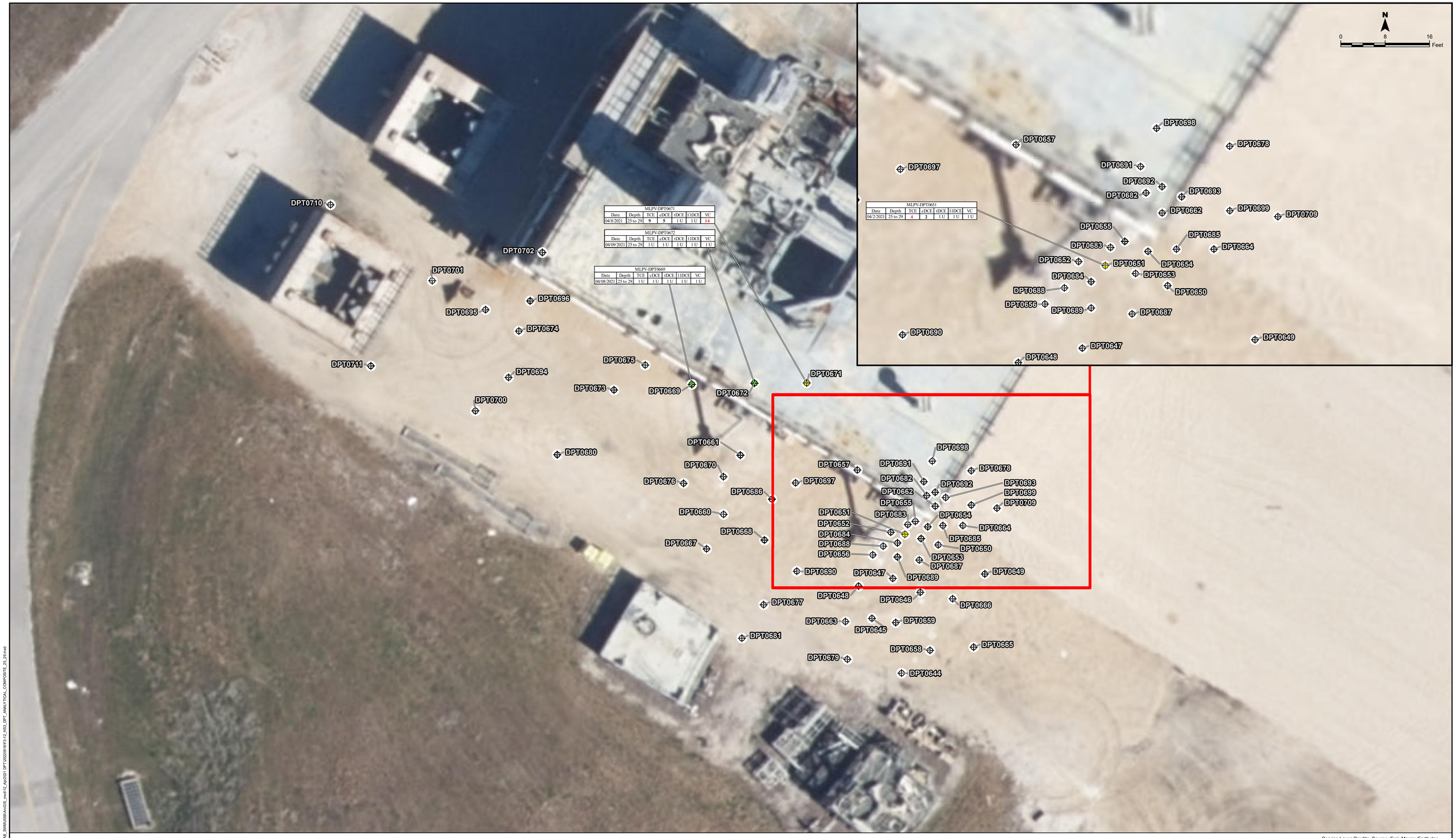
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0 15 30 Feet

FIGURE 3-11
DPT Groundwater Analytical Results
20 to 24 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 6/1/2022
Document Path: M:\Gnproview\Projects\NASA\KSC\MLP\V_\AB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\20220616\F3-11_HS3_DPT_ANALYTICAL_COMPOSITE_20_24.mxd



Legend

- DPT sampling location

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- ***Highlighted Red bold font*** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
tDCE	cis-1,2-Dichloroethene	7	70
tDCE	trans-1Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

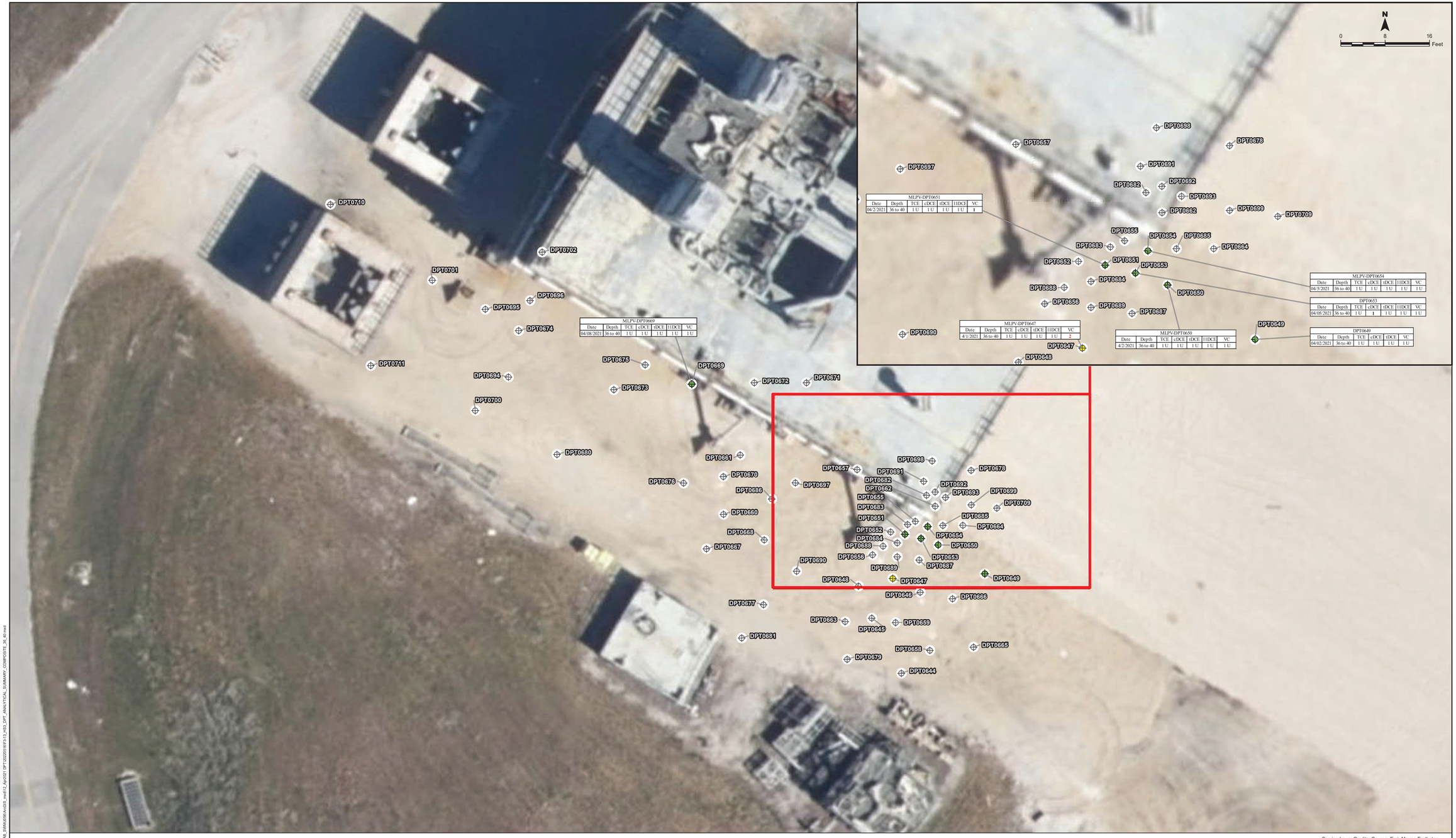
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0 15 30 Feet

FIGURE 3-12
DPT Groundwater Analytical Results
25 to 29 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 6/1/2022
Document Path: M:\Gannett\Projects\NASA\KSC\MLPV_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\2022\06\FIG-3-12_HS3_DPT_ANALYTICAL_COMPOSITE_25_29.mxd



Legend

- DPT sampling location
- 1 µg/L VC isopleth (dashed where inferred)
- 100 µg/L VC isopleth (dashed where inferred)
- 1,000 µg/L VC isopleth

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
11DCE	cis-1,2-Dichloroethene	7	70
tDCE	trans-Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

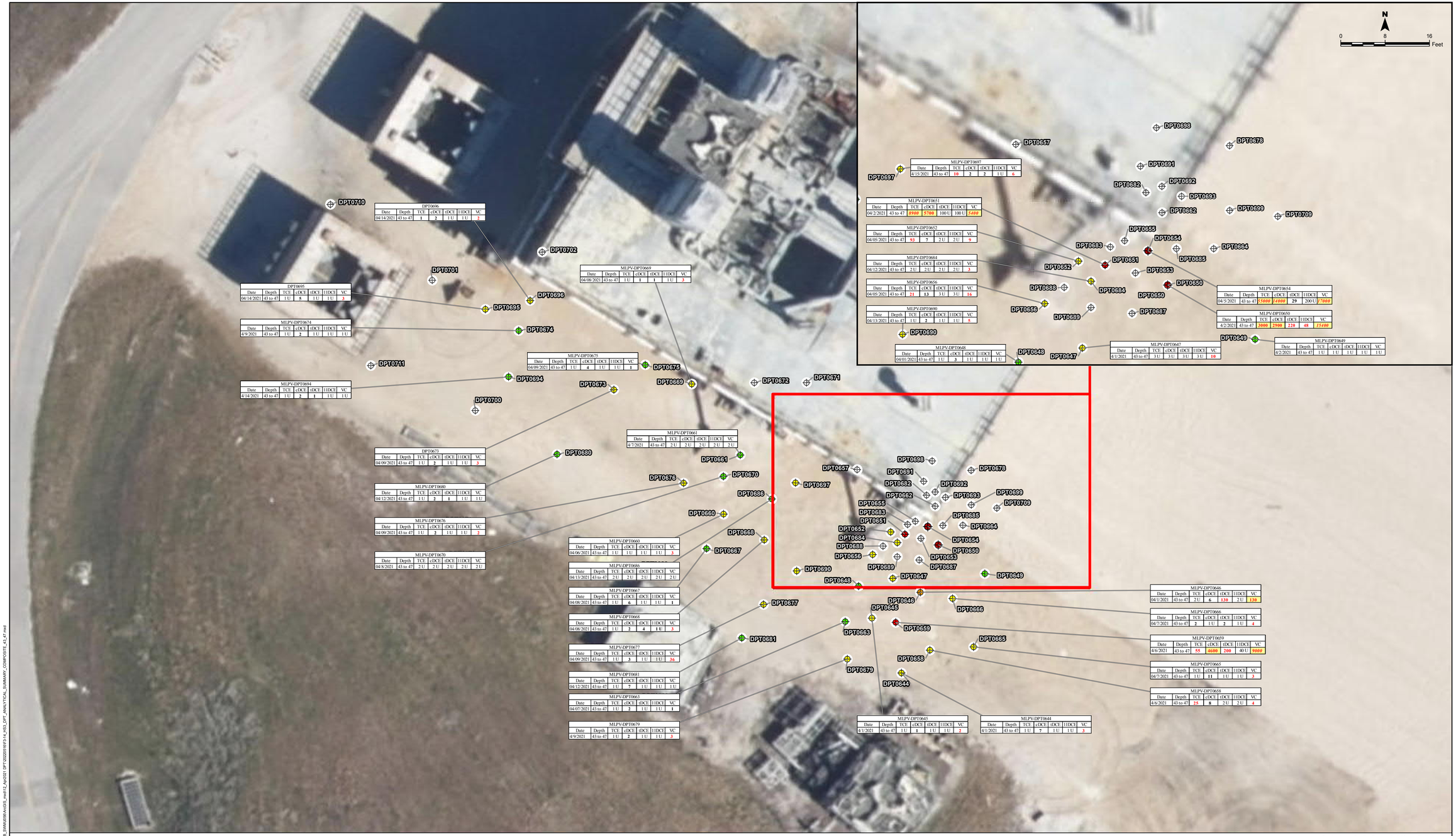
Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0
15
30
Feet

FIGURE 3-13
DPT Groundwater Analytical Results
36 to 40 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 5/5/2022
Document Path: M:\Georgeo\Projects\NASA\KSC\MLP\V_VAB_SWMU056\ArcGIS_mxd\12_Apr2021 DPT\2022051605\F3-13_HS3_DPT_ANALYTICAL_SUMMARY_COMPOSITE_36_40.mxd



DPT0696

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/14/2021	43 to 47	1	2	1 U	1 U	2

DPT0695

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/14/2021	43 to 47	1 U	5	1 U	1 U	3

MLPV-DPT0674

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/9/2021	43 to 47	1 U	2	1 U	1 U	1 U

MLPV-DPT0694

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/14/2021	43 to 47	1 U	2	1	1 U	1 U

MLPV-DPT0669

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/08/2021	43 to 47	1 U	1	1	1 U	3

MLPV-DPT0675

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/09/2021	43 to 47	1 U	4	1 U	1 U	1

DPT0673

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/09/2021	43 to 47	1 U	2	1 U	1 U	3

MLPV-DPT0680

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/12/2021	43 to 47	1 U	2	1	1 U	1 U

MLPV-DPT0676

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/09/2021	43 to 47	1 U	2	1 U	1 U	2

MLPV-DPT0670

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/8/2021	43 to 47	2 U	2 U	2 U	2 U	2 U

MLPV-DPT0661

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/7/2021	43 to 47	2 U	2 U	2 U	2 U	2 U

MLPV-DPT0660

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/06/2021	43 to 47	1 U	1 U	1 U	1 U	3

MLPV-DPT0686

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/13/2021	43 to 47	2 U	2 U	2 U	2 U	2 U

MLPV-DPT0667

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/08/2021	43 to 47	1 U	6	1 U	1 U	1

MLPV-DPT0668

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/08/2021	43 to 47	1 U	2	4	1 U	3

MLPV-DPT0677

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/09/2021	43 to 47	1 U	3	1 U	1 U	36

MLPV-DPT0681

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/12/2021	43 to 47	1 U	7	1 U	1 U	1 U

MLPV-DPT0663

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/07/2021	43 to 47	1 U	2	1 U	1 U	1

MLPV-DPT0679

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/9/2021	43 to 47	1 U	2	1 U	1 U	3

MLPV-DPT0697

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/15/2021	43 to 47	10	2	2	1 U	6

MLPV-DPT0651

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/2/2021	43 to 47	8900	5700	100 U	100 U	5400

MLPV-DPT0652

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/05/2021	43 to 47	93	7	2 U	2 U	9

MLPV-DPT0684

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/12/2021	43 to 47	2 U	2 U	2 U	2 U	3

MLPV-DPT0656

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/05/2021	43 to 47	21	13	3 U	3 U	16

MLPV-DPT0690

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/13/2021	43 to 47	1 U	2	1 U	1 U	5

MLPV-DPT0648

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/01/2021	43 to 47	1 U	3	1 U	1 U	1 U

MLPV-DPT0647

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/1/2021	43 to 47	3 U	3 U	3 U	3 U	10

MLPV-DPT0654

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/5/2021	43 to 47	55000	14000	29	200 U	17000

MLPV-DPT0650

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/2/2021	43 to 47	3000	2900	220	48	15400

MLPV-DPT0649

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/2/2021	43 to 47	1 U	1 U	1 U	1 U	1 U

MLPV-DPT0645

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/1/2021	43 to 47	1 U	1	1 U	1 U	2

MLPV-DPT0644

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/1/2021	43 to 47	1 U	7	1 U	1 U	3

MLPV-DPT0646

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/1/2021	43 to 47	2 U	6	120	2 U	130

MLPV-DPT0666

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/7/2021	43 to 47	2	1 U	2	1 U	4

MLPV-DPT0650

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/6/2021	43 to 47	55	4600	200	40 U	9000

MLPV-DPT0665

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
04/7/2021	43 to 47	1 U	11	1 U	1 U	3

MLPV-DPT0658

Date	Depth	TCE	cDCE	tDCE	11DCE	VC
4/6/2021	43 to 47	25	8	2 U	2 U	4

Legend

- DPT sampling location

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs
- Sample not collected at this interval

Notes:
- **Bold** indicates a detected value
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- Concentrations are in micrograms per Liter (µg/L)
- U = The analyte was undetected
- I = The analyte was detected but below the reporting limit; therefore, an estimated value
- bls = Below land surface
- DPT = Direct push technology
- 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.
- MLP/VAB = Mobile Launch Platform Rehabilitation Sites/Vehicle Assembly Building
- Aerial Source: FDOT 2018

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	1,1-Dichloroethene	70	700
11DCE	cis-1,2-Dichloroethene	7	70
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Service Layer Credits: Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

N
0
15
30
Feet

FIGURE 3-14
DPT Groundwater Analytical Results
43 to 47 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Date Saved: 5/26/2022
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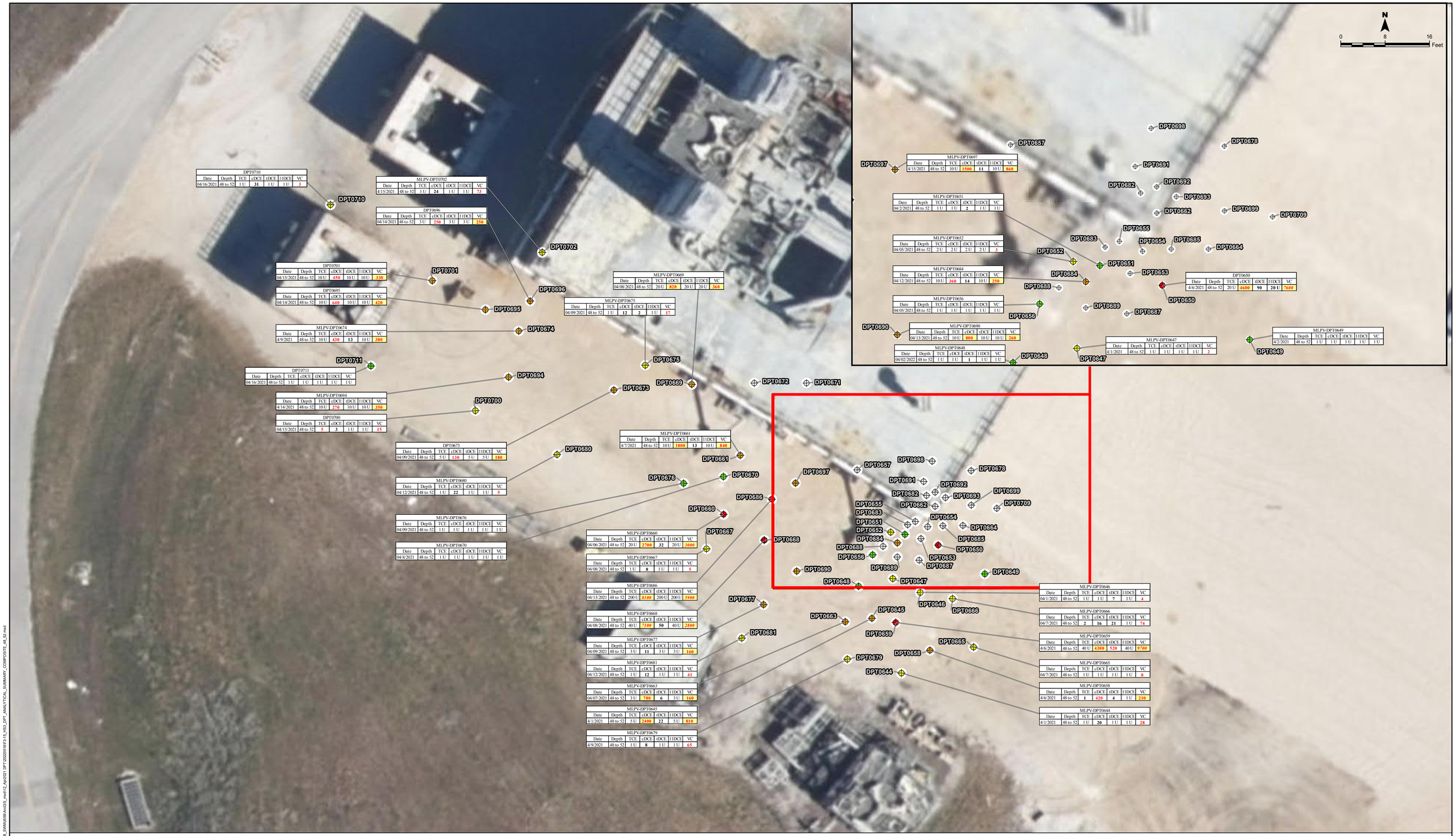
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0
8
16
Feet
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DPT0702
DPT0701
DPT0704
DPT0695
DPT0686
DPT0674
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DPT0894
DPT0694
DPT0709
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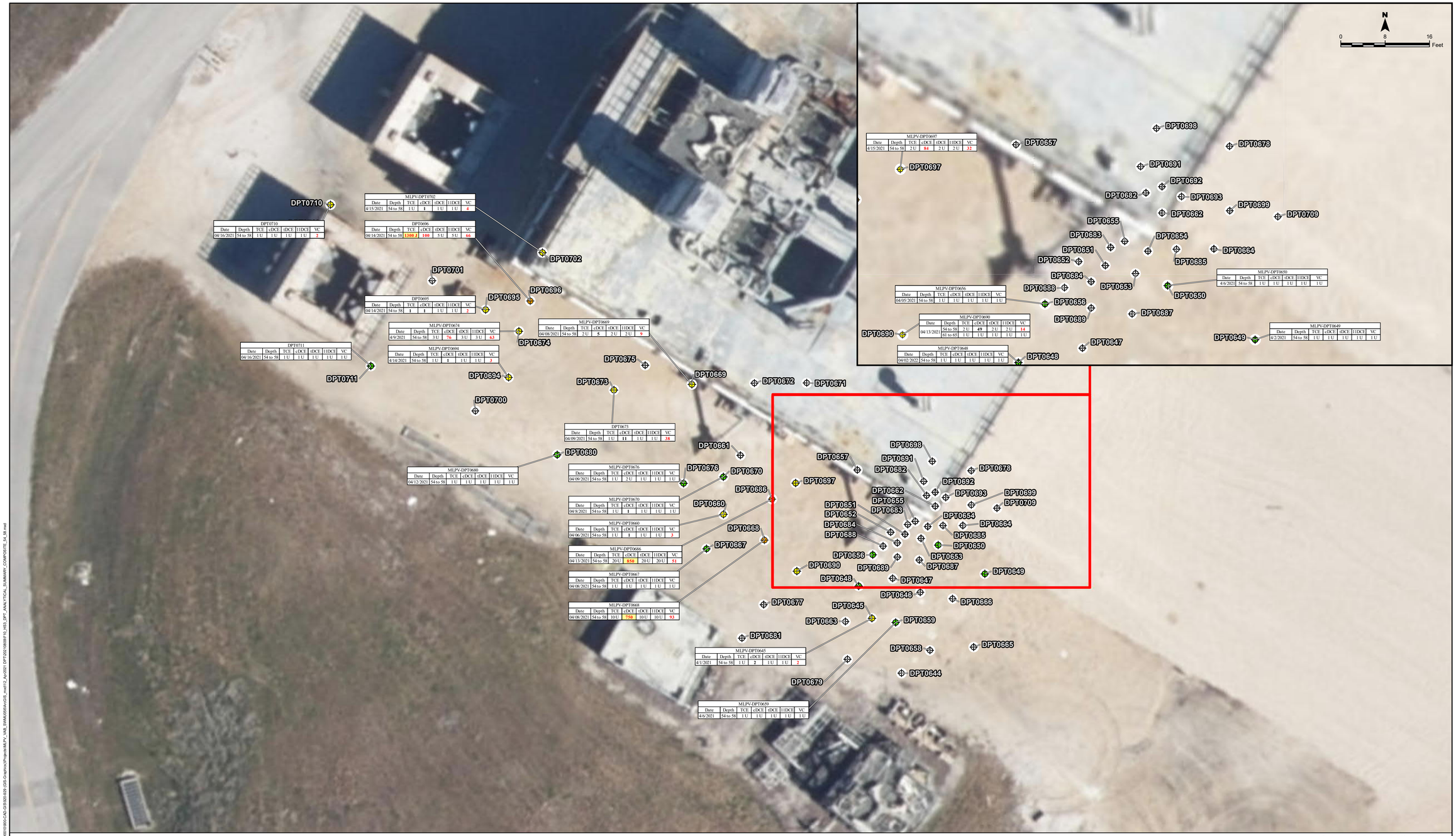

FIGURE 3-16
DPT Groundwater Analytical Results
54 to 58 Feet bls

Hot Spot 3
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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4. PERFORMANCE AND INTERIM GROUNDWATER MONITORING ACTIVITIES AND RESULTS

From March 15 through 17, 2021 and September 13 through 15, 2021, semi-annual groundwater sampling was performed at the Biosparge Area and Former Hot Spot 2 (Air Sparge Area). The Hot Spot 3 (OFW) annual groundwater sampling was performed in September 2021. Additionally, a dry season sitewide groundwater gauging event was performed in March 2021. Following water level gauging prior to each sampling event, monitoring well purging and sampling activities were conducted in general accordance with FDEP Standard Operating Procedures (SOPs) (FDEP 2005), the KSC Sampling and Analysis Plan (NASA 2017b), and the FDEP Petroleum Storage Systems Petroleum Cleanup Program SOPs (FDEP 2018), where applicable.

During monitoring well purging, the following geochemical parameters were recorded at regular intervals: pH, temperature, DO, conductivity, oxidation reduction potential, salinity, and turbidity. Groundwater samples were submitted to two fixed-based laboratories, SGS North America, Inc. (SGS) and Environmental Conservation Laboratories, Inc. (ENCO), for analysis under chain-of-custody protocol. SGS and ENCO are certified within the state of Florida under the National Environmental Laboratory Accreditation Program. Investigation derived waste from field activities included purge water, which was contained in properly labeled 55-gallon drums. The drums were stored on NASA-provided spill pallets and secured with cargo straps to be properly disposed of by NASA at a later date.

Field notes are provided in **Appendix G**. Groundwater sampling logs are provided in **Appendix H**. Groundwater elevation data are provided in **Table 4-1**. Groundwater analytical results are summarized in **Table 4-2** through **Table 4-4**, and geochemical results are summarized in **Table 4-5** through **Table 4-7**. Laboratory analytical reports are provided in **Appendix I**. Data were uploaded to KSC's Remediation Information System (RIS) upon receipt. RIS completion tickets are provided in **Appendix J**.

4.1 GROUNDWATER ELEVATION AND FLOW DIRECTION

Depth to groundwater measurements were collected from accessible monitoring wells prior to sampling events and during a dry-season sitewide groundwater gauging event that was performed on March 18, 2021. Groundwater level measurements from the top of casing and groundwater elevations calculated as feet relative to the National American Vertical Datum of 1988 are summarized in **Table 4-1**. Dry-season groundwater contour maps depicting groundwater flow directions at each sampling interval are provided as **Figure 4-1** for the 2 feet to 20 feet bls sampling interval, **Figure 4-2** for the 20 feet to 45 feet bls sampling interval, and **Figure 4-3** for depths below 45 feet bls.

Groundwater contour maps for the shallow interval indicate a radial groundwater flow to the north and northwest with a southeasterly flow in the Press Site (PRES) area wells located in the southern half of the SWMU. Groundwater flow in both the intermediate and deep intervals indicates a radial flow to the north and northeast in the northern half of the SWMU and similar southeasterly flow as observed in the shallower interval the southern half of the SWMU. Water level measurement logs are provided in **Appendix K**. The next sitewide water gauging event will be performed during the wet season of 2022.

4.2 FORMER HOT SPOT 2 (AIR SPARGE) INTERIM GROUNDWATER MONITORING

The annual sampling plan for Former Hot Spot 2 includes 17 monitoring wells (MLPV-IW0011I, MLPV-IW0032, MLPV-IW0033, MLPV-IW0034, MLPV-IW0035, MLPV-IW0036, MLPV-IW0037, MLPV-IW0038, MLPV-IW0039, MLPV-IW0040, MLPV-IW0041, MLPV-IW0042, MLPV-IW0043, MLPV-IW0044, MLPV-IW0045, MLPV-SAMW004D, and MLPV-SAMW0041). The complete monitoring well network was sampled during the annual sampling event performed on March 15 through 17, 2021. Samples were analyzed for a reduced analyte list for cDCE, tDCE, and VC using USEPA Method 8260B by a fixed-base laboratory.

The semi-annual sampling plan for Former Hot Spot 2 includes 13 monitoring wells (MLPV-IW0011I, MLPV-IW0033, MLPV-IW0034, MLPV-IW0035, MLPV-IW0036, MLPV-IW0037, MLPV-IW0039, MLPV-IW0041, MLPV-IW0043, MLPV-IW0044, MLPV-IW0045, MLPV-SAMW004D, and MLPV-SAMW0041). Eight monitoring wells were sampled during the semi-annual sampling event performed September 13 through 15, 2021. Due to construction activities in the area at the time of sampling, four monitoring wells (MLPV-IW0033, MLPV-IW0035, MLPV-IW0044, and MLPV-IW0045) could not be accessed and one monitoring well (MLPV-IW0043) was submerged under rainwater. Samples were analyzed for cDCE, tDCE, and VC by USEPA Method 8260 by a fixed-base laboratory. Analytical results are summarized by depth interval in the subsequent sections. Groundwater analytical results for Former Hot Spot 2 are summarized in **Table 4-2** and illustrated on **Figure 4-4**. Trend charts are provided in **Appendix L**.

4.2.1 30 feet to 40 feet bls Sampling Interval Results

March 2021 laboratory analytical results indicated CVOC concentrations were less than GCTLs or laboratory detection limits in all (seven) monitoring wells (MLPV-IW0011I, MLPV-IW0032, MLPV-IW0034, MLPV-IW0038, MLPV-IW0040, MLPV-IW0042, and MLPV-SAMW0004I) with the exception of VC. Exceedances were as follows:

- **GCTL**: VC in MLPV-IW0032 (1.6 µg/L), MLPV-IW0038 (2.3 µg/L), and MLPV-SAMW0004I (19.4 µg/L). VC concentrations in MLPV-IW0032 and MLPV-IW0038 had historically been below its GCTL or not detected.
- **NADC**: No exceedances

September 2021 laboratory analytical results from three accessible monitoring wells indicated similar results as March 2021. CVOC concentrations were not detected in monitoring wells MLPV-IW0011I and MLPV-IW0034. VC concentrations exceeded the GCTL in monitoring well MLPV-SAMW0004I (15.5 µg/L), previously 19.4 µg/L. Monitoring wells MLPV-IW0032, MLPV-IW0040, and MLPV-IW0042 were inaccessible.

4.2.2 40 feet to 50 feet bls Sampling Interval Results

March 2021 laboratory analytical results indicate concentrations of tDCE were less than its GCTL or detection limits in all (10) sampled monitoring wells (MLPV-IW0033, MLPV-IW0035, MLPV-IW0036, MLPV-IW0037, MLPV-IW0039, MLPV-IW0041, MLPV-IW0043, MLPV-IW0044, MLPV-IW0045, and MLPV-SAMW0004D). Concentrations of cDCE were below its GCTL in monitoring wells MLPV-IW0033, MLPV-IW0035, MLPV-IW0036, MLPV-IW0044, and MLPV-SAMW0004D. cDCE and VC exceedances were as follows:

- **GCTL**: cDCE in MLPV-IW0037 (138 µg/L), MLPV-IW0039 (161 µg/L), MLPV-IW0041 (113 µg/L), MLPV-IW0043 (249 µg/L), and MLPV-IW0045 (75.8 µg/L) at increased concentrations from the previous year; VC in MLPV-IW0036 (24.9 µg/L) and MLPV-SAMW0004D (14.6 µg/L) also at increased concentrations from the previous year.
- **NADC**: VC in remaining monitoring wells MLPV-IW0033 (471 µg/L), MLPV-IW0035 (124 µg/L), MLPV-IW0037 (269 µg/L), MLPV-IW0039 (236 µg/L), MLPV-IW0041 (259 µg/L), MLPV-IW0043 (180 µg/L), MLPV-IW0044 (249 µg/L), and MLPV-IW0045 (295 µg/L) at levels consistent with the previous year.

September 2021 laboratory analytical results from accessible monitoring wells indicate concentrations of tDCE remained less than GCTL in sampled wells. Concentrations of cDCE were less than its GCTL in monitoring wells MLPV-IW0036, MLPV-IW0037, MLPV-IW0041, and MLPV-SAMW0004D. Monitoring wells MLPV-IW0033, MLPV-IW0035, MLPV-IW0044, MLPV-IW0045, and MLPV-IW0043 were inaccessible. cDCE and VC exceedances were as follows:

- **GCTL**: cDCE in MLPV-IW0039 (76.9 µg/L) exhibiting an overall reduction since 2019; VC in MLPV-IW0036 (32.3 µg/L), MLPV-IW0037 (99.3 µg/L), and MLPV-SAMW0004D (5.0 µg/L). VC concentrations in MLPV-IW0037 are the lowest (below NADCs) for the first time in the last 8 years. Remaining monitoring wells at this interval were not accessible.
- **NADC**: VC in MLPV-IW0039 (191 µg/L) and MLPV-IW0041 (146 µg/L). Remaining monitoring wells at this interval were not accessible.

4.2.3 Summary of Centerline Results

Eight monitoring wells (MLPV-IW0032, MLPV-IW0033, and MLPV-IW0038 through MLPV-IW0043) are located within the centerline of the Former Hot Spot 2 area plume and centerline of the air sparge treatment well layout. These wells are sampled to monitor air sparge system

performance when in operation and residual impacts when shut down. Centerline analytical results indicate the following:

- **30 feet to 40 feet bls**: CVOC concentrations were less than GCTL or not detected, except for VC in MLPV-IW0032 and MLPV-IW0038. Based on visual trend evaluation, CVOC concentrations at this interval are steady or increasing, however a complete analysis was limited due to limited access to monitoring wells. Monitoring wells MLPV-IW0032, MLPV-IW0040, and MLPV-IW0042 were not accessible in September 2021.
- **40 feet to 50 feet bls**: CVOC concentrations were below GCTLs or not detected, except for cDCE and VC. Concentrations of cDCE exceeded its GCTL in MLPV-IW0039, MLPV-IW0041, and MLPV-IW0043. VC exceeded its NADC in each well (MLPV-IW0033, MLPV-IW0039, MLPV-IW0041, and MLPV-IW0043). A review of concentration trends in this interval shows CVOC concentrations have decreased since sampling began but have an increasing trend since the system was shut down in 2018. Monitoring wells MLPV-IW0033 and MLPV-IW0043 were not accessible in September 2021.

4.2.4 Summary of Perimeter Results

Nine monitoring wells, MLPV-SAMW0004D, MLPV-SAMW0004I, MLPV-IW0011I, MLPV-IW0034 through MLPV-IW0037, MLPV-IW0044, and MLPV-IW0045, are designated perimeter wells located on the periphery of the air sparge system. These wells are sampled to monitor contamination migration and plume extent outside of the treatment area. Perimeter analytical results indicate the following:

- **30 feet to 40 feet bls**: Includes two monitoring wells MLPV-SAMW0004I and MLPV-IW0011I. CVOC concentrations were less than GCTLs or not detected, except for VC in MLPV-SAMW0004I. Results are consistent with previous years.
- **40 feet to 50 feet bls**: Includes seven monitoring wells (MLPV-SAMW0004D, MLPV-IW0034 through MLPV-IW0037, MLPV-IW0044, and MLPV-IW0045). CVOC concentrations were less than GCTLs or not detected, except for VC above its GCTL in MLPV-SAMW0004D, MLPV-IW0036, and MLPV-IW0037 (September 2021), and above its NADC in MLPV-IW0035, MLPV-IW0037 (March 2021), MLPV-IW0044, and MLPV-IW0045. Additionally, concentrations of cDCE exceeded its GCTL in MLPV-IW0045 and MLPV-IW0047 (March 2021). Results exhibit fluctuation within the reporting period. A comprehensive trend analysis was limited due to minimal access to monitoring wells.

4.3 BIOSPARGE AREA PERFORMANCE MONITORING

Semi-annual performance monitoring for the biosparge system includes a network of 15 monitoring wells (MLPV-IW0006IR, MLPV-IW0028I, MLPV-IW0031, MLPV-IW0046, MLPV-IW0057, MLPV-IW0058, MLPV-IW0059, MLPV-IW0060, MLPV-ASMW0004, MLPV-ASMW0005, MLPV-ASMW0006, MLPV-IW0061, MLPV-IW0062, MLPV-IW0063, and MLPV-IW0064). Monitoring wells were sampled in March and September 2021 for analysis

of select CVOCs (TCE, cDCE, tDCE, and VC) using USEPA Method 8260B by a fixed-base laboratory.

Based on analytical results from September 2021, supplemental sampling was performed on November 17, 2021, from monitoring wells MLPV-ASMW0004, MLPV-IW0063, and MLPV-IW0064 to confirm NADC exceedances of VC. The biosparge system had been shut down for 11 months at the time of this sampling event.

Analytical results are summarized in the following sections by depth for the biosparge system area. When a monitoring well screen intersects multiple referenced sampling intervals, results from the monitoring well are discussed with the interval in which a majority of the screen resides. Groundwater analytical results for the biosparge system area are summarized in **Table 4-3** and illustrated on **Figure 4-5**. Trend charts are provided in **Appendix L**.

4.3.1 25 feet to 35 feet bls Sampling Interval Results

Three monitoring wells, MLPV-IW006IR, MLPV-IW0028I, and MLPV-IW0031, were evaluated from this interval. The March 2021 laboratory analytical results indicate CVOC concentrations decreased to less than GCTL in downgradient well MLPV-IW0028I and MLPV-IW0031. VC concentrations increased to above the GCTL in MLPV-IW0006IR (3.7 µg/L), located between the biosparge barriers.

The September 2021 laboratory analytical results indicate concentrations of VC in MLPV-IW0028I and MLPV-IW0031 increased to greater than GCTL, at 2.3 µg/L and 3.4 µg/L, respectively. The VC concentration in MLPV-IW0006IR (1.8 µg/L) remained above its GCTL. The remaining concentrations of cDCE, tDCE, and TCE remained below their respective GCTLs in MLPV-IW0028I, MLPV-IW0031 and MLPV-IW0006IR.

4.3.2 35 feet to 40 feet bls Sampling Interval Results

Six monitoring wells, MLPV-ASMW0004, MLPV-ASMW0005, MLPV-ASMW0006, MLPV-IW0046, MLPV-IW0061, and MLPV-IW0063 were evaluated from this interval. The March 2021 laboratory analytical results indicate CVOC concentrations (VC, cDCE, tDCE, and TCE) were less than their respective GCTLs in each well, with the exception of VC concentrations in upgradient well MLPV-IW0061 and MLPV-IW0046 located northwest of the barrier. Exceedances were as follows:

- **GCTL**: VC in MLPV-IW0061 (15.7 µg/L) and MLPV-IW0046 (13.0 µg/L)
- **NADC**: No exceedances

The September 2021 laboratory analytical results show CVOC concentrations (VC, cDCE, tDCE, and TCE) are less than their respective GCTLs in each well with the exception of VC concentrations in wells MLPV-IW0046, MLPV-IW0061, MLPV-IW0063, MLPV-ASMW0004, and MLPV-ASMW0005. Exceedances were as follows:

- **GCTL**: VC in MLPV-ASMW0005 (3.0 µg/L), MLPV-IW0046 (10.0 µg/L), and MLPV-IW0061 (13.0 µg/L).
- **NADC**: VC in MLPV-IW0063 (185 µg/L) and MLPV-ASMW0004 (926 µg/L), which historically have concentrations below its GCTL or not detected. These wells were resampled on November 17, 2021, and concentrations were confirmed in both wells at 190 µg/L and 500 µg/L, respectively.

4.3.3 40 feet to 50 feet bls Sampling Interval Results

Six monitoring wells, MLPV-IW0057, MLPV-IW0058, MLPV-IW0059, MLPV-IW0060, MLPV-IW0062, and MLPV-IW0064, were evaluated from this interval. The March 2021 laboratory analytical results show VC concentrations are above its GCTL in all sampled wells with the exception of well MLPV-IW0060. TCE, cDCE, and tDCE were less than their GCTLs or less than laboratory detection limits in each well at this interval. Exceedances were as follows:

- **GCTL**: VC in MLPV-IW0059 (46.1 µg/L) and MLPV-IW0064 (5.0 µg/L).
- **NADC**: VC in MLPV-IW0057 (806 µg/L), MLPV-IW0058 (107 µg/L), and MLPV-IW0062 (430 µg/L).

The September 2021 laboratory analytical results remained consistent with the March 2021 sampling event with the exception of VC concentrations in downgradient well MLPV-IW0064, which increased above NADC for the first time since sampled in 2016. Exceedances were as follows:

- **GCTL**: VC in MLPV-IW0059 (4.4 µg/L).
- **NADC**: VC in MLPV-IW0057 (457 µg/L), MLPV-IW0058 (101 µg/L), MLPV-IW0062 (240 µg/L), and MLPV-IW0064 (235 µg/L). Monitoring well MLPV-IW0064 was resampled on November 17, 2021, and results confirmed the NADC exceedance at 380 µg/L.

4.3.4 Biosparge Barrier Overall Results

Monitoring wells upgradient of the biosparge barrier, MLPV-IW0057 through MLPV-IW0059, were sampled for evaluating the potential collapse of the cDCE and VC plumes migrating from the Former Hot Spot 2 area. Results from these wells indicate an overall reduction of CVOC concentrations in MLPV-IW0057 and MLPV-IW0059, specifically VC concentrations. MLPV-IW0057 VC concentrations decreased to 457 µg/L from 935 µg/L in the previous year, which remains greater than its NADC, and MLPV-IW0059 decreased to 4.4 µg/L from 39.8 µg/L in the previous year, which remains greater than its GCTL. VC concentrations in MLPV-IW0058 increased to above its NADC for the first time since March 2019. Data from this monitoring well (MLPV-IW0058) corresponded with the DPT groundwater samples collected from MLPV-DPT0705, located between the Former Hot Spot 2 area and the biosparge barrier that exhibited VC concentrations above 10xNADC. Other CVOCs cDCE, tDCE, and TCE remained less than GCTLs in each well.

Monitoring wells upgradient of the barrier expansion include MLPV-IW0061 and MLPV-IW0062. CVOC concentrations exhibit the lowest concentrations detected in the past 5 years but remain above the respective GCTL and NADC.

Monitoring wells downgradient of the barrier include MLPV-ASMW0004, MLPV-ASMW0005, MLPV-ASMW0006, MLPV-IW0031, MLPV-IW0060, MLPV-IW0063, and MLPV-IW0064. Concentrations of cDCE, tDCE and TCE remained less than GCTLs or laboratory method detection limits. VC concentrations show an increasing trend since 2020 to above its NADC in MLPV-ASMW0004, MLPV-IW0063, and MLPV-IW0064 by the end of 2021. Additionally, VC concentrations increased to above its GCTL in MLPV-ASMW0005 and MLPV-IW0031. This increase correlates with the timeframe in which the biosparge system was not operating.

Plume maps illustrating the overall footprint of the cDCE and VC plumes in the Former Hot Spot 2 and biosparge areas at each interval are provided on **Figure 4-6** through **Figure 4-9**.

4.4 HOT SPOT 3 (OFW AREA) INTERIM GROUNDWATER MONITORING

On September 15, 2021, the annual network of four monitoring wells, VABRA-MW0011, VABRA-MW0012, VABRA-MW0013, and VABRA-MW0014, were sampled and analyzed for TCE, cDCE, tDCE, and VC using USEPA Method 8260B by a fixed-base laboratory. Analytical results are summarized by depth in the following subsections. Groundwater analytical data are summarized in **Table 4-4** and illustrated on **Figure 4-10**. Trend charts are provided in **Appendix L**.

4.4.1 15 to 25 feet bls Sampling Interval Results

Laboratory analytical results indicate CVOC concentrations were less than GCTLs or not detected in both monitoring wells VABRA-MW0012 and VABRA-MW0013.

4.4.2 25 to 30 feet bls Sampling Interval Results

Laboratory analytical results indicate CVOC contaminants were not detected in both monitoring wells VABRA-MW0011 and VABRA-MW0014.

4.4.3 Hot Spot 3 (OFW) Overall Results

The groundwater analytical results from the 2021 annual sampling results are consistent with the previous year, indicating CVOC concentrations remain less than GCTLs. **Figure 4-10** provides the updated CVOC plume based on the 2021 monitoring well results and the historical 2018 DPT groundwater results that support no GCTL exceedances.

4.5 LCP LTM EVALUATION

Biennial groundwater sampling was last performed in June 2020 and included sampling of four additional wells from the West Crawler Park Site and northeast MLP area to address data gaps

for the overall LCP. Analytical results indicated limited changes in the overall plume footprint since 2018. Based on the 2020 results, KSCRT consensus at the August 2020 KSCRT meeting (Decision Items 2008-D08 through D14) concluded the following:

- Continue biennial sampling with a reduced analyte list (cDCE, tDCE, and VC only). TCE analysis was discontinued since detections had remained below its GCTL for the previous 15 years.
- Add two monitoring wells (MLPV-IW0001D and MLPV-IW0002I) to the LTM sampling plan and transition two monitoring wells (MLPV-IW0028 and MLPV-IW0046) to the semi-annual Biosparge Area monitoring schedule.
- Discontinue passive diffusion bag sampling and proceed with the low-flow sampling method.
- Using the 2020 data set, evaluate the monitoring well network within the LCP to determine whether additional monitoring wells are required in the LTM plan.

In 2021, an assessment of the overall LTM program was initiated. Based on the acreage of the plume, additional monitoring wells were needed, which expanded the sampling plan. Lithology, groundwater flow direction, historical and recent DPT groundwater analytical data, and performance monitoring data were evaluated to determine the location, depth, and quantity of new monitoring wells. The evaluation resulted in a total of 39 new monitoring wells proposed for delineating the extent of the sitewide GCTL plume. Newly installed monitoring wells will have 10-foot screens located within the following intervals: 1 feet to 25 feet bls, 20 feet to 35 feet bls, 35 feet to 45 feet bls, and 40 feet to 57 feet bls. Additionally, 12 existing wells will be added to the LTM program to further monitor plume conditions within each previously mentioned intervals. The monitoring well network rationale and updated biennial sampling plan are provided in **Table 4-8** and **Table 4-9**, respectively. Newly proposed and additional existing monitoring well locations per interval are provided on **Figure 4-11** through **Figure 4-14**. A monitoring well map for all intervals overlaying the current sitewide plumes is illustrated on **Figure 4-15**. A site map illustrating the sitewide LCPs and HCPs is provided on **Figure 4-16**.

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

SHALLOW WELL ID:	MLPV-IW0001S		VABU-IW0004S		OPF3-IW0006S		PRES-IW0001SR		PRES-IW0006S		PRES-IW0007S		PCCA-MW0004		PCCA-MW0007	
Area:	VAB		VAB		VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	2 - 12		3 - 13		10 - 20		6 - 16		3 - 13		1 - 11		5 - 15		5 - 15	
TOC Elevation (feet NAVD88):	4.78		6.52		5.44		7.93		4.04		1.65		7.96		8.22	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	3.63	1.15	4.24	2.28	4.3*	1.14	6.82*	1.11	NM	NM	NM	NM	5.23	2.73	5.56	2.66
09/18-20/2018	5.27	-0.49	4.49	2.03	4.92	0.52	7.18	0.75	4.9	-0.86	NM	NM	5.73	2.23	5.98	2.24
5/11/2020	CNL	CNL	4.54	1.98	5.23	0.21	7.75	0.18	5.52	-1.48	3.17	-1.52	5.96	2.00	6.25	1.97
9/14/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	4.18	0.6	4.30	2.22	4.45	0.99	6.91	1.02	4.60	-0.56	2.16	-0.51	7.27	0.69	5.58	2.64

INTERMEDIATE WELL ID:	MLPV-IW0002I		MLPV-IW0006IR		MLPV-IW0011I		MLPV-IW0009I		MLPV-IW0012I		MLPV-IW0014I		MLPV-IW0017I		MLPV-IW0027I	
Area:	VAB		VAB		Hot Spot 2/VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	28 - 33		28 - 33		35 - 40		28 - 33		35 - 40		35 - 40		35 - 40		28 - 33	
TOC Elevation (feet NAVD88):	5.58		2.87		4.03		5.78		5.41		5.24		5.85		2.08	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	NM	NM	2.15	0.72	2.65	1.38	4.65	1.13	3.9	1.51	3.6	1.64	4.45	1.4	1.5	0.58
09/18-20/2018	NM	NM	3.52	-0.65	3.41	0.62	5.7	0.08	4.94	0.47	4.6	0.64	5.54	0.31	2.63	-0.55
10/30/2019	NM	NM	NM	NM	1.74	2.29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	3.08	0.95	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	CNL	CNL	5.40	-2.53	3.80	0.23	5.91	-0.13	5.21	0.20	4.89	0.35	8.32	-2.47	2.60	-0.52
6/2/2020	NM	NM	NM	NM	NM	NM	4.29	1.49	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	3.45	-0.58	1.28	2.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	CNL	CNL	2.43	0.44	2.85	1.18	5.00	0.78	4.3	1.11	3.96	1.28	4.74	1.11	1.55	0.53
9/13/2021	NM	NM	1.35	1.52	0.92	3.11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

DEEP WELL ID:	MLPV-IW0001D		MLPV-IW0009D		MLPV-IW0012D		MLPV-IW0018D		MLPV-IW0020D		MLPV-IW0022D		MLPV-IW0027D		MLPV-IW0028D	
Area	VAB		VAB		VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	50 - 55		45 - 50		45 - 50		50 - 55		65 - 70		48 - 53		45 - 50		45 - 50	
TOC Elevation (feet NAVD88):	4.51		5.77		5.40		8.78		8.33		8.26		1.99		3.03	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	3.85	0.66	4.61	1.16	3.85	1.55	7.25	1.53	NM	NM	6.48	1.78	1.48	0.51	2.38	0.65
09/18-20/2018	5.09	-0.58	5.58	0.19	4.85	0.55	7.97	0.81	7.48	0.85	7.18	1.08	2.56	-0.57	3.42	-0.39
10/30/2019	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	5.10	-0.59	5.84	-0.07	5.13	0.27	8.32	0.46	CNL	CNL	7.47	0.79	2.45	-0.46	CNL	CNL
6/2/2020	NM	NM	4.27	1.50	3.89	1.51	6.93	1.85	6.29	2.04	NM	NM	NM	NM	NM	NM
9/14/2020	3.05	1.46	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	4.03	0.48	4.95	0.82	4.22	1.18	7.42	1.36	6.63	1.70	6.70	1.56	1.48	0.51	2.59	0.44
9/13/2021	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

SHALLOW WELL ID:	PCCA-MW0008		PCCA-MW0009		PCCA-MW0010		PCCA-MW0011		PCCA-MW0012		PCCA-MW0013		PCCA-MW0014		WCPS-IW0001SR	
Area:	VAB		VAB		VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	5 - 15		5 - 15		5 - 15		5 - 15		5 - 15		5 - 15		5 - 15		2.5 - 12.5	
TOC Elevation (feet NAVD88):	7.22		7.6		7.86		7.59		7.89		6.99		7.25		4.23	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	4.22	3.00	4.72	2.88	4.74	3.12	4.54	3.05	4.73	3.16	3.36	3.53	4.42	2.83	3.02	1.21
09/18-20/2018	4.66	2.56	5.01	2.59	5.2	2.66	4.93	2.66	5.13	2.76	4.11	2.88	4.81	2.44	3.63	0.6
5/11/2020	5.08	2.14	5.19	2.41	5.35	2.51	5.10	2.49	5.35	2.54	4.30	2.69	4.98	2.27	3.85	0.38
9/14/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2.14	2.09
3/18/2021	4.52	2.70	4.61	2.99	4.58	3.28	4.40	3.19	4.63	3.26	4.61	2.38	4.30	2.95	3.33	0.9

INTERMEDIATE WELL ID:	MLPV-IW0028I		MLPV-IW0031		MLPV-IW0032		MLPV-IW0034		MLPV-IW0038		MLPV-IW0040		MLPV-IW0042		MLPV-IW0046	
Area:	VAB		Biosparge Area		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2		VAB	
Screened Interval (feet bls):	28 - 33		25 - 35		30 - 40		30 - 40		30 - 40		30 - 40		30 - 40		35 - 40	
TOC Elevation (feet NAVD88):	2.08		2.61		2.22		4.65		3.84		5.15		3.35		2.7	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	2.06	0.02	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	2.07	0.63
09/18-20/2018	3.12	-1.04	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	3.16	-0.46
10/30/2019	NM	NM	1.50	1.11	0.24	1.98	2.47	2.18	1.77	2.07	2.86	2.29	1.12	2.23	NM	NM
3/17/2020	NM	NM	2.38	0.23	1.47	0.75	3.81	0.84	3.1	0.74	4.28	0.87	2.53	0.82	NM	NM
5/11/2020	CNL	CNL	3.18	-0.57	2.20	0.02	4.56	0.09	3.80	0.04	4.97	0.18	3.22	0.13	3.20	-0.50
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	1.32	1.29	0.00	2.22	2	2.65	1.30	2.54	2.38	2.77	0.68	2.67	NM	NM
3/18/2021	2.29	-0.21	2.20	0.41	1.25	0.97	3.55	1.1	2.82	1.02	3.97	1.18	2.25	1.1	2.25	0.45
9/13/2021	1.28	0.8	1.26	1.35	CNL	CNL	1.58	3.07	0.88	2.96	CNL	CNL	UNDER WATER		1.21	1.49

DEEP WELL ID:	MLPV-IW0029D		MLPV-IW0030		MLPV-IW0033		MLPV-IW0035		MLPV-IW0036		MLPV-IW0037		MLPV-IW0039		MLPV-IW0041	
Area	VAB		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2		Hot Spot 2	
Screened Interval (feet bls):	42 - 47		55 - 65		40 - 50		40 - 50		40 - 45		40 - 50		40 - 50		40 - 50	
TOC Elevation (feet NAVD88):	6.84		ND		2.13		4.66		5.79		3.87		3.76		5.14	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	5.06	1.78	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
09/18-20/2018	5.95	0.89	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/30/2019	NM	NM	NM	NM	0.17	1.96	2.57	2.09	3.40	2.39	1.79	2.08	1.70	2.06	2.79	2.35
3/17/2020	NM	NM	NM	NM	1.34	0.79	3.88	0.78	4.84	0.95	3.1	0.77	2.93	0.83	4.18	0.96
5/11/2020	6.23	0.61	6.27	-	2.10	0.03	4.61	0.05	5.55	0.24	3.81	0.06	3.71	0.05	4.92	0.22
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	0	2.13	2.08	2.58	2.95	2.84	1.32	2.55	1.2	2.56	2.31	2.83
3/18/2021	5.41	1.43	5.41	-	1.21	0.92	3.61	1.05	4.55	1.24	2.88	0.99	2.75	1.01	3.97	1.17
9/13/2021	NM	NM	NM	NM	NM	NM	CNL	CNL	2.61	3.18	0.95	2.92	0.78	2.98	1.44	3.7

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

SHALLOW WELL ID:	WCPS-IW0002SR		WCPS-IW0005S		WCPS-IW0006S		WCPS-IW0009S		WCPS-IW0010S		WCPS-IW0012S		WCPS-IW0013S		WCPS-IW0014S	
Area:	VAB		VAB		VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	2.5 - 12.5		2 - 12		3 - 13		2.5 - 12.5		2.5 - 12.5		2 - 12		2.5 - 12.5		4 - 14	
TOC Elevation (feet NAVD88):	5.39		4.48		4.88		5.3		5.83		4.77		5.79		6.88	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	NM	NM	3.45	1.03	3.81	1.07	4.02	1.28	NM	NM	NM	NM	4.12	1.67	5.36	1.52
09/18-20/2018	NM	NM	4.14	0.34	4.44	0.44	4.7	0.6	5.14	0.69	4.1	0.67	4.73	1.06	6.02	0.86
5/11/2020	CNL	CNL	4.45	0.03	4.75	0.13	5.02	0.28	5.49	0.34	8.94	-4.17	4.99	0.80	6.32	0.56
9/14/2020	NM	NM	2.73	1.75	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	CNL	CNL	3.87	0.61	4.17	0.71	4.39	0.91	4.83	1.00	NM	NM	5.27	0.52	4.35	2.53

INTERMEDIATE WELL ID:	MLPV-IW0047		MLPV-IW0053		MLPV-IW0056		MLPV-IW0061		MLPV-IW0063		MLPV-SAMW0004I		MLPV-SAMW0005I		MLPV-ASMW0001	
Area:	VAB		VAB		VAB		Biosparge Area		Biosparge Area		Hot Spot 2		VAB		Biosparge Area	
Screened Interval (feet bls):	35 - 40		35 - 40		30 - 40		35 - 40		35 - 40		35 - 40		35 - 40		35 - 40	
TOC Elevation (feet NAVD88):	5.87		4.76		7.9		5.78		3.67		ND		ND		5.22	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	4.8	1.07	3.6	1.16	6.09	1.81	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
09/18-20/2018	5.75	0.12	4.63	0.13	6.82	1.08	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/30/2019	NM	NM	NM	NM	NM	NM	4.60	1.18	2.64	1.03	3.14	-	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	NM	NM	5.55	0.23	3.56	0.11	4.6	-	NM	NM	NM	NM
5/11/2020	CNL	CNL	4.86	-0.10	NM	NM	6.36	-0.58	4.34	-0.67	5.27	-	5.55	-	6.51	-1.29
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	NM	NM	4.32	1.46	2.42	1.25	2.7	-	NM	NM	NM	NM
3/18/2021	5.17	0.7	3.99	0.77	6.3	1.6	5.35	0.43	3.32	0.35	4.32	-	4.59	-	5.5	-0.28
9/13/2021	NM	NM	NM	NM	NM	NM	4.20	1.58	CNL	CNL	2.32	NM	NM	NM	NM	NM

DEEP WELL ID:	MLPV-IW0043		MLPV-IW0044		MLPV-IW0045		MLPV-IW0048		MLPV-IW0049		MLPV-IW0050		MLPV-IW0051		MLPV-IW0052	
Area	Hot Spot 2		Hot Spot 2		Hot Spot 2		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	40 - 50		40 - 50		40 - 50		40 - 50		38 - 48		40 - 50		45 - 55		40 - 50	
TOC Elevation (feet NAVD88):	3.33		2.28		3.79		4.23		8.11		7.15		6.12		7.09	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	NM	NM	NM	NM	NM	NM	2.91	1.32	6.25	1.86	5.5	1.65	4.65	1.47	5.38	1.71
09/18-20/2018	NM	NM	NM	NM	NM	NM	3.81	0.42	6.93	1.18	6.11	1.04	5.18	0.94	6.28	0.81
10/30/2019	1.09	2.24	0.42	1.86	1.80	1.99	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/17/2020	2.46	0.87	1.65	0.63	3.00	0.79	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	3.18	0.15	2.36	-0.08	3.78	0.01	4.12	0.11	7.25	0.86	6.50	0.65	5.58	0.54	6.59	0.50
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	0.62	2.71	0	2.28	1.4	2.39	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	2.23	1.1	1.42	0.86	2.85	0.94	3.32	0.91	6.47	1.64	5.71	1.44	4.8	1.32	NM	NM
9/13/2021	UNDER WATER		CNL	CNL	CNL	CNL	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

SHALLOW WELL ID:	WCPS-IW0015S	
Area:	VAB	
Screened Interval (feet bls):	3 - 13	
TOC Elevation (feet NAVD88):	5.63	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	4.9	0.73
09/18-20/2018	5.43	0.2
5/11/2020	5.62	0.01
9/14/2020	4.45	1.18
3/18/2021	5.65	-0.02

INTERMEDIATE WELL ID:	MLPV-ASMW0002		MLPV-ASMW0003		MLPV-ASMW0004		MLPV-ASMW0005		MLPV-ASMW0006		PCCA-MW0015		PCCA-MW0016		PCCA-MW0017	
Area:	Biosparge Area		Biosparge Area		Biosparge Area		Biosparge Area		Biosparge Area		VAB		VAB		VAB	
Screened Interval (feet bls):	35 - 40		35 - 40		35 - 40		35 - 40		35 - 40		15 - 25		15 - 25		15 - 25	
TOC Elevation (feet NAVD88):	5.19		5.24		5.00		5.00		5.00		8.11		7.33		7.59	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	5.55	2.56	4.62	2.71	4.82	2.77
09/18-20/2018	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	6.03	2.08	5.15	2.18	5.37	2.22
10/30/2019	NM	NM	NM	NM	0.96	4.04	1.54	3.46	0.74	4.26	NM	NM	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	1.81	3.19	2.4	2.60	1.63	3.37	NM	NM	NM	NM	NM	NM
5/11/2020	8.55	-3.36	7.05	-1.81	2.68	2.32	3.22	1.78	2.50	2.50	6.28	1.83	5.36	1.97	5.53	2.06
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	0.71	4.29	1.22	3.78	0.35	4.65	NM	NM	NM	NM	NM	NM
3/18/2021	5.49	-0.30	6.02	-0.78	1.65	3.35	2.18	2.82	1.42	3.58	6.61	1.5	4.74	2.59	4.91	2.68
9/13/2021	NM	NM	NM	NM	0.27	4.73	0.68	4.32	0.21	4.79	NM	NM	NM	NM	NM	NM

DEEP WELL ID:	MLPV-IW0054		MLPV-IW0055		MLPV-IW0057		MLPV-IW0058		MLPV-IW0059		MLPV-IW0060		MLPV-IW0062		MLPV-IW0064	
Area	VAB		VAB		Biosparge Area		Biosparge Area		Biosparge Area		Biosparge Area		Biosparge Area		Biosparge Area	
Screened Interval (feet bls):	40 - 50		40 - 50		40 - 50		45 - 50		45 - 50		40 - 50		40 - 45		40 - 45	
TOC Elevation (feet NAVD88):	6.96		7.60		5.52		5.54		6.18		1.88		5.84		3.64	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	5.35	1.61	5.84	1.76	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
09/18-20/2018	6.29	0.67	6.68	0.92	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/30/2019	NM	NM	NM	NM	4.24	1.28	4.28	1.26	4.79	1.39	0.86	1.02	4.71	1.13	2.65	0.99
3/17/2020	NM	NM	NM	NM	5.22	0.30	5.31	0.23	5.85	0.33	1.72	0.16	5.70	0.14	3.39	0.25
5/11/2020	6.52	0.44	6.95	0.65	6.02	-0.50	6.10	-0.56	6.67	-0.49	2.61	-0.73	6.44	-0.60	4.22	-0.58
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	3.95	1.57	3.98	1.56	4.45	1.73	0.61	1.27	NM	NM	2.37	1.27
3/18/2021	5.79	1.17	6.17	1.43	5.03	0.49	5.01	0.53	5.58	0.6	1.52	0.36	5.41	0.43	3.3	0.34
9/13/2021	NM	NM	NM	NM	WELL DAMAGED		3.7	1.84	4.11	2.07	CNL	CNL	4.3	1.54	CNL	CNL

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

INTERMEDIATE WELL ID:	PCCA-MW0018		PCCA-MW0019		PCCA-MW0020		VABU-IW0001I		WCPS-IW0016		PRES-IW0007I		PRES-IW0008I		SATV-IW0009I	
Area:	VAB		VAB		VAB		VAB		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	15 - 25		15 - 25		25 - 35		20 - 30		15 - 25		32 - 37		38 - 42		22 - 27	
TOC Elevation (feet NAVD88):	7.55		7.01		7.38		8.36		4.57		4.62		6.18		6.93	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	4.8	2.75	4.18	2.83	4.62	2.76	NM	NM	2.52	2.05	3.78	0.84	NM	NM	5.25	1.68
09/18-20/2018	5.33	2.22	4.75	2.26	5.18	2.2	7.33	1.03	4.05	0.52	4.12	0.5	5.53	0.65	5.85	1.08
10/30/2019	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	5.59	1.96	4.97	2.04	5.51	1.87	7.58	0.78	4.45	0.12	4.68	-0.06	6.00	0.18	6.18	0.75
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	4.87	2.68	4.32	2.69	4.71	2.67	NM	NM	3.91	0.66	3.79	0.83	5.17	1.01	5.44	1.49
9/13/2021	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

DEEP WELL ID:	MLPV-SAMW0001		MLPV-SAMW0002		MLPV-SAMW0003		MLPV-SAMW0004D		VAB-IW0005D		VABU-IW0006D		PRES-IW0002D		PRES-IW0007D	
Area	VAB		VAB		VAB		Hot Spot 2		VAB		VAB		VAB		VAB	
Screened Interval (feet bls):	43 - 48		43 - 48		43 - 48		45 - 50		52 - 57		42 - 47		42 - 47		42 - 47	
TOC Elevation (feet NAVD88):	6.80		ND		6.80		ND		7.41		6.29		5.11		4.63	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	3.48	3.32	NM	NM	4.03	2.77	NM	NM	NM	NM	4.84	1.45	NM	NM	3.84	0.79
09/18-20/2018	4.43	2.37	NM	NM	4.94	1.86	NM	NM	4.88	2.53	5.36	0.93	4.7	0.41	4.13	0.5
10/30/2019	NM	NM	NM	NM	NM	NM	3.10	-	NM	NM	NM	NM	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM	NM	NM	4.51	-	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	4.62	2.18	5.12	-	5.10	1.70	5.24	-	5.24	2.17	5.73	0.56	5.38	-0.27	4.68	-0.05
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	NM	NM	2.66	-	NM	NM	NM	NM	NM	NM	NM	NM
3/18/2021	3.7	3.10	4.05	-	4.25	2.55	4.28	-	4.51	2.90	4.98	1.31	4.42	0.69	3.82	0.81
9/13/2021	NM	NM	NM	NM	NM	NM	2.3	NM	NM	NM	NM	NM	NM	NM	NM	NM

Table 4-1
MLP/VAB Monitoring Well Groundwater Elevations (Sitewide)
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

INTERMEDIATE WELL ID:	SATV-IW0010		TPF-MW0001		VABRA-MW0011		VABRA-MW0012		VABRA-MW0013		VABRA-MW0014	
Area:	VAB		VAB		Hot Spot 3 (OFW)		Hot Spot 3 (OFW)		Hot Spot 3 (OFW)		Hot Spot 3 (OFW)	
Screened Interval (feet bls):	35 - 45		23 - 28		25 - 35		15 - 25		20 - 25		25 - 30	
TOC Elevation (feet NAVD88):	6.85		7.62		3.21		3.15		2.91		3.53	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	5.25	1.6	6.2	1.42	NM	NM	NM	NM	NM	NM	NM	NM
09/18-20/2018	5.82	1.03	6.85	0.77	NM	NM	NM	NM	2.61	0.30	3.22	0.31
10/30/2019	NM	NM	NM	NM	2.20	1.01	2.21	0.94	1.78	1.13	2.33	1.20
3/17/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
5/11/2020	6.20	0.65	7.12	0.50	3.48	-0.27	3.58	-0.43	3.05	-0.14	3.64	-0.11
6/2/2020	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM	2.20	1.01	2.2	0.95	1.76	1.15	2.32	1.21
3/18/2021	5.42	1.43	6.51	1.11	3.07	0.14	3.1	0.05	3.63	-0.72	3.21	0.32
9/13/2021	NM	NM	NM	NM	2.29	0.92	2.29	0.86	1.78	1.13	2.41	1.12

DEEP WELL ID:	PRES-IW0009		PRES-IW0010	
Area	VAB		VAB	
Screened Interval (feet bls):	40 - 50		40 - 50	
TOC Elevation (feet NAVD88):	5.17		2.26	
Date:	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)	Depth to Water (feet BTOC)	Water Elevation (feet NAVD88)
5/23/2016	3.97	1.2	1.3	0.96
09/18-20/2018	4.46	0.71	1.68	0.58
10/30/2019	NM	NM	NM	NM
3/17/2020	NM	NM	NM	NM
5/11/2020	4.97	0.20	2.19	0.07
6/2/2020	NM	NM	NM	NM
9/14/2020	NM	NM	NM	NM
3/18/2021	4.14	1.03	1.31	0.95
9/13/2021	NM	NM	NM	NM

Notes:
bls = Below land surface
BTOC = Below top of casing
CNL = Could not locate
NAVD (88) = North American Vertical Datum of 1988
ND = No data available
NM = Not measured
SATV-IW0003D and SATV-IW0004I were abandoned
SWMU = Solid Waste Management Unit
TOC data were obtained from the VAB Area 2018 Biennial Groundwater Monitoring Results Report (NASA, March 2019) or the RIS database
VAB = Vehicle Assembly Building
Historical data presented in this table reported from 2016 to present. Elevation data prior to 2016 are available in the VAB Area 2018 Biennial Groundwater Monitoring Results Report, (NASA, March 2019)
Monitoring wells MLPV-IW0030, MLPV-SAMW0002, MLPV-SAMW0004 I, MLPV-SAMW0005 I, and MLPV-SAMW0004D pending TOC survey data to calculate elevation.

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0011I	35 to 40	12/15/1997	26 U	**180**	16 U	**2200**
		10/5/1998	20 U	24 U	34 U	**770**
		7/17/2000	2.8 U	**24 I,J**	4.4 U	**940**
		1/21/2002	2 U	**8.1**	**2**	**192**
		2/27/2003	10 U	**35.2**	**2.9 J**	**238**
		2/3/2004	2 U	**51.7**	**4.2**	**322**
		8/10/2004	20 U	**56.2**	**5.2 J**	**418**
		5/4/2005	5 U	**31.7**	**6.3 J**	**306**
		10/28/2005	2.5 U	**4.6 I**	**2.9 I**	**157**
		5/16/2006	0.5 U	**8.8**	**7.9**	**451**
		11/9/2006	0.5 U	**3.3**	**5.7**	**302**
		5/22/2007	0.5 U	**1.7**	**4.3**	**263**
		11/15/2007	1.9 U	**1.6 I**	**2.6 I**	**301**
		5/23/2008	0.32 U	**1.7**	**3.2**	**242**
		11/13/2008	0.32 U	**3.6**	**3**	**677**
		5/19/2009	0.32 U	**7.9**	**2.6**	**267**
		11/9/2009	0.15 U	**12**	**2**	**190**
		5/18/2010	0.12 U	**6.5**	**1.8**	**170**
		11/8/2010	0.16 U	**3.6**	**1.9**	**120**
		5/10/2011	0.16 U	**3.1**	**1.9**	**120**
		11/1/2011	0.16 U	0.36 U	0.12 U	**0.68 I**
		5/29/2012	0.26 U	**2.9**	**1.9**	**58.3**
		1/27/2014	0.3 U	**1.3**	**1.1**	**5.6**
		7/22/2014	0.5 U	0.65 U	**0.75 I**	**4.5**
		1/21/2015	0.48 U	0.41 U	**0.81 I**	**3.4**
		7/15/2015	0.61 U	0.65 U	**0.91 I**	**2.7**
		1/12/2016	0.61 U	0.65 U	0.67 U	**2.9**
		7/11/2016	0.61 U	**1.1**	0.67 U	**4.4**
		11/7/2017	0.61 U	**1.1**	0.67 U	0.26 U
		5/31/2018	0.61 U	**0.93 I**	0.39 U	**1.9**
		3/6/2019	0.61 U	**0.72 I**	0.39 U	**1.4**
		10/31/2019	0.35 U	0.28 U	0.22 U	**0.48 I**
		3/18/2020	0.35 U	**0.35 I**	0.22 U	**0.92 I**
		9/15/2020	NS	0.28 U	0.22 U	0.41 U
		3/16/2021	NS	0.28 U	0.22 U	**0.46 I**
		9/13/2021	NS	0.28 U	0.22 U	0.41 U
MLPV-IW0032	30 to 40	5/31/2012	0.26 U	**1.7**	**2.2**	**2.4**
		9/26/2012	**21**	**121**	**11.2**	**35.7**
		8/19/2013	**130**	**302**	**44.5**	**77.8**
		10/24/2013	**24.5**	**99**	**10.1**	**35**
		1/27/2014	**41.1**	**195**	**9.3**	**0.44 I**
		4/16/2014	**21.1**	**226**	**13.9**	**1.8 I**
		7/21/2014	**52**	**280**	**14**	**1**
		1/20/2015	**56**	**170**	**28**	0.5 U
		7/15/2015	**6.2**	**32**	**9.3**	**4.7**
		10/6/2015	**6.3**	**45**	**12**	0.71 U
		1/12/2016	0.61 U	**7.6**	**2.8**	0.71 U
		7/13/2016	0.61 U	**33**	**8**	0.71 U
		11/7/2017	0.61 U	0.65 U	0.67 U	0.26 U
		5/31/2018	0.61 U	**0.36 I**	0.39 U	0.26 U
		3/6/2019	0.61 U	**0.74 I**	0.39 U	0.26 U
		3/18/2020	0.35 U	**0.35 I**	0.22 U	0.41 U
		11/30/2020	NS	**0.68 I**	0.22 U	**0.49 I**
		3/16/2021	NS	**0.84 I**	0.22 U	**1.6**
		9/14/2021	Could not locate due to construction in sampling area			

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0033	40 to 50	5/31/2012	**521**	**8270**	**492**	**3300**
		9/26/2012	**863**	**8250**	**617**	**2990**
		8/19/2013	**1290**	**6720**	**471**	**2800**
		10/24/2013	**1570**	**7880**	**601**	**3320**
		1/27/2014	**33.7**	**1300**	**88.7**	**771**
		4/16/2014	**34.6**	**2190**	**116**	**770**
		7/21/2014	**170**	**3200**	**220**	**810**
		1/20/2015	**9.9**	**370**	**39**	**280**
		7/15/2015	**2.1**	**500**	**45**	**540**
		10/6/2015	**0.84 I**	**300**	**27**	**320**
		1/12/2016	0.61 U	**72**	**8.8**	**150**
		7/13/2016	**0.64 I**	**120**	**12**	**350**
		3/7/2017	0.61 U	**100**	**17**	**470**
		11/7/2017	0.61 U	**24**	**6.3**	**68**
		5/31/2018	0.61 U	**21**	**3**	**120**
		3/6/2019	1.2 U	**46**	**6**	**400**
		10/31/2019	1.7 U	**58.4**	1.1 U	**365**
		3/18/2020	**0.44 I**	**55.9**	**9.6**	**455**
		11/30/2020	NS	**82.3**	**7.7**	**497**
		3/16/2021	NS	**49.6**	**6.3**	**471**
		9/14/2021	Could not locate due to construction in sampling area			
MLPV-IW0034	30 to 40	5/29/2012	0.26 U	**1.4**	**4.9**	**80.4**
		1/27/2014	**33.2**	**133**	**9**	**468**
		7/22/2014	**4.6**	**130**	**9.8**	**120**
		1/21/2015	**13**	**200**	**35**	**600**
		7/15/2015	0.61 U	**5.8**	**2.8**	**94**
		1/11/2016	0.61 U	**5.9**	0.67 U	**27**
		7/13/2016	0.61 U	**2.8**	**0.80 I**	**37**
		11/7/2017	0.61 U	0.65 U	0.67 U	**13**
		5/31/2018	0.61 U	**0.40 I**	0.39 U	**5.5**
		3/6/2019	0.61 U	**1.4**	0.39 U	**2.4**
		10/31/2019	0.35 U	0.28 U	0.22 U	0.41 U
		3/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2020	NS	0.28 U	0.22 U	0.41 U
		3/15/2021	NS	**0.41 I**	0.22 U	0.41 U
		9/14/2021	NS	0.28 U	0.22 U	0.41 U
MLPV-IW0035	40 to 50	5/29/2012	1.3 U	**573**	**38.7**	**900**
		1/27/2014	3 U	**173**	**28.9**	**1350**
		7/22/2014	**8.2**	**640**	**57**	**1200**
		1/21/2015	**7.4**	**690**	**49**	**960**
		7/15/2015	1.2 U	**130**	**33**	**960**
		1/11/2016	0.61 U	**1.6**	**7.3**	**260**
		7/13/2016	0.61 U	**0.82 I**	**9.3**	**400**
		11/7/2017	0.61 U	**1.8**	**5.4**	**220**
		5/31/2018	0.61 U	**1.2**	**6.9**	**330**
		3/6/2019	0.61 U	**2.3**	**3.3**	**150**
		10/31/2019	0.86 U	0.69 U	0.55 U	**152**
		3/18/2020	0.35 U	**3.2**	**4.0**	**192**
		9/15/2020	NS	0.28 U	**3.0**	**205 L**
		3/15/2021	NS	**3.2**	**2.5**	**124**
		9/14/2021	Could not locate due to construction in sampling area			

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0036	40 to 45	5/29/2012	0.26 U	0.26 U	0.35 U	0.22 U
		1/28/2014	0.3 U	0.33 U	0.34 U	**5**
		7/22/2014	0.5 U	0.65 U	0.44 U	**4.5**
		1/22/2015	0.48 U	**0.47 I**	0.37 U	**6**
		7/15/2015	0.61 U	0.65 U	0.67 U	**42**
		1/12/2016	0.61 U	0.65 U	0.67 U	**42**
		7/13/2016	0.61 U	0.65 U	0.67 U	**170**
		11/7/2017	0.61 U	0.65 U	0.67 U	**87**
		5/30/2018	0.61 U	0.32 U	**0.63 I**	**80**
		3/6/2019	0.61 U	**0.41 I**	0.39 U	**32**
		10/31/2019	0.35 U	0.28 U	**0.33 I**	**9.1**
		3/18/2020	0.35 U	**0.34 I**	**0.33 I**	**22.1**
		9/15/2020	NS	0.28 U	0.22 U	**5.5**
		3/15/2021	NS	**0.47 I**	0.22 U	**24.9**
		9/14/2021	NS	**0.60 I**	0.22 U	**32.3**
MLPV-IW0037	40 to 50	5/29/2012	1.3 U	**835**	**19.1**	**926**
		1/27/2014	0.3 U	**151**	**1.5**	**210**
		7/22/2014	1 U	**340**	**4**	**520**
		1/21/2015	2.4 U	**560**	**9.3**	**600**
		7/15/2015	1.2 U	**550**	**8.2**	**970**
		1/12/2016	3.1 U	**390**	**7**	**550**
		7/11/2016	1.2 U	**300**	**3.9**	**890**
		11/7/2017	0.61 U	**150**	**1.2**	**280**
		5/31/2018	0.61 U	**94**	**1.2 I**	**360**
		3/6/2019	0.61 U	**160**	**0.89 I**	**270**
		10/31/2019	0.69 U	**135**	0.44 U	**178**
		3/18/2020	0.86 U	**132**	**0.67 I**	**245**
		9/15/2020	NS	**55.4**	**0.52 I**	**208 L**
		3/16/2021	NS	**138**	**0.71 I**	**269**
		9/13/2021	NS	**25.1**	**0.47 I**	**99.3**
MLPV-IW0038	30 to 40	5/29/2012	**95.3**	**217**	**19.9**	**446**
		9/26/2012	**764**	**863**	**55.9**	**364**
		8/19/2013	**386**	**1010**	**55.8**	**263**
		10/24/2013	**121**	**617**	**34.2**	**93.1**
		1/27/2014	**45**	**235**	**27**	**42.3**
		4/16/2014	**30.3**	**136**	**6.9**	**1.6 I**
		7/22/2014	**5.3**	**29**	**5.7**	0.5 U
		1/21/2015	0.48 U	**3.6**	**0.93 I**	**4.6**
		7/14/2015	0.61 U	**2.9**	0.67 U	0.71 U
		10/6/2015	0.61 U	**2.3**	0.67 U	0.71 U
		1/12/2016	0.61 U	**1.2**	0.67 U	0.71 U
		7/13/2016	0.61 U	**2.8**	0.67 U	0.71 U
		11/7/2017	0.61 U	**0.78 I**	0.67 U	0.26 U
		5/31/2018	0.61 U	**0.48 I**	0.39 U	0.26 U
		3/6/2019	0.61 U	**0.94 I**	0.39 U	**1.1**
		3/18/2020	0.35 U	**0.54 I**	0.22 U	0.41 U
		3/15/2021	NS	**1.2**	0.22 U	**2.3**

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	Screened Interval (feet bls)	Sample Date				
MLPV-IW0039	40 to 50	5/29/2012	8980	13200	648	6200
		9/26/2012	6650	10000	502	3070
		8/19/2013	3720	6480	269	1520
		10/24/2013	2850	5880	278	1190
		1/27/2014	683	3470	147	841
		4/16/2014	549	3060	116	955
		7/22/2014	430	2200	130	640
		1/21/2015	5.8	270	17	220
		7/14/2015	3.3	180	13	250 J3
		10/6/2015	2.7	140	9.6	120
		1/12/2016	2.7	160	10	130
		7/13/2016	3.3	82	6.9	38
		3/7/2017	2.6	200	11	250
		11/7/2017	1.5	92	5.1	55
		5/31/2018	1.3 I	45	3.2	55
		3/6/2019	0.83 I	160	7.1	250
		10/31/2019	0.86 U	198	4.6	241
		3/18/2020	0.86 U	128	4.4	228
		9/15/2020	NS	92.1	3.9	276 L
		3/15/2021	NS	161	6.5	236
		9/14/2021	NS	76.9	3.3	191
MLPV-IW0040	30 to 40	5/29/2012	1.9	90.9	59.7	3410
		9/26/2012	1300	2450	161	1210
		8/19/2013	157	643	44.8	464
		10/24/2013	5.5	88.2	6.1	331
		1/27/2014	68.3	189	4.2 I	18
		4/16/2014	20.1	78.2	7	56.7
		7/23/2014	13	9.3	1.6	8.2
		1/22/2015	0.89 I	5.6	0.37 U	0.5 U
		7/15/2015	0.61 U	0.68 I	0.67 U	0.71 U
		10/6/2015	0.61 U	0.65 U	0.67 U	0.71 U
		1/11/2016	0.61 U	0.91 I	0.67 U	0.71 U
		7/13/2016	0.61 U	0.65 U	0.67 U	0.71 U
		11/7/2017	0.61 U	0.65 U	0.67 U	0.26 U
		5/30/2018	0.61 U	0.58 I	0.39 U	0.36 I
		3/5/2019	0.61 U	0.32 U	0.39 U	0.26 U
		3/18/2020	0.35 U	0.39 I	0.22 U	0.41 U
		3/15/2021	NS	0.50 I	0.22 U	0.41 U
		9/14/2021	Could not locate due to construction in sampling area			
MLPV-IW0041	40 to 50	5/29/2012	15300	14600	737	5260
		9/26/2012	8500	11000	556	3880
		8/19/2013	1380	5380	277	4150
		10/24/2013	2610	9250	559	6370
		1/27/2014	19.3 I	1570	56.5	993
		4/16/2014	685	2660	114	2030
		7/23/2014	450	2400	120	1900
		1/22/2015	1	14	2.6	150
		7/15/2015	0.61 U	89	4.5	290
		10/6/2015	0.61 U	55	5.5	240
		1/11/2016	0.61 U	80	6.3	360
		7/13/2016	0.61 U	20	4.2	230
		3/7/2017	0.61 U	63	3.8	330
		11/7/2017	0.61 U	140	5.2	300
		5/30/2018	0.61 U	9.7	3.9	230
		3/5/2019	0.65 I	76	2.6	260
		10/31/2019	0.39 I	14.0	2.3	166
		3/18/2020	0.35 U	106	3.3	183

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0041 (continued)	40 to 50	9/15/2020	NS	**4.0**	**1.4**	**201 L**
		3/16/2021	NS	**113**	**3.3**	**259**
		9/14/2021	NS	**1.9 I**	**0.92 I**	**146**
MLPV-IW0042	30 to 40	5/29/2012	0.26 U	0.26 U	**0.92 I**	**571**
		9/26/2012	0.31 U	0.24 U	**0.63 I**	**97.9**
		8/19/2013	0.31 U	**1**	0.23 U	**5.9**
		10/24/2013	0.31 U	**1.9**	0.23 U	**6**
		1/28/2014	**1.5**	**2.4**	0.34 U	**2.2**
		4/16/2014	0.3 U	**1.1**	0.34 U	**5.6**
		7/22/2014	0.5 U	**4.5**	0.44 U	**7.9**
		1/20/2015	0.48 U	**20**	**0.45 I**	**4.4**
		7/14/2015	0.61 U	**6.4**	0.67 U	**1.7**
		10/6/2015	0.61 U	**6**	0.67 U	**0.81 I**
		1/11/2016	0.61 U	**11**	0.67 U	**1.4**
		7/13/2016	0.61 U	**2.4**	0.67 U	0.71 U
		11/7/2017	0.61 U	**0.86 I**	0.67 U	0.26 U
		5/30/2018	0.61 U	**0.32 I**	0.39 U	**0.34 I**
		3/6/2019	0.61 U	0.32 U	0.39 U	0.26 U
		3/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
		3/16/2021	NS	**1.2**	0.22 U	**0.42 I**
		9/14/2021	Well submerged			
MLPV-IW0043	40 to 50	5/29/2012	**6620**	**7320**	**348**	**2540**
		9/26/2012	**2900**	**2910**	**101**	**887**
		8/19/2013	**3400**	**2790**	**128**	**828**
		10/24/2013	**698**	**1310**	**41.6**	**248**
		1/28/2014	**274**	**531**	**24.4**	**190**
		4/16/2014	**56.2**	**289**	**9**	**117**
		7/22/2014	**11**	**1800**	**51**	**340**
		1/20/2015	4.8 U	**1400**	**52**	**360**
		7/14/2015	1.2 U	**190**	**7.6**	**200**
		10/6/2015	0.61 U	**140**	**6.5**	**180**
		1/11/2016	0.61 U	**50**	**2.7**	**140**
		7/13/2016	0.61 U	**150**	**2.4**	**180**
		3/7/2017	0.61 U	**190**	**4.9**	**330**
		11/7/2017	0.61 U	**42**	**1.9**	**120**
		5/30/2018	0.61 U	**31**	**0.96 I**	**140**
		3/6/2019	**0.77 I**	**100**	**2.7**	**150**
		10/31/2019	0.86 U	**149**	**2.4 I**	**155**
		3/18/2020	**0.97 I**	**193**	**3.0**	**131**
		9/15/2020	NS	**73.2**	**2.4**	**146**
		3/16/2021	NS	**249**	**3.7 I**	**180**
		9/14/2021	Well submerged			

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0044	40 to 50	7/6/2012	0.26 U	**1240**	**90.2 I**	**4960**
		1/28/2014	1.5 U	**60.5**	**4 I**	**686**
		7/23/2014	5 U	**140**	**7.8 I**	**2300**
		1/20/2015	12 U	**67**	**14 I**	**1700**
		7/15/2015	6.1 U	**10**	6.7 U	**2100**
		1/12/2016	1.2 U	**4.3**	**3.3**	**600**
		7/12/2016	3.1 U	**39**	**18**	**1700**
		11/7/2017	6.1 U	**18**	**14**	**1500**
		5/30/2018	1.2 U	**7.5**	**6.4**	**810**
		3/5/2019	1.2 U	**3.7**	**2.9 I**	**510**
		10/31/2019	0.35 U	**2.9**	**1.8**	**458**
		3/18/2020	0.35 U	**6.9**	**2.2**	**325**
		11/30/2020	NS	**2.8**	**0.88 I**	**307**
		3/16/2021	NS	**3.4**	**1.0**	**249**
		9/14/2021	Could not locate due to construction in sampling area			
MLPV-IW0045	40 to 50	7/6/2012	**115**	**10300**	**520**	**7360**
		1/27/2014	**192**	**2360**	**164**	**2050**
		7/22/2014	**600**	**5200**	**330**	**4000**
		1/20/2015	**5.7**	**390**	**51**	**360**
		7/15/2015	**49**	**860**	**110**	**960**
		1/12/2016	1.2 U	**79**	**61**	**570**
		7/12/2016	0.61 U	**35**	**41**	**180**
		11/7/2017	0.61 U	**7.7**	**7.9**	**200**
		5/30/2018	0.61 U	**2.4**	**10**	**270**
		3/6/2019	0.61 U	**3.2**	**6.8**	**170**
		10/31/2019	0.35 U	**4.8**	**3.6**	**97.2**
		3/18/2020	0.35 U	**20.0**	**5.7**	**207**
		9/15/2020	NS	**6.4**	**4.2**	**205 L**
		3/16/2021	NS	**75.8**	**7.8**	**295**
		9/14/2021	Could not locate due to construction in sampling area			
MLPV-SAMW0004D	45 to 50	5/29/2012	**0.58 I**	0.26 U	**75.8**	**533**
		1/28/2014	0.34 U	0.30 U	**29.7**	**156**
		7/22/2014	**0.70 I**	0.50 U	**5.5**	**310**
		1/22/2015	0.37 U	0.48 U	0.41 U	**4.9**
		7/15/2015	0.67 U	0.61 U	**2.5**	**26.0**
		1/12/2016	0.67 U	0.61 U	**0.75 I**	**6.2**
		7/13/2016	0.67 U	0.61 U	0.65 U	0.71 U
		11/7/2017	0.67 U	0.61 U	**0.74 I**	**5.1**
		5/30/2018	0.61 U	0.32 U	**0.45 I**	**6.6**
		3/6/2019	0.61 U	**0.55 I**	0.39 U	**4.3**
		10/31/2019	0.35 U	**0.32 I**	**0.37 I**	**2.6**
		3/18/2020	0.35 U	**3.1**	**0.58 I**	**22.2**
		9/15/2020	NS	0.28 U	**0.60**	**4.2**
		3/15/2021	NS	**2.4**	**0.59 I**	**14.6**
		9/14/2021	NS	**0.65 I**	**0.67 I**	**5.0**

Table 4-2
Former Hot Spot 2 (Air Sparge System Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-SAMW0004I	35 to 40	5/29/2012	0.26 U	0.26 U	**0.65 I**	**6.8**
		1/28/2014	0.30 U	0.33 U	0.34 U	**4.0**
		7/22/2014	0.50 U	0.65 U	0.44 U	**4.4**
		1/22/2015	0.48 U	0.41 U	0.37 U	**5.7**
		7/15/2015	0.61 U	0.65 U	0.67 U	**9.7**
		1/12/2016	0.61 U	0.65 U	0.67 U	**14.0**
		7/13/2016	0.61 U	0.65 U	0.67 U	**25.0**
		11/7/2017	0.61 U	0.65 U	0.67 U	**21.0**
		5/30/2018	0.61 U	0.32 U	0.39 U	**1.6**
		3/6/2019	0.61 U	0.32 U	0.39 U	**5.6**
		10/31/2019	0.35 U	**0.40 I**	0.22 U	**15.9**
		3/18/2020	0.35 U	0.28 U	0.22 U	**13.8**
		9/15/2020	NS	0.28 U	0.22 U	**11.3**
		3/15/2021	NS	**0.61 I**	**0.41 I**	**19.4**
		9/14/2021	NS	0.28 U	0.22 U	**15.5**

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 and date
bls = Below land surface
FDEP = Florida Department of Environmental Protection
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
L = Value exceeds calibration range
NADC = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (2005)
NS = Not sampled
SWMU = Solid Waste Management Unit
U = The analyte was not detected
µg/L = micrograms per liter

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0006IR	28 to 33	2/25/2003	2 U	**12.8**	**5.1**	**65.7**
		2/4/2004	2 U	**11.9**	**4.5**	**53.7**
		8/10/2004	2 U	**7.9**	**2.6**	**62.8**
		5/4/2005	0.50 U	**6.3**	**2.4**	**44.3**
		11/1/2005	0.50 U	**2.9**	**1.2**	**35.0**
		5/16/2006	0.50 U	**1.1**	0.50 U	**15.3**
		11/8/2006	0.50 U	**2.7**	**0.55 I**	**31.0**
		5/16/2007	0.50 U	**3.8**	0.50 U	**34.8**
		11/13/2007	0.38 U	0.28 U	0.20 U	**9.5**
		5/27/2008	0.32 U	**2.8**	**0.48 I**	**32.1**
		11/13/2008	0.32 U	0.2 U	0.45 U	**8.9**
		5/19/2009	0.32 U	**1.5**	0.45 U	**23.3**
		11/10/2009	0.15 U	**0.67 I**	0.13 U	**9.8**
		5/10/2010	0.12 U	0.083 U	0.39 U	**4.1**
		11/8/2010	0.16 U	0.36 U	0.12 U	**3.2**
		5/11/2011	0.16 U	0.36 U	0.12 U	**4.7**
		11/11/2011	0.16 U	0.36 U	0.12 U	**2.0**
		11/28/2012	0.16 U	0.36 U	0.12 U	**1.1**
		5/13/2013	0.16 U,J	0.36 U,J	0.12 U,J	**0.76 I**
		11/17/2014	0.50 U	0.50 U	0.50 U	**0.99 I**
		5/26/2016	0.50 U	0.50 U	0.50 U	0.50 U
		9/16/2020	0.35 U	0.28 U	0.22 U	0.41 U
		3/16/2021	0.89 U	**0.77 I**	0.73 U	**3.7**
		9/15/2021	0.89 U	0.53 U	0.73 U	**1.8**
MLPV-IW0028I	28 to 33	2/25/2003	2 U	**5.9**	**1.4 J**	**53.5**
		2/4/2004	2 U	**6**	**1.4 J**	**34.3**
		8/10/2004	2 U	2 U	2 U	1 U
		5/4/2005	0.50 U	**3.2**	**1.3**	**25.3**
		10/28/2005	0.50 U	**6.1**	**1.3**	**30.5**
		5/16/2006	0.50 U	**2.6**	**1**	**31.5**
		11/8/2006	0.50 U	**3.1**	**1.1**	**33.3**
		5/16/2007	0.50 U	**2.0**	**1.0**	**18.9**
		11/13/2007	0.38 U	0.28 U	0.20 U	**24.1**
		5/27/2008	0.32 U	**2.9**	**0.84 I**	**28.8**
		11/12/2008	0.32 U	**1.3**	**0.77 I**	**25.6**
		5/18/2009	0.32 U	**1.5**	**0.79 I**	**22.0**
		11/6/2009	0.15 U	**0.39 I**	0.13 U	**16**
		5/18/2010	0.12 U	**0.45 I**	0.39 U	**16**
		11/8/2010	NS	NS	NS	NS
		5/11/2011	0.16 U	0.36 U	**0.32 I**	**14**
		11/11/2011	NS	NS	NS	NS
		11/28/2012	0.16 U	0.36 U	**0.25 I**	**11**
		5/13/2013	0.16 U	0.36 U	**0.19 I**	**9.0**
		11/17/2014	0.50 U	0.50 U	0.50 U	**10**
		5/26/2016	0.50 U	0.50 U	0.50 U	**4.0**
		10/4/2018	0.61 U	0.32 U	0.39 U	**5.2**
		6/2/2020	0.35 U	0.28 U	0.22 U	**6.0**
		3/16/2021	0.89 U	0.53 U	0.73 U	0.71 U
		9/15/2021	0.89 U	0.53 U	0.73 U	**2.3**

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0046	35 to 45	11/17/2014	0.50 U	0.50 U	0.50 U	**1.8**
		5/26/2016	0.50 U	0.50 U	0.50 U	**8.1**
		10/4/2018	0.61 U	**2.1**	0.39 U	**13**
		6/2/2020	0.35 U	**2.4**	0.22 U	**18.0**
		3/16/2021	0.89 U	**2.3**	0.73 U	**13.0**
		9/15/2021	0.89 U	**2.7**	0.73 U	**10.0**
MLPV-ASMW0004	35 to 40	5/28/2007	0.5 U	**12.2**	0.5 U	0.5 U
		9/6/2007	0.38 U	**2.4**	0.2 U	0.34 U
		12/31/2007	0.38 U	**7.7**	0.2 U	**0.39 I**
		3/31/2008	0.38 U	**8**	0.2 U	**0.65 I**
		6/27/2008	0.32 U	**7.5**	0.45 U	0.3 U
		9/22/2008	0.32 U	**48.5**	**1.6**	**41.8**
		12/18/2008	0.32 U	**48.4**	**0.73 I**	**8.4**
		3/5/2009	0.32 U	**37.7**	**0.57 I**	**1.8**
		9/22/2009	0.32 U	**9.9**	0.45 U	0.3 U
		3/24/2010	0.24 U	**1**	0.34 U	0.28 U
		10/1/2010	0.24 U	**5**	0.34 U	0.28 U
		3/15/2011	0.26 U	**0.45 I**	0.35 U	0.22 U
		9/26/2011	0.26 U	**5.9**	0.35 U	0.22 U
		3/16/2012	0.26 U	**40.8**	0.35 U	0.22 U
		8/28/2012	0.26 U	**18.8**	0.35 U	0.22 U
		3/18/2013	0.31 U	**87.3**	**0.79 I**	0.44 U
		10/25/2013	0.31 U	**119**	**1.8**	**0.90 I**
		1/27/2014	0.3 U	**73.7**	**1.5**	**1.2**
		4/17/2014	0.3 U	**45**	**0.54 I**	**5.1**
		7/22/2014	0.5 U	**1.3**	0.44 U	0.5 U
		1/19/2015	0.48 U	**26**	0.37 U	**0.78 I**
		4/6/2015	0.61 U	**12**	0.67 U	0.71 U
		7/14/2015	0.61 U	**12**	0.67 U	0.71 U
		1/11/2016	0.61 U	**17**	0.67 U	0.71 U
		7/12/2016	0.61 U	**37**	**1.1**	0.71 U
		3/6/2017	1.2 U	**200**	**7.8**	**500**
		11/8/2017	0.61 U	**53**	**3.2**	**1.7**
		5/30/2018	0.61 U	**16**	**0.76 I**	**1.7**
		11/15/2018	0.61 U	**9.3**	0.39 U	**1.9**
		3/11/2019	0.61 U	**0.98 I**	0.39 U	**0.41 I**
		11/1/2019	0.35 U	**8.4**	**0.52 I**	0.41 U
		3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/16/2020	0.35 U	0.28 U	**0.76 I**	**8.7**
		3/17/2021	0.35 U	0.28 U	**0.30 I**	0.41 U
		9/15/2021	0.35 U	**11.4**	**8.3**	**926**
		11/17/2021	4.4 U	**8.0**	**8.0**	**500**
MLPV-ASMW0005	35 to 40	5/28/2007	0.5 U	0.5 U	0.5 U	0.5 U
		9/6/2007	0.38 U	**0.35 I**	0.2 U	0.34 U
		12/31/2007	0.38 U	0.28 U	0.2 U	0.34 U
		3/31/2008	0.38 U	**0.28 I**	0.2 U	0.34 U
		6/27/2008	0.32 U	**0.32 I**	0.45 U	0.3 U
		9/22/2008	0.32 U	**1.6**	0.45 U	0.30 U
		12/18/2008	0.32 U	**0.69 I**	0.45 U	**0.44 I**
		3/5/2009	0.32 U	0.2 U	0.45 U	0.3 U
		9/22/2009	0.32 U	**1.4**	0.45 U	0.3 U
		3/24/2010	0.24 U	**0.48 I**	0.34 U	0.28 U
		10/1/2010	0.24 U	**5.6**	0.34 U	0.28 U
		3/15/2011	0.26 U	**0.67 I**	0.35 U	0.22 U

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-ASMW0005 (continued)	35 to 40	9/23/2011	0.26 U	**1.6**	0.35 U	0.22 U
		3/16/2012	0.26 U	**5.3**	0.35 U	0.22 U
		8/28/2012	0.26 U	**2.4**	0.35 U	0.22 U
		3/18/2013	0.31 U	**7.3**	0.23 U	0.44 U
		10/25/2013	0.31 U	**81.3**	**2.7**	**50.4**
		1/27/2014	0.3 U	**52.1**	**1.6**	**27.5**
		4/17/2014	0.3 U	**62.3**	**1.5**	**44.2**
		7/22/2014	0.5 U	**25**	**0.68 I**	**21**
		10/27/2014	0.50 U	**14**	0.44 U	0.50 U
		1/19/2015	0.48 U	**26**	**0.60 I**	0.5 U
		4/6/2015	0.61 U	**99**	**1.1**	0.71 U
		7/14/2015	0.61 U	**50**	**0.95 I**	0.71 U
		1/11/2016	0.61 U	**78**	**1.8**	0.71 U
		7/12/2016	0.61 U	**28**	**0.68 I**	0.71 U
		3/6/2017	0.61 U	**140**	**7.9**	**3.9**
		11/8/2017	0.61 U	**4.1**	0.67 U	**0.81 I**
		5/30/2018	0.61 U	**1.2**	0.39 U	0.26 U
		11/16/2018	0.61 U	0.32 U	0.39 U	0.26 U
		3/11/2019	0.61 U	0.32 U	0.39 U	0.26 U
		11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
		3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/16/2020	0.35 U	0.28 U	0.22 U	0.41 U
		3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	**1.1**	0.22 U	**3.0**
MLPV-ASMW0006	35 to 40	5/28/2007	0.5 U	0.5 U	0.5 U	0.5 U
		9/6/2007	0.38 U	**3.5**	0.2 U	**1.1**
		12/31/2007	0.38 U	**1.3**	0.2 U	**1**
		3/31/2008	0.38 U	**1**	0.2 U	**0.82 I**
		6/27/2008	0.32 U	**8.8**	0.45 U	**3.4**
		9/22/2008	0.32 U	**35.1**	**0.64**	**5.2**
		12/18/2008	0.32 U	**37.6**	**0.67 I**	**8.2**
		3/5/2009	0.32 U	**18.1**	**0.56 I**	**13.6**
		9/22/2009	0.32 U	**10.7**	0.45 U	**3.4**
		3/24/2010	0.24 U	**33**	**0.50 I**	**1.5**
		10/1/2010	0.24 U	**12.3**	0.34 U	**1.1**
		3/15/2011	0.26 U	**15.3**	**0.37 I**	**2**
		9/23/2011	0.26 U	**2.7**	0.35 U	0.22 U
		3/16/2012	0.26 U	**24.2**	**0.52 I**	**2.1**
		8/24/2012	0.26 U	**113**	**4.4**	**1.5**
		3/18/2013	0.63 U	**137**	**8.6**	**9.9**
		10/25/2013	0.63 U	**490**	**22.3**	**833**
		1/27/2014	3 U	**493**	**18.9**	**902**
		4/17/2014	3 U	**569**	**25.2**	**1350**
		6/20/2014	1.9 U	**380**	**18**	**820**
		7/22/2014	1 U	**290**	**10**	**690**
		10/27/2014	0.50 U	**1.1**	0.44 U	**2.1**
		1/19/2015	0.48 U	**0.85 I**	0.37 U	**2.2**
		4/6/2015	0.61 U	**0.67 I**	0.67 U	**4.7**
		7/14/2015	0.61 U	**4.3**	0.67 U	**1.3**
		1/11/2016	0.61 U	0.65 U	0.67 U	**1.2**
		7/12/2016	0.61 U	**30**	**4.2**	**4.6**
		3/6/2017	0.61 U	**180**	**13**	**120**
		11/8/2017	**18**	**1100**	**64**	**210**
		2/20/2018	1.2 U	**100**	**5.5**	**67**

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-ASMW0006 (continued)	35 to 40	5/29/2018	0.61 U	**8.7**	**3.6**	**28**
		11/16/2018	0.61 U	**0.69 I**	**1 I**	**5**
		3/11/2019	0.61 U	**0.59 I**	**1.6 I**	**1.9**
		11/1/2019	0.35 U	0.28 U	0.22 U	**0.47 I**
		3/19/2020	0.35 U	0.28 U	0.22 U	**1.5**
		9/16/2020	0.35 U	0.28 U	0.22 U	**1.7**
		3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U
MLPV-IW0031	25 to 35	9/27/2011	0.26 U	**1.8**	**0.70 I**	**115**
		3/16/2012	0.26 U	**2**	**0.64 I**	**99.2**
		8/24/2012	0.26 U	**2.2**	**0.77 I**	**152**
		3/18/2013	0.31 U	**1.5**	**0.51 I**	**86.5**
		10/25/2013	0.31 U	**1.4**	**0.50 I**	**71**
		4/17/2014	0.3 U	**1.5**	**0.66 I**	**79.5**
		10/27/2014	0.50 U	**1.4**	**0.59 I**	**83**
		1/20/2015	0.48 U	**1.4**	**0.49 I**	**46**
		7/14/2015	0.61 U	**1.3**	0.67 U	**51**
		1/11/2016	0.61 U	**1.4**	0.67 U	**42**
		5/31/2016	0.61 U	**1.8**	0.67 U	**32**
		3/6/2017	0.61 U	0.65 U	0.67 U	**5.8**
		8/9/2017	0.61 U	0.65 U	0.67 U	**7.4**
		11/8/2017	0.61 U	0.65 U	0.67 U	**1.9**
		2/20/2018	0.61 U	0.32 U	0.39 U	0.26 U
		5/29/2018	0.61 U	**0.36 I**	0.39 U	**1.6**
		11/16/2018	0.61 U	0.32 U	0.39 U	0.26 U
		3/12/2019	0.61 U	0.32 U	0.39 U	0.26 U
		11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
		3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2020	0.35 U	0.28 U	0.22 U	**1.9**
		3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	**3.4**
MLPV-IW0057	40 to 50	1/19/2015	2.4 U	**360**	**12**	**800**
		7/14/2015	1.2 U	**300**	**14**	**1100**
		1/11/2016	1.2 U	**250**	**13**	**960**
		7/11/2016	3.1 U	**220**	**12**	**720**
		3/6/2017	3.1 U	**110**	**10**	**1100**
		11/8/2017	1.2 U	**48**	**8.1**	**660**
		5/29/2018	1.2 U	**84**	**8.8**	**970**
		11/14/2018	6.1 U	**45**	**8.3 I**	**1000**
		3/12/2019	3.1 U	**61**	**6.2 I**	**950**
		11/1/2019	0.35 U	**23.8**	**6.9**	**920**
		3/19/2020	0.35 U	**13.2**	**6.8**	**638**
		9/16/2020	1.7 U	**15.8**	**3.7 I**	**935**
		3/17/2021	0.35 U	**14.4**	**4.9**	**806**
		9/14/2021	3.5 U	**8.8 I**	2.2 U	**457**
MLPV-IW0058	45 to 50	1/19/2015	2.4 U	**440**	**20**	**420**
		7/17/2015	6.1 U	**880**	**52**	**940**
		1/11/2016	6.1 U	**1500**	**60**	**1700**
		7/11/2016	0.61 U	**210**	**15**	**570**
		3/6/2017	0.61 U	**44**	**2.2**	**150**
		11/8/2017	0.61 U	**12**	**0.77 I**	**86**
		5/29/2018	0.61 U	**21**	**1.1 I**	**140**
		11/14/2018	0.61 U	**12**	**0.82 I**	**120**
		3/12/2019	0.61 U	**9.7**	**0.60 I**	**110**

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0058 (continued)	45 to 50	11/1/2019	0.35 U	**6.5**	0.22 U	**77.1**
		3/19/2020	0.35 U	**7.9**	**0.54 I**	**65.9**
		9/16/2020	0.35 U	**6.1**	0.22 U	**70.0**
		3/17/2021	0.35 U	**10.8**	**0.70 I**	**107**
		9/14/2021	0.69 U	**5.5**	0.44 U	**101**
MLPV-IW0059	45 to 50	1/19/2015	0.48 U	**51**	**5.4**	**92**
		7/14/2015	0.61 U	**510**	**35**	**770**
		1/11/2016	0.61 U	**250**	**30**	**400**
		7/11/2016	6.1 U	**1400**	**96**	**2300**
		3/6/2017	6.1 U	**3000**	**200**	**4000**
		11/8/2017	1.2 U	**2.4**	**54**	**600**
		5/29/2018	3.1 U	**17**	**110**	**1200**
		11/16/2018	0.61 U	**0.74 I**	**45**	**170**
		3/12/2019	0.61 U	**2.5**	**6.8**	**45**
		10/31/2019	0.35 U	**0.38 I**	**2.0**	**6.9**
		3/19/2020	0.35 U	**0.76 I**	**1.5**	**34.6**
		9/16/2020	0.35 U	0.28 U	**1.2**	**39.8**
		3/17/2021	0.35 U	**0.73 I**	**1.3**	**46.1**
		9/14/2021	0.35 U	0.28 U	0.22 U	**4.4**
MLPV-IW0060	40 to 50	1/19/2015	0.48 U	**2.3**	**0.41 I**	0.5 U
		4/6/2015	0.61 U	**1.4**	0.67 U	0.71 U
		7/14/2015	0.61 U	**1.2**	0.67 U	**0.79 I**
		1/11/2016	0.61 U	**0.75 I**	0.67 U	0.71 U
		7/13/2016	0.61 U	**68**	**6.1**	0.71 U
		3/6/2017	0.61 U	**120**	**16**	**1.6**
		11/8/2017	**36**	**2500**	**190**	**740**
		2/20/2018	**3.1**	**240**	**15**	**9.4**
		5/29/2018	**8**	**420**	**43**	**4.8**
		11/15/2018	0.61 U	**18**	**9.3**	**2.8**
		3/11/2019	0.61 U	**3.8**	**2.4**	**2.5**
		11/1/2019	0.35 U	**0.82 I**	0.22 U	**0.90 I**
		3/19/2020	0.35 U	**0.69 I**	0.22 U	**1.1**
		9/16/2020	0.35 U	0.28 U	0.22 U	**1.0**
		3/17/2021	0.35 U	0.28 U	0.22 U	**1.3**
		9/15/2021	0.35 U	0.28 U	0.22 U	**0.90 I**
MLPV-IW0061	35 to 40	1/18/2016	0.61 U	**0.75 I**	0.67 U	**59**
		3/28/2016	0.61 U	0.65 U	0.67 U	**47**
		5/31/2016	0.61 U	0.65 U	0.67 U	**48**
		3/7/2017	0.61 U	0.65 U	0.67 U	**53**
		8/9/2017	0.61 U	0.65 U	0.67 U	**38**
		11/8/2017	0.61 U	0.65 U	0.67 U	**41**
		2/20/2018	0.61 U	**0.35 I**	0.39 U	**29**
		5/30/2018	0.61 U	**0.52 I**	0.39 U	**37**
		11/14/2018	0.61 U	0.32 U	0.39 U	**24**
		3/12/2019	0.61 U	**0.57 I**	0.39 U	**25**
		10/31/2019	0.35 U	0.28 U	0.22 U	**20.6**
		3/19/2020	0.35 U	**0.46 I**	0.22 U	**16.6**
		9/16/2020	0.35 U	0.28 U	0.22 U	**18.4**
		3/16/2021	0.35 U	**0.50 I**	0.22 U	**15.7**
		9/13/2021	0.35 U	0.28 U	0.22 U	**13.0**

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0062	40 to 45	1/18/2016	1.2 U	**53**	1.3 U	**730**
		3/28/2016	0.61 U	**39**	**0.89 I**	**540**
		5/31/2016	0.61 U	**37**	**0.92 I**	**480**
		3/7/2017	1.2 U	**25**	1.3 U	**790**
		8/9/2017	3.1 U	**21**	3.4 U	**560**
		11/8/2017	1.2 U	**16**	1.3 U	**800**
		2/20/2018	3.1 U	**12**	1.9 U	**530**
		5/30/2018	1.2 U	**11**	0.78 U	**1100**
		11/14/2018	6.1 U	**7.3 I**	3.9 U	**920**
		3/12/2019	3.1 U	**7.8**	1.9 U	**1000**
		10/31/2019	0.35 U	**5.0**	**0.57 I**	**834**
		3/19/2020	0.35 U	**4.2**	**0.55 I**	**593**
		9/16/2020	0.35 U	**3.2**	**0.36 I**	**543**
		3/16/2021	0.35 U	**4.3**	**0.48 I**	**430**
		9/13/2021	0.35 U	**3.9**	0.22 U	**240**
MLPV-IW0063	35 to 40	1/18/2016	0.61 U	**18**	**0.99 I**	**260**
		3/28/2016	0.61 U	**4.3**	0.67 U	**38**
		5/31/2016	0.61 U	**15**	**1.1**	**180**
		3/7/2017	0.61 U	**6.9**	0.67 U	**150**
		8/9/2017	0.61 U	**12**	**0.82 I**	**180**
		11/8/2017	0.61 U	**3.1**	0.67 U	**2.3**
		2/20/2018	0.61 U	**2.9**	0.39 U	**4.7**
		5/29/2018	0.61 U	**1.2**	0.39 U	**6.1**
		11/14/2018	0.61 U	**1.6**	0.39 U	**3.8**
		3/11/2019	0.61 U	**0.96 I**	0.39 U	**0.59 I**
		11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
		3/19/2020	0.35 U	**0.59 I**	0.22 U	**0.86 I**
		9/16/2020	0.35 U	**1.5**	0.22 U	**1.7 JY**
		3/17/2021	0.35 U	**1.3**	0.22 U	**1.0**
		9/14/2021	0.35 U	**4.4**	022 U	**185**
		11/17/2021	2.2 U	**3.0**	1.8 U	**190**

Table 4-3
Biosparge Area CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
MLPV-IW0064	40 to 45	1/18/2016	0.61 U	**12**	0.67 U	**82**
		3/28/2016	0.61 U	**9.1**	0.67 U	**82**
		5/31/2016	0.61 U	**8.8**	0.67 U,J3	**59**
		3/7/2017	0.61 U	**7.8**	0.67 U	**70**
		8/9/2017	0.61 U	**13**	0.67 U	**93**
		11/8/2017	0.61 U	**1.4**	0.67 U	**2**
		2/20/2018	0.61 U	**2.6**	0.39 U	**7.9**
		5/29/2018	0.61 U	**2.4**	0.39 U	**12**
		11/14/2018	0.61 U	**3.5**	0.39 U	**8.8**
		3/11/2019	0.61 U	**1.5**	0.39 U	**0.70 I**
		11/1/2019	0.35 U	**0.93 I**	0.22 U	0.41 U
		3/19/2020	0.35 U	**1.7**	0.22 U	**7.5**
		9/16/2020	0.35 U	**4.6**	0.22 U	**1.5**
		3/17/2021	0.35 U	**4.1**	0.22 U	**5.0**
		9/14/2021	0.35 U	**15.3**	0.22 U	**235**
		11/17/2021	4.4 U	**14**	3.6 U	**380**

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 and date
bls = Below land surface
FDEP = Florida Department of Environmental Protection
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 = Estimated value
L = Value exceeds calibration range
NADC = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (2005)
SWMU = Solid Waste Management Unit
U = The analyte was not detected
µg/L = Micrograms per liter
Y = Incorrect pH readings from sample received/analyzed

Table 4-4
Hot Spot 3 (OFW Area) CVOC Groundwater Analytical Results
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Category			Volatile Organic Compounds (VOCs)			
Analyte			TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
State of Florida GCTLs (µg/L)			3	70	100	1
State of Florida NADCs (µg/L)			300	700	1000	100
Location ID	**Screened Interval (feet bls)**	**Sample Date**				
VABRA-MW0011	25 to 35	11/10/2015	0.61 U	**24**	**5.6**	**110**
		1/11/2016	0.61 U	**1.7**	**2.7**	**11**
		7/11/2016	0.61 U	**0.83 I**	**3.1**	**6.8**
		2/20/2017	0.61 U	0.65 U	**2.3**	**3.8**
		8/9/2017	0.61 U	0.65 U	**1**	**2.6**
		2/19/2018	0.61 U	0.32 U	**0.81 I**	**1.4**
		8/6/2018	0.61 U	0.32 U	0.39 U	0.26 U
		2/18/2019	0.61 U	0.32 U	**0.44 I**	**0.49 I**
		10/31/2019	0.35 U	0.28 U	0.22 U	0.41 U
		9/14/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U
VABRA-MW0012	15 to 25	11/10/2015	0.61 U	0.65 U	**0.67 I**	**4.2**
		1/11/2016	0.61 U	0.65 U	0.67 U	**1.6**
		7/11/2016	0.61 U	**7**	**1.9**	**20**
		2/20/2017	0.61 U	0.65 U	**0.81 I**	**1.7**
		8/9/2017	0.61 U	**2.5**	**1.1**	**7.2**
		2/19/2018	0.61 U	0.32 U	0.39 U	0.26 U
		8/6/2018	0.61 U	0.32 U	0.39 U	0.26 U
		2/18/2019	0.61 U	0.32 U	0.39 U	0.26 U
		10/31/2019	0.35 U	**0.69 I**	0.22 U	**1.0**
		9/14/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U
VABRA-MW0013	20 to 25	9/13/2018	0.61 U	**3**	**1.1 I**	**8.8**
		2/18/2019	0.61 U	**5.5**	**0.97 I**	**9.3**
		10/31/2019	0.35 U	**0.86 I**	**1.3**	**2.6**
		9/14/2020	0.35 U	0.28 U	**0.63**	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U
VABRA-MW0014	25 to 30	9/13/2018	0.61 U	**0.45 I**	**0.76 I**	**3.5**
		2/18/2019	0.61 U	0.32 U	**0.53 I**	**0.68 I**
		10/31/2019	0.35 U	0.28 U	0.22 U	0.41 U
		9/14/2020	0.35 U	0.28 U	0.22 U	0.41 U
		9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U

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 and date
bls = Below land surface
FDEP = Florida Department of Environmental Protection
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
NADC = Natural Attenuation Default Concentration, Chapter 62-777 Florida Administrative Code, Table V (2005)
SWMU = Solid Waste Management Unit
U = The analyte was not detected
µg/L = micrograms per liter

Table 4-5
Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0011I	35 to 40	05/29/2012	24.3	6.99	1.21	2.1	46	0.55	0.61	0.8	clear yellow
		01/27/2014	24.2	7.41	6.78	7.8	-93	0.27	2.81	2.65	clear
		07/22/2014	26.2	7.76	1.76	6.8	-147	0.44	0.85	1.09	clear
		01/21/2015	24.1	7.6	1.47	5.4	54	0.23	0.74	0.96	clear
		07/15/2015	26	7.11	1.64	17.2	-76	0.13	0.82	1.06	clear
		01/12/2016	23.4	7.21	1.45	5.1	-147	0.24	0.73	0.94	clear
		07/11/2016	26.9	7.26	1.52	2.1	-147	0.24	0.8	1.02	clear
		11/07/2017	25.5	7.2	2.41 *	1.9	-249	0.15 *	0.23	1.56	clear
		05/31/2018	26.2	7.35	2.52	5.9	230	0.23	0.13	1.63	clear
		03/06/2019	21.6	7.06	20.2	1.4	-246	0.43 *	0.11	1.43	clear
		10/31/2019	25.98	7.23	2.15	4.03	-254.3	0.09	-	-	clear
		3/18/2020	24.68	6.68	0.88	2.97	-183.9	0.38	0.44	-	yellow
		9/15/2020	26.2	7.23	1.73	1.08	-152.6	0.22	0.85	-	clear
		3/16/2021	23.9	7.26	1.64	1.89	-126.1	0.14	0.83	-	clear
		9/13/2021	26.7	7.16	1.261	1.71	-171.25	0.08	0.64	-	clear
IW0030	55 to 65	06/28/2010	29.2	7.19	2.97	11.1	-145	0.28	1.53	1.93	clear
		05/31/2012	27.1	7.47	3.65	13.8	-128	0.53	1.95	3.7	clear
		07/23/2014	26	7.55	3.31	11.4	-103	0.8	1.73	2.17	clear
		07/15/2015	25.9	7.49	3.14	14.3	-151	0.23	1.63	2.04	clear
		01/12/2016	20.3	7.53	3.33	2	-75	0.45	1.75	2.16	clear
		07/13/2016	29.2	7.49	3.2	5	-114	0.15	1.66	2.08	clear
		11/08/2017	24.5	7.56	3.41	0.7	-83	0.2	0.18	2.22	clear
		05/30/2018	27.5	7.54	3.6	13	375	0.09	0.19	2.34	clear
		03/05/2019	20.7	7.48	3.19	1.9	-16	0.28	0.17	20.07	clear
IW0032	30 to 40	05/31/2012	26.7	7.19	1.92	8.9	-252	0.28	0.97	1.25	clear
		09/26/2012	24.7	7.07	0.91	1.9	-105	0.95	0.45	0.59	clear
		08/19/2013	24.9	6.63	1.04	2.5	151	1.89	0.51	0.67	clear
		10/24/2013	24.2	6.91	1.05	7.7	-23	0.66	0.52	0.68	clear
		01/27/2014	24.2	7.25	1.01	8	32	0.69	0.52	0.66	clear
		04/16/2014	23.4	6.81	2.28	6	230	0.29	1.17	1.48	clear
		07/21/2014	25.4	7.38	3.88	14.7	-17	6.01	2.03	2.5	clear
		01/20/2015	24.7	7.28	2.4	10.1	35	4.63	1.23	1.56	clear
		07/15/2015	26.8	7.04	2.28	2.7	-17	1.11	1.17	1.48	clear
		10/06/2015	24.9	6.74	2.26	2.3	102	5.89	1.16	1.47	clear
		01/12/2016	23.2	7.19	1.97	2.5	94	5.49	1	1.28	clear
		07/13/2016	25.6	7.11	2.77	6.1	1	0.58	1.43	1.8	clear
		11/07/2017	26	8.61 *	2.23	0.86	160	5.10 *	0.11	1.45	clear
		05/31/2018	25.2	7.56	2.61	2.2	253	0.19	0.14	1.72	clear
		03/06/2019	21.1	7.08	2.46	0.39	-151	0.28 *	0.13	1.6	clear
		3/18/2020	23.81	7.08	4.44	2.32	-136.4	0.22	2.43	-	yellow
		11/30/2020	22.74	7.22	1.67	1.35	-52.7	0.45	0.26	-	clear
		3/16/2021	24.4	7.12	1.88	15.22	-119.4	0.13	0.98	-	clear
IW0033	40 to 50	05/31/2012	24.9	7.26	22.8	11.7	-152	0.23	13.75	14.82	clear
		09/26/2012	24.5	7.2	6.24	8.5	-89	0.79	3.42	4.11	clear
		08/19/2013	24.9	6.85	3.13	5.4	36	0.58	1.63	2.04	clear
		10/24/2013	24	7.01	7.4	4	-67	0.57	4.07	4.81	clear
		01/27/2014	23.6	7.25	5.3	9.9	10	0.2	2.81	3.7	clear
		04/16/2014	23.5	6.95	6.83	4	-62	0.21	3.74	4.43	clear
		07/21/2014	25.1	7.28	7.72	11.3	-108	0.91	4.21	4.98	clear
		01/20/2015	24.3	7.2	5.01	10.8	-47	1.59	2.69	3.25	clear
		07/15/2015	26	6.98	6.11	8.9	-80	0.4	3.31	4	clear
		10/06/2015	24.6	6.62	6.33	14.1	5	2.92	3.5	4.11	clear
		01/12/2016	23.4	7.06	4.6	3	-4	1.4	2.46	2.99	clear
		07/13/2016	25.8	6.94	6.65	12	-37	0.18	3.64	4.34	clear
		03/07/2017	24.2	7.31	6.42	13.5	-97	0.67	3.51	4.19	clear
		11/07/2017	25.1	8.79 *	5.63	30	165	1.83 *	0.3	3.65	clear
		05/31/2018	25.2	7.66	5.08	3.3	146	0.18	0.27	3.32	clear
		03/06/2019	20.6	6.96	5.29	4.2	-129	0.29 *	0.29	3.43	clear
		10/31/2019	25.81	7.22	6.52	2.09	-107.5	0.11	-	-	yellow
		3/18/2020	24.17	7.1	11.79	4.12	-137.8	0.12	6.84	-	clear
		11/30/2020	23.37	7.15	5.99	11.52	-66.1	0.41	0.72	-	clear
		3/16/2021	24.7	7.11	6.68	5.19	-118.5	0.11	3.67	-	clear

Table 4-5
Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0034	30 to 40	05/29/2012	25.5	6.96	5.48	13.1	-188	0.18	3.92	3.49	clear
		01/27/2014	24.6	7.03	5.53	10.9	-3	0.6	2.73	2.39	clear
		07/22/2014	26.2	7	2.8	5.3	-81	0.5	1.45	1.82	clear
		01/21/2015	24.7	6.86	2.4	16.3	-123	0.25	1.23	1.56	clear
		07/15/2015	26.2	6.98	2.34	2.3	-118	1.32	1.2	1.52	clear
		01/11/2016	24.2	7.08	1.8	5.1	-146	0.38	0.91	1.17	clear
		07/13/2016	26.1	7.05	2.48	16.3	-158	0.11	1.27	1.61	clear
		11/07/2017	26	8.69 *	1.77	17.1	185	2.20 *	0.09	1.13	clear
		05/31/2018	26.6	6.9	1.71	5.8	-26	0.75	0.09	1.12	clear
		03/06/2019	22.5	7.07	1.81	3.5	-63	0.31	0.09	1.18	clear
		10/31/2019	27.34	7.26	1.56	57.1	-85.5	0.22	-	-	brown
		3/18/2020	25.99	6.95	1.29	14.9	-71.9	0.17	0.64	-	yellow
		9/15/2020	27.4	7.08	1.22	3.96	-92.9	0.22	0.57	-	clear
		3/15/2021	24.6	7.11	1.04	1.22	-94.2	0.15	0.52	-	clear
		9/14/2021	26.72	6.99	0.832	8.38	-34.82	0.35	0.41	-	clear
IW0035	40 to 50	05/29/2012	25.9	7	10.93	13.7	-154	0.17	6.27	7.24	clear
		01/27/2014	24.7	7.2	3.72	13.5	-19	0.16	1.6	1.54	clear
		07/22/2014	26.3	7.08	6.58	10.1	-88	0.62	3.59	4.28	clear
		01/21/2015	24.5	7.1	6.03	8.8	-88	0.22	3.28	3.92	clear
		07/15/2015	26.1	7.09	5.13	6.4	-90	1.29	2.75	3.33	clear
		01/11/2016	23.4	7.14	4.1	12.9	-82	0.34	2.18	2.67	clear
		07/13/2016	27	7.04	4.8	3.9	-70	0.14	2.56	3.12	clear
		11/07/2017	26	9.91 *	5.08	3.7	43	0.11 *	0.27	3.24	clear
		05/31/2018	26	7.02	4.66	4.2	-80	0.25	0.25	3.03	clear
		03/06/2019	22.6	7.11	4.92	2.4	-48	0.24	0.26	3.2	clear
		10/31/2019	27.19	7.14	5.01	21.4	-108.3	0.18	-	-	clear
		3/18/2020	26.03	7.09	4.89	8.18	-68	0.18	2.56	-	clear
		9/15/2020	27.2	7.13	3.94	2.66	-65.4	0.17	1.99	-	clear
		3/15/2021	25	7.14	4.65	1.42	-72.6	0.2	2.31	-	clear
IW0036	40 to 45	05/29/2012	25.5	7.15	14.99	12.3	-326	0.39	8.69	9.73	clear
		01/28/2014	24.9	7.53	2.54	11.9	-81	0.28	1.3	1.63	clear
		07/22/2014	25.1	7.61	2.54	10.4	-71	0.95	1.31	1.62	clear
		01/22/2015	24.3	7.49	3.19	14.6	-216	0.19	1.66	2.07	clear
		07/15/2015	26.4	7.44	3	5	-250	1.11	1.55	1.95	clear
		01/12/2016	24	7.3	2.85	4.1	-193	0.42	1.48	1.85	clear
		07/13/2016	26.3	7.22	2.51	1.8	-168	0.1	1.2	1.63	clear
		11/07/2017	25.8	9.44 *	2.24	1.6	125	0.14 *	0.12	1.43	clear
		05/30/2018	25.9	7.3	2.08	1.2	438	0.01	0.11	1.36	clear
		03/06/2019	22.3	7.46	2.23	1.3	-85	0.32	0.11	1.45	clear
		10/31/2019	26.5	7.27	2.68	1.27	-203.7	0.28	-	-	clear
		3/18/2020	24.22	7.48	2.38	1.07	-109.4	0.17	1.24	-	clear
		9/18/2020	27.5	7.37	1.81	10.67	-264.7	0.12	0.88	-	clear
		3/15/2021	25.5	7.24	2.53	5.09	-195.4	0.35	1.29	-	clear
		9/14/2021	27.84	7.2	1.997	1.33	-158.39	0.13	1.03	-	clear
IW0037	40 to 50	05/29/2012	24.2	7.13	6.25	18.7	-17	1.14	3.41	4.06	clear
		01/27/2014	23.8	7.37	4.66	7.2	-35	0.08	2.6	3.15	clear
		07/22/2014	25.7	7.21	7.95	16.9	-111	0.31	4.41	5.2	clear
		01/21/2015	23.9	7.09	8.11	17.5	-85	0.22	4.5	5.28	clear
		07/15/2015	25.5	7.11	7.9	18.9	-122	0.1	4.36	5.13	clear
		01/12/2016	23	7.26	5.74	12.9	-112	0.39	3.12	3.73	clear
		07/11/2016	26.4	7.67	6.23	15.7	-83	0.17	3.27	3.92	clear
		11/07/2017	25.7	7.19	6.19 *	12.2	-95	0.81 *	3.36	4.02	clear
		05/31/2018	25	7.24	6.97	3.9	234	0.2	0.38	4.54	clear
		10/31/2019	25.87	7.26	8.1	1.41	-78.8	0.16	-	-	clear
		03/06/2019	20.6	7.1	6.72	0.82	-112	0.23 *	0.37	4.37	clear
		03/06/2019	20.6	7.1	6.72	0.82	-112	0.23 *	0.37	4.37	clear
		3/18/2020	24.55	7.23	8.09	2.21	-77.9	0.18	4.53	-	clear
		9/15/2020	26.1	7.18	5.49	4.97	-83.6	0.18	2.88	-	yellow
		3/16/2021	24.4	7.26	8.06	2.84	-80.4	0.17	4.53	-	clear
		9/13/2021	26.71	7.12	3.854	7.69	-111.79	0.08	2.06	-	clear

Table 4-5
Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0038	30 to 40	05/29/2012	24.1	7.13	0.74	11.1	-79	1.17	0.36	0.48	clear
		09/26/2012	25	7.03	1.49	6.2	-59	0.95	1.48	0.9	clear
		08/19/2013	26.5	6.62	1.92	8.1	96	1.38	0.97	1.24	clear
		10/24/2013	25	6.75	2.54	13.5	-44	0.63	1.31	1.65	clear
		01/27/2014	25.1	7.03	2.6	8.3	-40	0.32	1.31	1.66	clear
		04/16/2014	25.8	6.77	3.38	6.4	43	0.59	1.77	2.2	clear
		07/22/2014	26.4	6.92	4.3	5.9	5	4.97	2.28	2.79	clear
		01/21/2015	25.7	7.06	4.03	5.1	29	5.84	2.13	2.62	clear
		07/14/2015	27.6	7.61	3.97	0.81	-14	1.03	2.09	2.58	clear
		10/06/2015	27.2	6.82	4.02	1.2	102	9.73	2.12	2.62	clear
		01/12/2016	25.5	7.18	3.24	2.4	140	8.61	1.69	2.11	clear
		07/13/2016	28.4	7.04	4.23	6.2	20	0.29	2.24	2.75	clear
		11/07/2017	26.8	7.05	2.86 *	2.5	154	7.23 *	1.48	1.86	clear
		05/31/2018	26	6.99	3.3	0.42	9.8	0.85	0.17	2.15	clear
		03/06/2019	21.9	7.02	3.06	0.28	30	0.54 *	0.16	1.99	clear
		3/18/2020	25.2	7.1	2.39	0.88	-10.7	0.14	1.22	-	clear
		3/15/2021	25.5	7.19	1.59	0.72	-36.4	0.19	0.79	-	clear
IW0039	40 to 50	05/29/2012	23.7	7.13	6.82	14.4	-56	0.5	3.74	4.43	clear
		09/26/2012	25.1	7.1	7.34	8.9	-120	0.79	4.04	4.77	clear
		08/19/2013	26.7	6.9	2.67	7.6	-78	0.36	1.37	1.74	clear
		10/24/2013	24.8	6.98	7.55	6.9	-92	0.47	4.16	4.9	clear
		01/27/2014	25.2	7.19	4.34	3.2	-15	0.11	1.75	1.65	clear
		04/16/2014	25.1	6.92	7.48	13.1	-62	0.15	4.12	4.87	clear
		07/22/2014	26.4	7.51	5.74	15	-92	0.53	3.14	3.83	clear
		01/21/2015	25.3	6.88	5.15	7.5	-71	0.21	2.76	3.34	clear
		07/14/2015	27.2	7.29	5.1	6.2	-94	0.94	2.73	3.31	clear
		10/06/2015	26.7	6.64	4.64	7.2	-52	0.52	2.47	3.01	clear
		01/12/2016	25.4	7.02	3.91	3.7	-27	0.44	2.06	2.54	clear
		07/13/2016	27.2	6.9	4.91	3.7	-30	0.15	2.62	3.19	clear
		03/07/2017	24.3	7.13	6.27	15.1	-52	0.21	3.42	4.08	clear
		11/07/2017	26.4	6.95	4.30 *	2.6	0	0.45 *	2.27	2.79	clear
		05/31/2018	25.8	6.94	4.73	8.6	-41	0.3	0.25	3.08	clear
		03/06/2019	22.3	7.11	6.37	3.7	-68	0.86 *	0.35	4.14	clear
		10/31/2019	26.25	7.28	6.19	4	-76.3	0.16	-	-	clear
		3/18/2020	25.56	7.14	7.21	4.79	-77.2	0.18	3.91	-	clear
		9/15/2020	27.3	7.09	4.44	3.98	-54.3	0.25	2.23	-	clear
		3/15/2021	25.5	7.22	7.23	1.06	-75.1	0.17	3.93	-	clear
		9/14/2021	28.5	7.3	2.086	4.11	-200.4	0.29	-	-	clear
IW0040	30 to 40	05/29/2012	25.7	7.08	9.81	18.6	-175	0.13	4.27	5.92	clear
		09/26/2012	25.4	7.3	2.14	6.2	-118	0.41	1.09	1.39	clear
		08/19/2013	26.3	6.95	2.07	5	24	1.89	1.05	1.34	clear
		10/24/2013	24.9	7.03	1.85	5.8	-156	0.66	0.94	1.2	clear
		01/27/2014	24.8	7.35	1.87	9.1	-6	0.84	0.96	1.2	clear
		04/16/2014	25.3	6.81	2.49	10.2	-93	0.12	1.28	2.5	clear
		07/23/2014	25.6	7.3	4.36	15.4	-46	0.41	2.31	2.83	clear
		01/22/2015	24.6	7.24	4.25	2.9	6	2.65	2.25	2.76	clear
		07/15/2015	26.3	7.15	3.95	18.8	-41	1.2	2.08	2.57	clear
		10/06/2015	25.8	6.99	3.67	11.4	20	5.47	1.93	2.38	clear
		01/11/2016	22.3	7.23	3.19	2	96	5.5	1.67	2.07	clear
		07/13/2016	27.5	7.22	3.01	13.1	-11	0.3	1.56	1.96	clear
		11/07/2017	26.3	8.34 *	2.76	10.6	281	3.19 *	0.14	1.75	clear
		05/30/2018	25.9	7.18	2.39	11.8	-83	0.52	0.12	1.55	clear
		03/05/2019	22.4	7.06	2.44	19.7	-72	0.81	0.13	1.59	clear
		3/18/2020	28.28	7.31	3.17	13.16	-141	0.15	1.62	-	clear
		3/16/2021	24.9	7.1	1.42	5.09	-116.8	0.13	0.53	-	clear

Table 4-5
Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0041	40 to 50	05/29/2012	25.2	7.11	19.21	78.4	-143	0.07	11.15	12.25	cloudy
		09/26/2012	25.4	7.32	8.5	11.5	-138	0.75	4.76	5.59	clear
		08/19/2013	26	6.87	2.95	16.4	-78	0.27	1.53	1.92	clear
		10/24/2013	24.6	6.93	8.21	12.8	-79	0.2	4.55	5.34	clear
		01/27/2014	24.3	7.23	1.85	15.4	-31	0.2	1	1.19	clear
		04/16/2014	24.8	6.83	8.12	13.6	-85	0.08	4.5	5.27	clear
		07/23/2014	24.3	7.52	2.12	10.2	-22	0.69	1.4	1.61	clear
		01/22/2015	24.4	7.39	4.48	10.3	-88	0.22	2.39	2.91	clear
		07/15/2015	26.4	7.08	4.9	15.8	-110	0.12	2.62	3.19	clear
		10/06/2015	26.3	6.9	4.18	10.5	-91	0.25	2.21	2.73	clear
		01/11/2016	23.3	7.19	4.3	16.2	-91	0.45	2.28	2.79	clear
		07/13/2016	27.2	7.02	4.34	7	-52	0.09	2.35	2.82	clear
		03/07/2017	24.5	7.19	5.63	10.7	-83	0.17	3.04	3.65	clear
		11/07/2017	25.9	8.54 *	4.87	1.9	279	0.12 *	0.26	3.11	clear
		05/30/2018	26.4	7.1	4.2	10.9	-60	0.4	0.22	2.73	clear
		03/05/2019	22.7	7.17	5.26	2.1	-56	0.26	0.28	3.42	clear
		10/31/2019	27.54	7.2	4.7	20.9	-134	0.16	-	-	clear
		3/18/2020	25.8	7.18	9.64	2.07	-130.1	0.16	5.24	-	clear
		9/18/2020	26.5	7.14	3.92	4.25	-70.2	0.12	2	-	clear
		3/16/2021	23.9	7.16	4.81	5.32	-111.1	0.42	2.92	-	clear
		9/14/2021	26.76	6.97	3.652	3.51	-10.52	0.1	1.95	-	clear
IW0042	30 to 40	05/29/2012	23.8	7.3	0.91	47.6	-108	0.43	0.45	0.59	clear
		09/26/2012	25.3	7.3	0.79	17.9	-211	0.35	0.38	0.51	clear
		08/19/2013	26.1	6.88	0.9	16.2	-110	0.22	0.44	0.59	clear
		10/24/2013	24.8	6.94	1.26	15.1	-128	0.41	0.62	0.82	clear
		01/28/2014	24.8	7.11	1.2	10.5	-105	0.41	0.6	0.78	clear
		04/16/2014	25.2	6.69	1.87	15.2	-75	0.18	0.95	1.22	clear
		07/22/2014	25.7	7.1	1.83	12.3	-126	0.2	0.93	1.2	clear
		01/20/2015	25.2	7.13	3.17	12.1	-81	0.16	1.65	2.06	clear
		07/14/2015	26.8	6.69	3.88	18.3	-123	0.12	2.04	2.51	clear
		10/06/2015	26.3	6.52	3.53	4.7	-36	0.19	1.85	2.29	clear
		01/11/2016	23.3	6.88	2.58	11.3	-96	0.37	1.33	1.68	clear
		07/13/2016	27.8	6.75	3.41	5.9	31	0.1	1.78	2.22	clear
		11/07/2017	26.2	7.07	2.28 *	5	-17	0.17 *	1.16	1.48	clear
		05/30/2018	25	7.05	3.61	8.9	-64	0.3	0.19	2.35	clear
		03/06/2019	22.7	7.64	2.58	0.7	-46	0.29	0.13	1.68	clear
		3/18/2020	27.33	7.29	1.72	1.4	-63	0.13	0.83	-	clear
		3/16/2021	24.1	7.21	0.846	4.37	-99.3	0.22	0.38	-	clear
IW0043	40 to 50	05/29/2012	24.8	7.2	7.54	76.8	31	0.39	4.15	4.9	clear
		09/26/2012	25.2	7.39	7.27	10.9	-139	0.89	4.04	4.8	clear
		08/19/2013	25.6	6.94	2.36	6.8	-80	0.27	1.21	1.54	clear
		10/24/2013	24.7	7.1	8.98	9.7	-100	0.3	5.02	5.84	clear
		01/28/2014	25	7.13	4.86	8.8	-75	0.17	2.9	3.95	clear
		04/16/2014	24.7	6.97	8.71	12.9	-94	0.1	4.86	5.66	clear
		07/22/2014	25.7	7.22	7.08	8.7	-124	0.75	3.9	4.62	clear
		01/20/2015	24.9	7.29	6.01	9.2	-113	0.11	3.26	3.91	clear
		07/14/2015	26.6	6.95	6.48	12.9	-143	0.08	3.51	4.2	clear
		10/06/2015	26.4	6.7	5.45	6.2	-89	0.27	2.93	3.54	clear
		01/11/2016	22.6	7.17	5.73	2.6	-103	0.44	3.1	3.72	clear
		07/13/2016	27.8	7.05	4.84	17.3	-65	0.11	2.58	3.14	clear
		03/07/2017	24.5	7.14	7.64	17.5	-78	0.21	4.2	4.95	clear
		11/07/2017	26	7.09	5.13 *	1.6	-82	0.17 *	2.75	3.33	clear
		05/30/2018	25.1	7.15	4.43	14.7	-82	0.25	0.24	2.88	clear
		03/06/2019	21.6	7.52	6.97	2.1	-59	0.32	0.41	4.84	clear
		10/31/2019	27.96	7.38	6.11	0.61	-83.7	0.26	-	-	clear
		3/18/2020	25.9	7.38	7.18	3.94	-69.6	0.28	3.87	-	clear
		9/18/2020	27.4	7	3.53	6.38	-82.9	0.12	1.76	-	clear
		3/16/2021	24.3	7.13	6.78	5.19	-93.7	0.14	3.17	-	clear

Table 4-5
Former Hot Spot 2 (Air Sparge Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0044	40 to 50	07/06/2012	24.4	7.13	5.61	58.7	-119	0.37	3.03	3.64	clear
		01/28/2014	23.8	7.58	2.49	10	-61	0.24	1.26	1.6	clear
		07/23/2014	25	7.08	2.5	15.4	-54	1.1	1.31	1.63	clear
		01/20/2015	23.2	7.46	6.6	18	-116	0.12	3.61	4.29	clear
		07/15/2015	24.2	7.05	6.45	16.6	-109	0.53	3.52	4.19	clear
		01/12/2016	23.7	7	7.69	42	-124	0.28	4.25	5	clear
		07/12/2016	26.5	7.03	6.21	11.7	-113	0.1	3.37	4.03	clear
		11/07/2017	24.8	7.1	4.81 *	6.3	-130	0.70 *	2.57	3.12	clear
		05/30/2018	24.1	7.16	7.72	3.5	325	0.01	0.43	5.02	clear
		03/05/2019	23	7.18	6.16	2.3	-99	0.47	0.34	4	clear
		10/31/2019	25.45	7.17	5	5.33	-167.2	0.21	-	-	clear
		3/18/2020	24.69	7.07	12.36	7.98	-104.2	0.17	7.07	-	clear
		11/30/2020	22.83	7.16	4.97	15.36	-31.4	0.47	0.96	-	clear
		3/16/2021	23.5	7.06	5	2.98	-80.7	0.18	2.76	-	clear
IW0045	40 to 50	07/06/2012	24.1	7.04	3.47	64.5	-100	0.16	1.82	2.25	clear
		01/27/2014	23.4	7.17	3.25	9.7	6	0.32	1.7	2.1	clear
		07/22/2014	24.6	7.35	5.42	15.9	-81	0.75	2.9	3.48	clear
		01/20/2015	22.3	7.14	4.12	17.9	-91	0.27	2.19	2.68	clear
		07/15/2015	26.2	6.92	4.08	15.1	-80	0.69	2.16	2.65	clear
		01/12/2016	24.6	6.93	4.6	2.2	-145	0.28	2.45	2.99	clear
		07/12/2016	26.7	6.99	4.35	16.6	-131	0.09	2.3	2.83	clear
		11/07/2017	25.5	9.66 *	4.61	7.7	78	0.11 *	0.2	2.98	clear
		05/30/2018	25.1	7.62	4.85	1.2	358	0.01	0.26	3.16	clear
		03/06/2019	21.7	6.9	4.51	2.7	-84	0.33 *	0.24	2.94	clear
		10/31/2019	25.95	7.14	4.79	1.44	-107	0.13	-	-	clear
		3/18/2020	25.16	7.23	5.17	0.85	-83.8	0.15	2.77	-	clear
		9/15/2020	28.4	7	4.98	2.32	-77.9	0.15	2.49	-	clear
		3/16/2021	23.9	7.14	5.65	1.06	-69.6	0.25	3.12	-	clear
SAMW0004I	35 to 40	05/29/2012	25.3	7.03	9.01	12.5	-182	0.16	5.04	5.85	clear
		01/28/2014	24.4	7.38	2.21	8.8	-71	0.2	1.14	1.43	clear
		07/22/2014	25	7.43	6	14.3	-93	0.21	2.51	2.6	clear
		01/22/2015	24.3	7.48	1.08	3.3	-161	0.14	0.54	0.7	clear
		07/15/2015	27.5	7.4	1.12	1.3	-130	1.11	0.55	0.73	clear
		01/12/2016	24.2	7.23	1.11	4.5	-144	0.36	0.55	0.72	clear
		07/13/2016	28.2	7.17	1.04	3	-90	0.14	0.51	0.68	clear
		11/07/2017	26	7.18	1.01 *	2.2	-191	0.20 *	0.5	0.66	clear
		05/30/2018	25.4	7.12	1.36	0.86	363	0.08	0.07	0.89	clear
		03/06/2019	23	7.73	1.31	2.3	-67	0.33	0.07	0.85	clear
		10/31/2019	27.36	7.2	1.32	2.38	-168.6	0.18	-	-	clear
		3/18/2020	24.88	7.35	1.07	1.5	-87.6	0.16	0.53	-	clear
		9/18/2020	27.4	7.14	1.06	5.31	204.2	0.18	0.5	-	clear
		3/15/2021	26.5	7.1	1.12	2.1	-200.5	0.15	0.54	-	clear
		9/14/2021	29.03	7.13	0.813	1.44	-169.45	0.12	0.4	-	clear
SAMW0004D	45 to 50	05/29/2012	25.3	6.93	18.97	4.3	-102	0.13	11.28	12.36	clear
		01/28/2014	23.4	7.3	2.49	9.9	-87	0.21	1.3	1.62	clear
		07/22/2014	25.2	7.03	7.75	8.3	-100	0.98	3.95	4.64	clear
		01/22/2015	24.2	7.05	8.24	4.7	-157	0.16	4.57	5.36	clear
		07/15/2015	27.6	7.14	8.73	2.2	-146	0.98	4.85	5.68	clear
		01/12/2016	24.1	6.86	8.83	2.2	-194	0.3	4.93	5.74	clear
		07/13/2016	27.8	7.08	7.18	17.8	-276	0.05	3.91	4.66	clear
		11/07/2017	26.1	7.15	6.56 *	0.86	-252	0.21 *	3.59	4.29	clear
		05/30/2018	24.6	7.16	6.86	2.6	302	0.02	0.38	4.45	clear
		03/06/2019	22.6	7.33	8.61	1	-122	0.3	0.48	5.59	clear
		10/31/2019	27.15	7.12	8.33	2.43	-221.5	0.24	-	-	clear
		3/18/2020	25.35	7.3	8.48	3.96	-116.4	0.16	4.68	-	clear
		9/18/2020	27.3	7.16	6.59	3.08	-270.4	0.12	3.43	-	clear
		3/15/2021	25.6	7.09	8.17	8.11	-240.7	0.29	4.41	-	clear
		9/14/2021	29.04	7.14	5.004	1.4	-221.96	0.1	2.72	-	clear

Notes:
- = Not recorded
% = Percent
* = Probe failed continuing calibration verification (CCV)
°C = Degrees Celsius
bls = Below land surface
g/L = Grams per liter
mg/L = Milligrams per liter
mS/cm = MilliSiemens per centimeter
mV = Millivolts
NTU = Nephelometric Turbidity Unit
pH = Negative log of hydrogen ion concentration
S.U. = Standard units
SWMU = Solid Waste Management Unit
Locations have prefix "MLPV-"

Table 4-6
Biosparge Barrier Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
ASMW0001	35 to 40	09/22/2009	25.5	7.5	0.85	5.4	-275	0.87	0.41	0.55	clear
		03/23/2010	23.6	7.29	0.76	12.7	-184	0.62	0.37	0.49	clear
		10/01/2010	24.7	7.5	0.84	1.7	-80	0.32	0.41	0.55	clear
		03/15/2011	23.8	7.54	0.65	8.3	-151	1.46	0.32	0.43	clear
		09/26/2011	25.2	7.18	0.77	1.54	-128	0.26	0.37	0.5	clear
		03/16/2012	24.2	7.24	0.75	0.88	-141	0.27	0.37	0.49	clear
		08/24/2012	24.9	7.23	1.27	1.77	-146	8.59	0.63	0.83	clear
		03/18/2013	24.6	7.07	0.76	2.12	-106	0.15	0.37	0.5	clear
		10/25/2013	24.6	7.25	0.74	0.28	-133	0.66	0.36	0.48	clear
ASMW0002	35 to 40	09/22/2009	26.2	7.04	0.68	6.7	-314	0.74	0.32	0.43	clear
		03/23/2010	23.9	7.12	0.62	6.1	-278	0.46	0.3	0.4	clear
		10/01/2010	24.2	7.35	0.67	1.3	-176	0.14	0.33	0.44	clear
		03/15/2011	23.9	7.46	0.55	2.3	-225	0.96	0.27	0.36	clear
		09/23/2011	25	6.84	0.68	0.77	-202	1.64	0.33	0.44	clear
		03/16/2012	24.3	7.17	0.63	0.52	-198	0.29	0.31	0.41	clear
		08/23/2012	24.5	7.16	0.91	0.62	-293	1.5	0.44	0.59	clear
		03/18/2013	24.5	6.98	0.64	1.13	-206	0.17	0.31	0.41	clear
		10/25/2013	24.5	7.18	0.63	0.41	-217	1.17	0.3	0.41	clear
ASMW0003	35 to 40	09/22/2009	25.7	7.43	0.56	2.8	-318	0.59	0.27	0.36	clear
		03/23/2010	23.8	7.2	0.51	1.69	-271	0.43	0.25	0.33	clear
		10/01/2010	24.6	7.4	0.58	1.2	-166	0.11	0.28	0.38	clear
		03/15/2011	24	7.59	0.5	10.2	-223	0.51	0.24	0.33	clear
		09/23/2011	24.7	4.06	0.6	0.47	-247	0.72	0.29	0.39	clear
		03/16/2012	24.3	7.2	0.56	0.87	-212	0.26	0.27	0.37	clear
		08/23/2012	24.8	7.4	0.81	1.55	-207	6.69	0.39	0.53	clear
		03/18/2013	24.4	7	0.57	1.11	-190	0.16	0.27	0.37	clear
		10/25/2013	24.6	7.21	0.55	0.7	-178	0.84	0.26	0.36	clear
ASMW0004	35 to 40	09/22/2009	25.4	7.2	7.21	12	-38.2	0.18	3.97	4.7	clear
		03/24/2010	23	7.06	6.49	4.57	-94.9	0.41	3.54	4.22	clear
		10/01/2010	25.2	7.14	5.82	3	-108	0.31	3.15	3.78	clear
		03/15/2011	23.6	7.79	4.3	6.5	60.1	1.17	2.45	3.1	clear
		09/26/2011	24.7	7.15	6.33	3.49	-128	1.22	3.5	4.11	clear
		03/16/2012	24.1	7.29	4.54	1.26	-82.9	0.36	2.42	2.95	clear
		08/28/2012	25.1	7.08	7.09	2.12	-105	0.89	3.89	4.61	clear
		03/18/2013	23.8	7.04	4.14	2.08	-69.1	0.12	2.19	2.69	clear
		10/25/2013	24.4	7.05	4.26	2.26	-95.6	0.94	2.26	2.77	clear
		01/27/2014	23.8	7.1	4.31	6.31	35.8	0.51	1.4	2.52	clear
		04/17/2014	23.8	6.91	4.2	7.4	-62	0.21	2.23	2.73	clear
		07/22/2014	25.3	7.19	4.75	4.21	-131	0.64	2.54	3.11	clear
		10/27/2014	24.8	7.04	6.18	7.27	1	1.2	3.36	4.02	clear
		01/19/2015	23.7	7.42	5.04	9.39	-80	1.37	2.71	3.28	clear
		04/06/2015	24.7	7.13	3.8	3.1	195	1.29	2.01	2.45	clear
		07/14/2015	26.3	7.12	4.57	10.2	-61.2	0.38	2.43	2.97	clear
		01/11/2016	23.5	7.75	3.7	10.1	5.6	1.59	1.95	2.41	clear
		07/12/2016	26.3	7.42	3.11	3.09	-127	0.2	1.62	2.03	clear
		03/06/2017	23.9	7.39	2.31	4.8	-168	0.18	1.18	1.5	clear
		11/08/2017	25.2	9.23	3.37	1.75	-40.9	0.28 *	0.18	2.18	clear
		05/30/2018	25.8	7.2	3.51	7.96	-65.7	0.66	0.18	2.28	clear
		11/15/2018	24.2	7.21	4.01	5.45	-74	0.94	0.21	2.61	clear
		03/11/2019	25.3	6.78	4.26	7.24	15.8	1.45	-	-	clear
		11/1/2019	24.88	7.45	4.1	0.65	299.5	1.71	-	-	clear
		3/19/2020	24.72	7.4	3.54	1.27	15.2	0.24	1.87	-	clear
		9/16/2020	26.9	7.25	4.33	1.09	-41.3	1.17	2.19	-	clear
		3/17/2021	23.6	7.28	3.796	2.86	-25.6	0.21	2.06	-	clear
		9/15/2021	28.62	7.02	3.753	31.71	-149.72	0.13	2.01	-	clear
		11/17/2021	25.5	7.35	3.57	3.98	-193.8	0.3	-	-	clear

Table 4-6
Biosparge Barrier Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
ASMW0005	35 to 40	09/22/2009	26.7	7.46	32.7	0.45	-148	0.7	1.64	2.05	clear
		03/24/2010	23.3	7.27	2.49	3.16	9.5	1.3	1.28	1.62	clear
		10/01/2010	24.8	7.26	2.39	2.2	-96.3	0.89	1.22	1.56	clear
		03/15/2011	23.1	7.94	2.36	5.2	-7.5	2.19	1.26	1.51	clear
		09/23/2011	25.1	6.91	2.38	0.38	17.7	1.93	1.22	1.55	clear
		03/16/2012	23.9	7.33	1.41	0.37	-84.7	0.34	0.71	0.92	clear
		08/28/2012	25.2	7.11	3.01	0.78	-72.7	1.14	1.56	1.96	clear
		03/18/2013	23.8	7.03	1.71	0.8	-64.6	0.11	0.86	1.11	clear
		10/25/2013	24.4	6.97	2.26	0.36	-107	1.14	1.16	1.47	clear
		01/27/2014	23.7	7.17	2.22	3.79	1.8	0.34	1.21	1.15	clear
		04/17/2014	23.5	6.83	2.47	4.68	-39.3	0.15	1.27	1.6	clear
		07/22/2014	25.7	7.09	4.73	7.24	-135	0.46	2.5	3.06	clear
		10/27/2014	24.7	6.88	2.99	1.18	-40.4	0.79	1.55	1.94	clear
		01/19/2015	23.2	7.27	2.68	7.68	-71.6	0.44	1.39	1.74	clear
		04/06/2015	24.4	7.06	2.23	5.3	145	1.19	1.14	1.45	clear
		07/14/2015	25.1	7.17	2.34	2.17	119	0.94	1.2	1.52	clear
		01/11/2016	23.3	7.74	2.33	5.16	-26.4	0.66	1.2	1.51	clear
		07/12/2016	25.4	7.26	2.35	3.72	-28.2	0.65	1.2	1.53	clear
		03/06/2017	23.8	7.29	1.91	7.7	-109	0.17	0.97	1.24	clear
		11/08/2017	25.3	7.06	2.48	4.31	44.7	1.54	1.27	1.61	clear
		05/30/2018	25.1	7.14	2.78	1.86	7.4	1.87	0.14	1.81	clear
		11/16/2018	23.6	7.05	2.92	3.59	69.7	1.94	0.15	1.9	clear
		03/11/2019	25.2	6.6	3.27	3.13	58	2.63	-	-	clear
		11/1/2019	25.02	7.33	3.94	0.49	-244.2	4.28	-	-	clear
		3/19/2020	24.96	7.18	3.51	0.79	-15.4	0.61	1.84	-	clear
		9/16/2020	26.7	7.04	3.78	3.75	56.3	3.86	1.93	-	clear
		3/17/2021	24	7.17	3.43	4.76	60.9	1.72	1.83	-	clear
		9/15/2021	27.78	6.89	3.445	1.38	43.43	0.09	1.83	-	clear
ASMW0006	35 to 40	09/22/2009	25.7	7.73	4.05	11	-363	0.69	2.11	2.6	clear
		03/24/2010	23.6	6.92	3.45	0.44	-124	0.28	1.81	2.24	clear
		10/01/2010	24.8	6.95	3.66	2.3	-110	0.29	1.93	2.38	clear
		03/15/2011	23.3	8.13	2.93	3.3	-88.9	1.95	1.56	1.96	clear
		09/23/2011	24.9	7.12	3.74	2.46	-131	1.03	1.97	2.43	clear
		03/16/2012	24.1	7.15	3.36	1.83	-84.7	0.34	1.76	2.18	clear
		08/24/2012	24.9	6.85	5.4	12.6	-128	0.56	2.91	5.4	clear
		03/18/2013	23.9	6.87	3.15	1.31	-95	0.12	1.64	2.05	clear
		10/25/2013	24.2	6.96	3.26	0.64	-88.3	1.15	1.7	2.12	clear
		01/27/2014	23.5	7.22	3.13	1.76	-1.8	0.2	1.73	2.03	clear
		04/17/2014	23.7	6.88	3.44	6.69	-51.1	0.18	1.8	2.24	clear
		06/20/2014	25	6.9	3.48	8.4	-80	0.16	1.82	2.26	clear
		07/22/2014	25.6	7.19	3.21	3.26	-113	0.27	1.68	2.1	clear
		10/27/2014	24.8	6.99	4.13	0.52	-69	0.45	2.19	2.69	clear
		01/19/2015	23.5	7.24	3.83	6.64	-106	0.22	2.02	2.49	clear
		04/06/2015	24.5	7.41	3.11	7.7	-82.1	0.73	1.62	2.02	clear
		07/14/2015	26	7.45	3.74	7.96	-119	1.01	1.97	2.43	clear
		01/11/2016	23.5	8.03	3.34	1.03	-106	0.34	1.75	2.17	clear
		07/12/2016	25.6	7.44	2.6	4.36	-134	0.07	1.34	1.69	clear
		03/06/2017	23.8	7.09	2.6	13.2	-65.3	0.18	1.34	1.69	clear
		11/08/2017	25.3	8.41	3.5	14.1	19.4	0.07 *	0.18	2.26	clear
		02/20/2018	24.5	7.04	3.33	4.04	-115	0.41	0.17	-	clear
		05/29/2018	26.6	6.91	3.16	1	-90.6	0.14 *	0.17	2.06	clear
		11/16/2018	23.9	7.03	3.02	10.2	-97.2	0.43	0.16	1.96	clear
		03/11/2019	25.2	6.86	3.19	0.95	-57.7	1.18	-	-	clear
		11/1/2019	25,19	7.33	3.98	0.61	-289.1	0.23	-	-	clear
		3/19/2020	24.89	7.1	3.91	6.77	-56	0.19	2.07	-	clear
		9/16/2020	26.6	6.99	3.93	1.08	-73.8	0.2	2	-	yellow tint
		3/17/2021	25.5	7.02	3.98	4.04	-68.2	0.14	2.08	-	clear
		9/15/2021	26.68	6.93	3.413	2.27	-99.34	0.13	1.81	-	clear

Table 4-6
Biosparge Barrier Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0001D	50 to 55	6/3/2021	24.8	7.43	0.93	2.81	-212	0.77	-	-	clear
		9/16/2020	27.2	8.36	3.13	19.2	-182.6	0.1	1.67	-	yellow tint
IW0006IR	28 to 33	9/16/2020	28.8	7.07	5.99	5.22	-100.6	0.25	0.27	-	clear
		3/16/2021	25.7	7.45	1.197	2.13	-167.4	0.16	0.58	-	clear
		9/15/2021	26.57	7.17	0.85	26.32	-231.22	0.09	0.42	-	clear
IW0028I	28 to 33	3/16/2021	24.9	7.55	2.76	1.44	-107.7	0.11	1.42	-	clear
		9/14/2021	27.64	7.3	2.639	20.44	-179.79	0.12	1.38	-	clear
IW0031	25 to 35	09/27/2011	25.4	7.39	2.8	14.3	-137	0.85	1.45	1.82	clear
		08/24/2012	25.3	7.11	4.66	1.31	-177	1.43	2.49	3.03	clear
		03/18/2013	24.7	7.27	2.69	7.4	-75.8	0.15	1.39	1.75	clear
		10/25/2013	24.5	7.43	2.54	3.95	-117	0.96	1.31	1.65	clear
		04/17/2014	23.9	7.34	2.84	16.7	-100	0.08	1.47	1.85	yellow tint
		10/27/2014	25.2	7.38	2.71	10.6	-84.3	0.85	1.4	1.76	clear
		01/20/2015	24	7.7	2.67	6.94	-96.8	0.23	1.38	1.74	clear
		07/14/2015	26.3	7.36	2.32	7.68	-187	0.13	1.19	1.51	clear
		01/11/2016	23.8	7.9	2.33	1.4	-163	0.32	1.19	1.51	clear
		05/31/2016	25.5	7.58	2.17	4.31	-44.1	0.5	1.09	1.39	clear
		03/06/2017	24.6	7.49	2	7.2	-66.5	0.13	1.02	1.3	clear
		08/09/2017	26.3	7.61	1.77	2.7	-61.4	0.14	0.92	1.18	clear
		11/08/2017	25.7	6.69	1.98	3.55	-83.1	0.11	1	1.29	clear
		02/20/2018	24.7	7.22	2.03	3.17	-121	0.52	0.1	-	clear
		05/29/2018	25.6	7.14	2.14	6.08	431	0.1	0.11	1.39	clear
		11/16/2018	22.7	7.1	1.91	-	-96.2	0.5	0.1	1.24	clear
		03/12/2019	24.3	7.35	1.97	1.66	40	0.53	-	-	clear
		11/1/2019	25.17	7.14	2.04	1.18	-78.5	0.26	-	-	clear
		3/19/2020	26.66	7.18	3.83	2.62	-41.7	0.28	1.97	-	clear
		3/17/2021	23.1	7.19	1.78	7.65	-66.7	0.23	0.92	-	clear
		9/15/2021	28.5	7.52	1.809	13.29	-214.5	0.25	-	-	clear
IW0046	35 to 45	3/16/2021	25.7	7.28	13.79	3.26	-42	0.28	7.84	-	clear
		9/14/2021	28.78	7.13	11.542	6.75	-54.93	0.18	6.67	-	clear
IW0057	40 to 50	12/04/2014	23.9	7.14	0.75	14.3	-143	0.49	0.37	0.49	clear
		01/19/2015	24.2	7.46	6.02	18.6	-169	0.15	3.27	3.91	clear
		07/14/2015	25.1	7.09	5.19	15.3	-164	0.31	2.79	3.37	clear
		01/11/2016	23	7.85	5.36	5.39	-111	0.34	2.9	3.49	clear
		07/11/2016	26.5	7.69	4.26	2.96	-97.2	0.18	2.19	2.69	clear
		03/06/2017	24.3	7.24	5.46	15.5	-115	0.51	2.94	3.55	clear
		11/08/2017	25.3	7.27	5.25	3.7	-101	0.11	2.82	3.41	clear
		05/29/2018	26.5	7.07	5.52	5.54	-108	0.35 *	-	-	clear
		11/14/2018	25.5	7.05	5.33	2.86	-98.1	0.55	0.17	3.46	clear
		03/12/2019	24.4	7.09	5.59	9.15	-59.7	0.13	-	-	cloudy
		11/1/2019	24.5	7.19	5.34	0.59	-114	0.95	-	-	clear
		3/19/2020	26	7.21	5.29	1.08	-70.5	0.24	2.79	-	clear
		9/18/2020	27.1	7.18	5.66	2.47	-130.2	0.13	2.92	-	clear
		3/17/2021	23.4	7.25	5.78	4.36	-99.6	0.37	3.24		clear
		9/14/2021	26.8	7.36	4.088	14.21	-205.3	0.39	-	-	clear
IW0058	45 to 50	12/04/2014	23.8	7.25	1.78	18.6	-159	0.01	0.9	1.16	clear
		01/19/2015	24	7.47	2.13	18.2	-153	0.32	1.09	1.39	clear
		07/17/2015	24.7	7.09	2.66	12.7	-108	0.24	1.37	1.73	clear
		01/11/2016	22.9	8.02	3.32	11.2	-86.8	0.4	1.74	2.16	clear
		07/11/2016	26.9	7.51	2.04	4.1	-67.2	0.17	1	1.29	clear
		03/06/2017	24.1	7.26	3.14	15.3	-90.3	0.27	1.63	2.04	clear
		11/08/2017	25.2	9.40 *	3.51	5.54	117	0.07 *	0.18	2.27	clear
		05/29/2018	26.2	7.04	3.93	12.4	-99.2	0.18 *	0.21	2.56	clear
		11/14/2018	25.1	6.97	4	5.03	-91.5	0.69	0.21	2.6	clear
		03/12/2019	24.6	7.11	4.14	7.99	-52.5	-	-	-	cloudy
		11/1/2019	24.6	7.14	4.33	1.32	-117	0.66	-	-	clear
		3/19/2020	24.94	7.18	4.56	1.18	-58.4	0.37	2.44	-	clear
		9/18/2020	26.5	7.24	4.24	3.72	-125.9	0.25	2.18	-	clear
		3/17/2021	23.9	7.18	4.64	0.81	-93.9	0.25	2.54	-	clear
		9/14/2021	26.1	7.38	3.049	15.49	-205.6	0.25	-	-	clear

Table 4-6
Biosparge Barrier Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0059	45 to 50	12/04/2014	23.7	7.27	5.63	13.1	-167	0.72	3.04	3.65	clear
		01/19/2015	23.3	7.55	0.72	13.9	-192	0.18	0.35	0.47	clear
		07/14/2015	24.8	7.02	0.86	13.4	-227	0.24	0.42	0.58	clear
		01/11/2016	23.2	7.85	1.23	2.99	-196	0.33	0.64	0.83	clear
		07/11/2016	25.5	6.99	1.19	15.5	-153	0.26	0.59	0.78	clear
		03/06/2017	24.2	7.07	2.7	7.9	-96.3	0.26	1.41	1.75	clear
		11/08/2017	25.8	7.1	3.14	0.99	-146	0.12	1.63	2.06	clear
		05/29/2018	27.6	6.91	3.7	41.1	-117	0.54 *	0.19	2.41	clear
		11/16/2018	22.9	7.06	3.29	8.68	-137	0.6	0.17	2.14	clear
		03/12/2019	24.5	7.04	3.34	8.98	-33.2	0.23	-	-	cloudy
		11/1/2019	27.5	7.07	3.07	0.38	-172	0.31	-	-	clear
		3/19/2020	25.24	7.17	3.16	1.64	-65.2	0.28	1.64	-	clear
		9/18/2020	27.2	7.18	3.02	1.37	-138.4	0.15	1.5	-	clear
		3/17/2021	24.5	7.18	2.9	12.36	-89.1	0.15	1.46	-	clear
		9/15/2021	26.5	7.4	1.476	6.12	-207.9	0.3	-	-	clear
IW0060	40 to 50	12/04/2014	23.8	7.14	7.41	13.2	-155	0.02	4.08	4.81	clear
		01/19/2015	22.6	7.8	8.44	4.84	-246	0.16	4.69	5.46	clear
		04/06/2015	24.7	7.25	7.22	10.9	-231	0.25	3.99	4.72	clear
		07/14/2015	26	7.54	6.49	5.65	-124	1.1	3.53	4.21	clear
		01/11/2016	23.4	7.74	7.4	4.79	-137	0.29	4.08	4.8	clear
		07/13/2016	25.3	7.37	6.21	3.19	-91.8	0.1	3.35	4	clear
		03/06/2017	23.8	7.26	6.1	15.5	-74	0.17	3.25	3.96	clear
		11/08/2017	25.1	8.14	6.69	4.57	67.5	0.06 *	0.36	4.29	clear
		02/20/2018	24.5	7.07	7.55	4.89	-110	0.8	0.42	-	clear
		05/29/2018	25.8	7.04	6.69	18.2	-86.9	0.19 *	0.37	4.34	clear
		11/15/2018	24.5	7.14	6.38	4.28	-107	0.97	0.35	4.14	clear
		03/11/2019	25.3	7.02	5.71	5.12	-57	0.49	-	-	clear
		11/1/2019	25.28	7.56	6.71	5.57	-374.3	0.2	-	-	clear
		3/19/2020	25.22	7.25	6.5	1.64	-64.2	0.24	3.52	-	clear
		9/16/2020	26.5	7.25	6.74	1.02	-67.3	0.25	3.55	-	clear
		3/17/2021	25.3	7.11	6.8	5.32	-72.7	0.23	3.74	-	clear
		9/15/2021	26.89	7.1	5.787	1.63	-139.25	0.11	3.18	-	clear
IW0061	35 to 40	01/18/2016	22.4	7.15	1.97	53.1	-192	0.25	1	1.28	light grey
		03/28/2016	24.8	8.83	2.2	155	-81.1	0.33	1.12	1.41	cloudy grey
		05/31/2016	24.3	7.88	2.04	6.91	-123	0.6	1.05	1.34	clear
		03/07/2017	24.6	7.63	2.08	16.2	-122	0.57	1.06	1.36	clear
		08/09/2017	25.9	7.31	1.81	3.73	-97.1	0.22	0.91	1.18	clear
		11/08/2017	25.5	10.6 *	2.08	0.98	17.7	0.05 *	0.11	1.34	clear
		02/20/2018	25.4	4.71	2.07	3.19	-172	0.22	0.1	-	clear
		05/30/2018	25.3	7.39	2.22	0.83	326	0.1	0.11	1.44	clear
		11/14/2018	25.4	7.25	2.05	0.68	-129	0.6	0.1	1.33	clear
		03/12/2019	24.2	7.28	2.04	11.6	-111	0.32	-	-	clear
		10/31/2019	27.5	7.44	2.16	0.51	-198	0.4	-	-	clear
		3/19/2020	25.97	7.48	3.74	2.18	-110.2	0.17	1.93	-	clear
		9/18/2020	26.6	7.45	1.92	2.25	-198.6	0.29	0.94	-	clear
		3/16/2021	26.4	7.46	2.07	5.32	-128.4	0.12	1.02	-	clear
		9/13/2021	27	7.62	1.397	11.52	-220.6	1.17	-	-	clear
IW0062	40 to 45	01/18/2016	19.6	6.86	12	155	-422	0.16	6.86	7.83	grey
		03/28/2016	24.7	7.74	13.3	160	-68.2	0.25	7.62	8.62	cloudy grey
		05/31/2016	24.7	7.58	11.3	3.22	-124	0.62	6.48	7.41	clear
		03/07/2017	24.5	7.25	11.2	13.6	-126	0.26	6.33	7.25	clear
		08/09/2017	26	7.32	9.71	9.52	-96.8	0.19	5.45	6.31	clear
		11/08/2017	25.4	11.0 *	10.5	5.24	-49.6	0.07 *	0.59	6.81	clear
		02/20/2018	25.8	7.19	10.8	11.8	-118	0.27	0.61	-	clear
		05/30/2018	25	7.17	11	3.34	275	0	0.63	2.16	clear
		11/14/2018	25.5	7.15	9.59	2.67	-120	0.76	0.54	6.23	clear
		03/12/2019	24	7.36	9.89	14.4	-91	0.18	-	-	cloudy
		10/31/2019	28.6	7.18	9.84	2.65	-138	0.4	-	-	clear
		3/19/2020	25.86	7.26	17.74	2.29	-103.3	0.25	10.21	-	clear
		9/18/2020	27	7.18	9.04	1.62	-123.7	0.17	4.83	-	clear
		3/16/2021	26.7	7.19	9.42	15.32	-96.2	0.19	5.12	-	clear
		9/13/2021	26.9	7.44	6.051	16.2	-200.6	1.11	-	-	clear

Table 4-6
Biosparge Barrier Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
IW0063	35 to 40	01/18/2016	20.2	7.18	7.51	107	-484	0.17	4.17	4.9	grey
		03/28/2016	25	8.03	8.17	339	-78.7	0.21	4.53	5.32	cloudy grey
		05/31/2016	25.1	7.62	6.99	14.6	-130	0.5	3.82	4.53	clear
		03/07/2017	24.6	7.42	6.78	8.3	-117	0.15	3.71	4.41	clear
		08/09/2017	26	7.37	5.96	3.38	-88.4	0.14	3.23	3.87	clear
		11/08/2017	25.9	6.99	5.55	2.09	-121	0.11	2.99	3.6	clear
		02/20/2018	25	6.92	5.79	4.14	-117	0.35	0.31	-	clear
		05/29/2018	26	7.01	6.13	2.52	403	0.1	0.33	3.98	clear
		11/14/2018	26.2	6.72	5.92	2.51	-65.4	0.61	0.32	3.85	clear
		03/11/2019	25.9	6.21	6.2	13.2	-15.2	1.3	-	-	clear
		11/1/2019	25.6	6.95	5.75	0.79	-30.5	0.35	-	-	clear
		3/19/2020	25.57	7.02	11.33	2.57	-74.7	0.48	6.37	-	clear
		9/18/2020	28.2	7.14	5.62	4.15	-28.7	0.16	2.83	-	clear
		3/17/2021	23.6	7.02	4.7	4.64	-58.7	0.11	2.68	-	clear
		9/14/2021	27.2	7.41	3.089	6.21	-207.7	0.42	-	-	clear
		11/17/2021	26.3	7.37	4.45	2.79	-189.4	0.28	-	-	clear
IW0064	40 to 45	01/18/2016	24	6.95	16.4	115	-475	0.16	9.61	10.7	grey
		03/28/2016	24.9	7.77	18.5	14.2	-65.6	0.22	10.9	12	clear
		05/31/2016	24.9	7.39	15.7	10.6	-110	0.5	9.21	10.3	clear
		03/07/2017	24.7	7.24	16	16.6	-90.5	0.2	9.32	10.4	clear
		08/09/2017	26.1	7.18	13.9	12.3	-63.3	0.13	8	9	clear
		11/08/2017	25.9	7	14.5	15.6	-114	0.16	8.38	9.38	clear
		02/20/2018	24.9	6.88	14.9	4.21	-115	0.34	0.85	-	clear
		05/29/2018	26.2	6.94	15.4	0.78	437	0.09	0.89	9.95	clear
		11/14/2018	25.9	6.86	14.5	5.59	-97	0.48	0.84	9.4	clear
		03/11/2019	25.5	6.41	15.2	7.1	-54	0.2	-	-	clear
		11/1/2019	25.4	7.06	13.93	1.36	-103.9	0.23	-	-	clear
		3/19/2020	25.77	7.12	26.36	2.15	-84.9	0.27	15.96	-	clear
		9/18/2020	27.4	7.12	13.68	4.36	-125.7	0.08	7.41	-	clear
		3/17/2021	24.1	7.03	12.93	3.66	-69.1	0.11	7.58	-	clear
		9/14/2021	28.4	7.28	10.35	6.37	-200.7	0.93	-	-	clear
		11/17/2021	26.8	7.21	11.67	5.87	-185.4	0.25	-	-	clear

Notes:
- = Not recorded
% = Percent
* = Probe failed continuing calibration verification (CCV)
°C = Degrees Celsius
bls = Below land surface
g/L = Grams per liter
mg/L = Milligrams per liter
mS/cm = MilliSiemens per centimeter
mV = Millivolts
NTU = Nephelometric Turbidity Unit
pH = Negative log of hydrogen ion concentration
S.U. = Standard units
SWMU = Solid Waste Management Unit
ASMW0001 through ASMW0003 were removed from the sampling program in March 2014
Locations have prefix "MLPV-"

Table 4-7
Hot Spot 3 (OFW Area) Groundwater Geochemical Parameters
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 056

Location	Screened Interval (feet bls)	Date	Temp. (°C)	pH (S.U.)	Con-ductivity (mS/cm)	Turbidity (NTU)	Oxidation-Reduction Potential (mV)	Dissolved Oxygen (mg/L)	Salinity (%)	Total Dissolved Solids (g/L)	Color
MW0011	25 to 35	11/10/2015	25.5	6.83	0.82	17.3	-299	0.38	0.4	0.53	clear
		01/11/2016	23.5	7.66	1.7	15.2	-236	0.29	0.86	1.11	clear
		07/11/2016	27.6	7.77	0.56	13.9	-250	0.21	0.26	0.35	clear
		02/20/2017	23.5	7.24	0.67	9	-336	0.13	0.34	0.45	clear
		08/09/2017	28	7.44	0.56	2.3	-233	0.13	0.27	0.36	clear
		02/19/2018	25.3	7.27	0.62	5.9	-261	0.05	0.03	-	clear
		08/06/2018	27.7	7.95	0.66	2.1	-329	0.1	0.03	0.43	clear
		02/18/2019	25.2	7.34	0.66	1.6	-325	0.50 *	0.03	0.43	clear
		10/31/2019	27.9	7.2	0.67	0.78	-311	0.79	-	-	clear
		9/18/2020	27.7	7.13	0.67	5.62	-308.7	0.14	0.31	-	clear
		9/15/2021	27.3	7.44	0.591	15.29	-208.8	0.18	-	-	clear
MW0012	15 to 25	11/10/2015	26.1	6.71	0.54	11.8	-238	0.13	0.26	0.35	clear
		01/11/2016	24.5	7.64	0.6	6.7	-267	0.22	0.29	0.39	clear
		07/11/2016	28.5	7.7	0.51	13.3	-234	0.17	0.23	0.31	clear
		02/20/2017	23.5	7.21	0.61	11.3	-344	0.09	0.3	0.41	clear
		08/09/2017	27.6	7.35	0.51	1.6	-237	0.1	0.24	0.33	clear
		02/19/2018	25.4	7.26	0.61	8.9	-294	0.07	0.03	-	clear
		08/06/2018	27	7.45	0.64	1.3	-341	0.01	0.03	0.42	clear
		02/18/2019	25	7.3	0.6	2	-313	0.57 *	0.03	0.39	clear
		10/31/2019	28	7.18	0.59	1.13	-322	0.78	-	-	clear
		9/18/2020	27.6	7.2	0.61	9.51	-306.5	0.13	0.28	-	clear
		9/15/2021	27.6	7.55	0.519	4.38	-212.7	0.13	-	-	clear
MW0013	20 to 25	09/13/2018	27.9	7.41	0.66	13.4	-312	0.4	0.32	0.43	clear
		02/18/2019	25	7.37	0.7	5	-224	0.51 *	0.03	0.45	clear
		10/31/2019	28.2	7.23	0.67	1.89	-319	0.36	-	-	clear
		9/18/2020	27.8	7.21	0.67	4.54	-242.3	0.21	0.31	-	clear
		9/15/2021	26.3	7.43	0.576	10.21	-209.7	0.22	-	-	clear
MW0014	25 to 30	09/13/2018	26.9	7.4	0.67	11.4	-315	0.51	0.32	0.44	clear
		02/18/2019	25.1	7.38	0.66	9.4	-317	0.45 *	0.03	0.43	clear
		10/31/2019	27.3	7.22	0.69	12.4	-474	0.08	-	-	clear
		9/18/2020	28.2	7.29	0.68	2.53	-306.7	0.12	0.31	-	clear
		9/15/2021	26.7	7.53	0.594	5.44	-214.9	1.02	-	-	clear

Notes:
- = Not recorded
% = Percent
* = Probe failed continuing calibration verification (CCV)
°C = Degrees Celsius
bls = Below land surface
g/L = Grams per liter
mg/L = Milligrams per liter
mS/cm = MilliSiemens per centimeter
mV = Millivolts
NTU = Nephelometric Turbidity Unit
OFW = Outstanding Florida Waters
pH = Negative log of hydrogen ion concentration
S.U. = Standard units
SWMU = Solid Waste Management Unit
Locations have prefix "VABRA-"

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
WCPS									
B1: WCPS-IW0002 SRR	3-13	Proposed	WCPS	Replace IW0002SR, monitor E of 1SR	10/31/05 - 0.5 U (original IW002SR)	N/A	No	Move rock to locate or confirm destroyed/gone before replacing. Observed the location for 2SR is different in EGIS from current report figure. Will verify location in the field before changing figures.	2020 CMI Report, 2015 VABRA ECA Report
~~B2~~	~~3-13~~	~~Proposed~~	~~WCPS~~	~~Tighten distance between downgradient well 15S and 1SR; may eliminate if 15S is determined sufficient~~	~~N/A~~	~~1105~~	~~N/A~~	Eliminated. 15S is sufficient	~~2020 CMI Report~~
B3	15-25	Proposed	WCPS	Deeper interval well, downgradient of original source well IW0016	N/A	N/A	N/A		2020 CMI Report
WCPS-IW0001 SR	2.5-12.5	Existing	WCPS	Highest concentrations	9/14/20 - **54.3**	1475	VAB		2020 CMI Report
WCPS-IW0005 S	2-12	Existing	WCPS	Monitor to the W of 1SR	9/14/20 - 0.41U	N/A	No		2020 CMI Report
~~WCPS-IW0006 S~~	~~3-13~~	~~Existing~~	~~WCPS~~	~~Monitor to the NE of 1SR~~	~~6/3/20 - 0.41U~~	~~N/A~~	~~VAB~~	Eliminated. 5S is sufficient. Can be added later if groundwater flow variation determines necessary.	~~2020 CMI Report~~
WCPS-IW0015 S	3-13	Existing	WCPS	Downgradient - Eliminate from main sampling event since installing new well. Sample only if detections in new well.	9/14/20 - 0.41U	N/A	VAB	Currently used for water gauging only	2020 CMI Report
WCPS-IW0016	15-25	Existing	WCPS	Vertical evaluation	6/3/20 - 0.80 I	N/A	VAB		2020 CMI Report
1 to 25 Feet bls									
A1	1-10	Proposed	South side of OPF	Recent data will determine if this isolated LCP is still present	N/A	1127 (2.0 @ 6-10 ft bls)	N/A		2015 VABRA ECA Report
B1: WCPS-IW0002 SRR	3-13	Proposed	WCPS	Replace IW0002SR, monitor E of 1SR	10/31/05 - 0.5 U (original IW002SR)	N/A	N/A	Move rock to locate or confirm destroyed/gone before replacing. Observed the location for 2SR is different in EGIS from current report figure. Will verify location in the field before changing figures.	2020 CMI Report
~~B2~~	~~3-13~~	~~Proposed~~	~~WCPS~~	~~Tighten distance between downgradient well 15S and 1SR; may eliminate if 15S is determined sufficient~~	~~N/A~~	~~1105~~	~~N/A~~	Eliminated. 15S is sufficient	~~2020 CMI Report~~
B3	15-25	Proposed	WCPS	Deeper interval well, downgradient of original source well IW0016	N/A	N/A	N/A		2022 CMI Report
WCPS-IW0001 SR	2.5-12.5	Existing	WCPS	Highest concentrations	9/14/20 - **54.3**	1475	VAB		2023 CMI Report
WCPS-IW0005 S	2-12	Existing	WCPS	Monitor to the W of 1SR	9/14/20 - 0.41U	N/A	No		2024 CMI Report
~~WCPS-IW0006 S~~	~~3-13~~	~~Existing~~	~~WCPS~~	~~Monitor to the NE of 1SR~~	~~6/3/20 - 0.41U~~	~~N/A~~	~~VAB~~	Eliminated. 5S is sufficient. Can be added later if groundwater flow variation determines necessary.	~~2020 CMI Report~~
WCPS-IW0015 S	3-13	Existing	WCPS	Downgradient - Eliminate from main sampling event since installing new well. Sample only if detections in new well.	9/14/20 - 0.41U	N/A	VAB	Currently used for water gauging only	2026 CMI Report
WCPS-IW0016	15-25	Existing	WCPS	Vertical evaluation	6/3/20 - 0.80 I	N/A	VAB		2027 CMI Report
Z1	15-25	Proposed	Launcher Road /Crawlerway	Confirm absence/presence of isolated low level TCE plume	N/A	1234 (TCE, **3.8**) 18-22	N/A		2015 VABRA ECA Report

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
20 to 35 Feet bls									
C1	25-35	Proposed	Outside NW corner of plume	Perimeter well to provide boundary/edge of NW corner of LCP since GCTL exceedance in nearby well - 28I screened 28-33 ft bls.	N/A	1207 (**2.7**), 1205 (1.0)	N/A	No detections in these DPT locations from 26-30 ft bls; however, detections and exceedances from 26-35 ft bls.	2015 VABRA ECA Report
C2	25-35	Proposed	E side of rail road tracks	Verify absence or presence of VC downgradient in marsh/wetland area; downgradient of impacted well 6 IR screened 28-33 ft bls.	N/A	No DPT data in this area	N/A	Installation will depend on accessibility - clearing and dry conditions.	2021 DPT Data, 2020 CMI Report
C3	25-35	Proposed	E side of rail road tracks	Verify absence or presence of VC downgradient in marsh/wetland area, and downgradient of impacted well 6 IR screened 28-33 ft bls; provide boundary data.	N/A	No DPT data in this area	N/A	Installation will depend on accessibility - clearing and dry conditions.	2021 DPT Data, 2020 CMI Report
C4: MLPV-IW0002 IR	28-33	Proposed	Former Hot Spot 4	Replace IW0002 I screened 28-33, will provide data to determine absence or presence of LCP to the NW (in accompaniment to C1, C2, and C3).	5/17/2010 - 0.16 U (original well)	N/A	N/A		EGIS
C5	20-30	Proposed	NW corner of OPF	Confirm presence/absence of isolated LCP NW of OPF.	N/A	1101 (1.5)	N/A		2015 VABRA ECA Report
C6	25-35	Proposed	SW VAB paved lot	Last data from VAB RA (DPT). Recent data will determine whether this isolated LCP is still present. N end.	N/A	1257 (TCE **3.5**)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
C7	25-35	Proposed	SW VAB paved lot	Last data from VAB RA (DPT). Recent data will determine whether this isolated LCP is still present. N and W sides.	N/A	1498 (TCE **3.8**)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
C8	25-35	Proposed	SW VAB paved lot	Last data from VABRA (DPT). Recent data will determine whether this isolated LCP is still present. South/downgradient end. Verification not satisfied with SATV-IW0004I (25-30) because screened too shallow. TCE was detected at 31-35 ft intervals.	N/A	1523 (TCE **3.6**)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
C9	25-35	Proposed	SW VAB paved lot	Last data from VAB RA (DPT). Recent data will determine whether this isolated LCP is still present. South/upgradient end. Located between DPT1526 and 1251 (centralized area of this plume. Also serves as downgradient well for plume to the NW). Verification not satisfied with SAT-IV0009 I(22-27) because screened too shallow.	N/A	1526 (DCE **90.3**), 1251 (DCE **94.8**)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
C10	20-30	Proposed	SW of CCCPF	Confirm presence/absence of isolated LCP SW of Commercial Crew & Cargo Processing Facility.	N/A	1050 (TCE 9.2 @ 20-30 ft bls)	N/A		2015 VABRA ECA Report
MLPV-IW00006 IR	28-33	Existing	N edge of LCP	Monitor leading edge of LCP, N and center.	9/15/21 - **1.8**	N/A	BSA		2021 Data
MLPV-IW00027 I	28-33	Existing	N edge of LCP	Monitor leading edge of LCP, NE; 6 IR to the W had 1.8 VC in August 2021	11/8/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW00028 I	28-33	Existing	N edge of LCP	Monitor leading edge of LCP, NW	9/15/21 - **2.3**	N/A	BSA		2021 Data
MLPV-IW0009 I	28-33	Existing	N end Former Hot Spot 2	Obtain upgradient data for this interval. Want to monitor upgradient contamination at this interval. Evaluate whether detections at the edge of plume are residual, isolated, or being fed over time.	6/3/20 - 0.72 I	613 (**2.1**)	VAB	Likely residual	EGIS, 2018 CMI Report, 2020 CMI Report
VABU-IW0001 I	20-30	Existing	NW corner of Utility Annex	Part of existing LCP LTM plan and screened within interval	6/3/20 - 0.41 U	N/A	VAB		2020 CMI Report
SATV-IW0009 I	22-27	Existing	NW corner of Utility Annex	Part of existing LCP LTM plan and screened within interval	6/3/20 - 0.41 U	N/A	VAB		2020 CMI Report

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
35 to 45 Feet bls									
ASMW0004	35-40	Existing	N edge of LCP	Monitor leading edge of LCP, N and center	9/15/21 - 926	N/A	BSA		2021 Data
ASMW0006	35-40	Existing	N edge of LCP	Monitor leading edge of LCP, NE	9/15/21 - 0.41 U	N/A	BSA		2021 Data
D1	35-45	Proposed	Former Hot Spot 4	Perimeter wells to provide boundary/edge of NW corner of LCP; no detections in DPT at the exact location; however, detections and exceedances to the E. Need recent data to determine extent of LCP in this direction otherwise open-ended. An area was brought up during previous ADP discussions.	N/A	1210 (**1.5, 1.6**) 36-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
D2	35-45	Proposed	Outside of NW corner of plume	Perimeter well to provide more data at NW corner of LCP since GCTL exceedance in nearby well -46 screened 35-45 ft bls and exceedance in 2021 DPT samples (DPT0703)	N/A	1207 (**10.0**), 1205 (**1.6**), 703 (**25, 8**) 31-45 ft bls.	N/A	Highest detection at 36-40 ft bls, no recent data past 41-45 ft bls. Alternate location proposed: Other side of the railroad tracks.	2015 VABRA ECA Report
D3	35-45	Proposed	E side of rail road tracks	Verify absence or presence of VC downgradient in marsh/wetland area; downgradient of impacted well -ASMW0004 screened 35-40 ft bls with concentrations exceeding NADCs.	N/A	no DPT data in this area, upgradient 631 (**37,** 270) 35-45 ft bls	N/A	Installation will depend on accessibility - clearing and dry conditions.	2015 VABRA ECA Report
D4	35-45	Proposed	E side of rail road tracks	Verify absence or presence of VC downgradient in marsh/wetland area, and downgradient of impacted wells -ASMW0004 and -ASMW0006 screened 35-40 ft bls; provide boundary data.	N/A	no DPT data in this area	N/A	Installation will depend on accessibility - clearing and dry conditions.	2015 VABRA ECA Report
D5	35-45	Proposed	NE edge of LCP	Monitor leading edge of LCP, NE, where 2021 DPT samples are located. No well currently exists to monitor this interval SE of the BS system.	N/A	707 (240), 708 (**9, 7**) 36-45 ft bls.	N/A		2015 VABRA ECA Report, 2021 Data
D6	35-45	Proposed	SE edge of LCP	Provide perimeter data to the SE	N/A		N/A		2015 VABRA ECA Report
D7	35-45	Proposed	NE of VAB	Latest data are from VAB RA (DPT). Recent data will provide current conditions south/upgradient of air sparge area. Verify whether the plume terminates here for 35-45	N/A	535 (**17.2**, **39.9**)	N/A	Detections were reported at shallower intervals at 535 (from 2010); however, downgradient locations 604, 623, and 617 were sampled in 2018 indicated no exceedances/detections at this interval. Assumed attenuated, therefore focused on 35-45 ft bls interval.	2015 VABRA ECA Report
D8	35-45	Proposed	N of VAB	Confirm presence/absence of LCP at that distance to the W; nearby well IW0012 I is screened to 40 ft; however, DPT detections were from 41-45 ft bls. The one interval with no corresponding well in this area. Propose installing 75 ft S of IW0012I and 12D, closer to historical DPT location.	N/A	1058 (**29.4**) 41-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
D9	35-45	Proposed	Center MLP	Recent data will determine whether this isolated LCP is still present.	N/A	1480 (**1.9**), 1220 (TCE **3.7**) 41-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
D10	35-45	Proposed	SW VAB paved lot	Low-level TCE detected in historical DPT location at an interval where there is currently no well screened. Last data from VAB RA (DPT). Recent data will determine whether this isolated LCP is still present. South/upgradient end.	N/A	1267 (TCE 3.6, 4.6) 36-45 ft bls	N/A		2015 VABRA ECA Report

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
MLPV-IW0011 I	35-40	Existing	N of VAB	Central portion of both LCP and HCP	9/13/21 - 0.41 U	N/A	HS2		2021 Data
MLPV-IW0012 I	35-40	Existing	N of VAB	Monitor southern W edge of LCP	5/26/16 - 0.50 U	N/A	VAB		EGIS
MLPV-IW0014 I	35-40	Existing	NE VAB	Provide upgradient data from 35-40 intervals. Upgradient of the air sparge area.	8/19/14 - **3.2**	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0017 I	35-40	Existing	E edge of LCP	Provide perimeter data to the E	10/28/05 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0046	35-45	Existing	N edge of LCP	Monitor leading edge of LCP, NW	9/15/21 - **10**	N/A	BSA		2021 Data
MLPV-IW0047	35-40	Existing	N of VAB	Monitor northern W edge of LCP	6/2/20 - 0.56 I	N/A	VAB		
MLPV-IW0049	38-48	Existing	S of VAB	Recent data will provide current conditions. SW corner of VAB. May help tighten LCP boundary.	5/26/16 - 0.50 U	N/A	VAB	Currently used for water gauging. Sample if D7 (new well to the NE) returns noteworthy exceedances.	EGIS
MLPV-IW0056	30-40	Existing	S of VAB	Recent data will provide current conditions. SE corner of VAB. May help tighten LCP boundary.	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging. Sample if D7 (new well to the N) returns noteworthy exceedances.	EGIS
MLPV-SAMW0001	43-48	Existing	NE of VAB	Part of existing LCP LTM plan and screened within interval	6/3/20 - 0.41 U	N/A	VAB		2020 CMI and IM Report
MLPV-SAMW0003	43-48	Existing	NE of VAB	Adjacent to IW0014I(35-40). SAMW0003 provides data from 43-48. Together, they provide data from 35-45. Eliminates need for a new well in this location	6/3/20 - **3.3**	N/A	VAB		2020 CMI and IM Report
MLPV-IW00053	35-45	Existing	N of VAB	Part of existing LCP LTM plan and screened within interval.	6/3/20 - **76**	N/A	VAB		2020 CMI and IM Report
47 to 57 Feet bls									
E1	47-57	Proposed	N edge of LCP	Leading edge of LCP, downgradient HCP, N and center. Screen 47-57 based on 2013 cross-section. Upgradient detections at 45-50 in IW0009D and 50-55 in IW0001D (1D resampled in 2020 and not >GCTL). DPT is greater than NADC in 2021 from 41-49 ft bls.	N/A	631 (180) @45-49 ft bls	N/A	Also proposing to install D3 (35-45) adjacent to this one; Installation will depend on accessibility - clearing and dry conditions.	2021 DPT data
E2	47-57	Proposed	NE edge of LCP	Monitor leading edge of LCP, NE, downgradient of 2021 DPT samples	N/A	708(200), 707(**15**), 706(850)	N/A	Installation will depend on accessibility - clearing and dry conditions.	2021 DPT data
E3	47-57	Proposed	N of VAB	Confirm presence or absence to the E. 2021 DPT data indicated low VC below 47 ft bls.	N/A	638(**48**)@45-49	N/A		2021 DPT data
E4	47-57	Proposed	N of VAB	Last data from VAB RA (DPT). Recent data will provide current conditions. Southwest/upgradient of air sparge area.	N/A	623(**94.3**) in 2018, 640(320) in 2021	N/A		2019 CMI Report, 2021 DPT data
E5 (See note)	47-57	Proposed	N of AS area	In the location of 2021 DPT 642 with low-level VC at 51-55 ft bls.	N/A	642(**8**)	N/A	Also within the HCP. Want to avoid creating a conduit or interference with potential placement of additional sparge wells.	2021 DPT data
E6	40-50	Proposed	NW of VAB	Determine whether VC still extends to this reach considering groundwater flow and age of current data.	N/A	1484(**14.4, 6.2**), 1054(**537**), 1488 (**4.6, 10.4**) in 2013	N/A	Centralized within several historical DPT locations.	2015 VABRA ECA Report
E7	40-50	Proposed	W of VAB	Determine extent of reduction or if LCP persists in this brand of the plume based on groundwater flow direction.	N/A	1126(**7.4**) in 2012	N/A		2015 VABRA ECA Report
E8	45-55	Proposed	S of VAB	Confirm absence/presence in this area. No data since VABRA DPT.	N/A		N/A		2015 VABRA ECA Report

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
E9	47-57	Proposed	S of VAB	Confirm absence/presence contamination to the SE	N/A	1272(**2.6**) in 2013	N/A	Located in a central location of the plume's bend. It appears wells IW0050 and IW005D have been installed in areas with higher concentrations detected during the VABRA DPT Event. Intervals 46-50 and 51-55 were impacted.	2015 VABRA ECA Report
E10	47-57	Proposed	S of VAB	Confirm absence/presence contamination at the southern most end of the plume	N/A	1378(**2.6**) in 2013	N/A	Located in a central location of the plume's SW tip. Intervals 46-50 and 51-55 were impacted.	2015 VABRA ECA Report
E11	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE; N end. Located in a centralized point where the sample had the highest concentration.	N/A	1501(**5.7**)	N/A		2015 VABRA ECA Report
E12	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE; Mid-center of plume.	N/A	1251(**2.8**)	N/A		2015 VABRA ECA Report
E13	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE; S end	N/A	1267(**1.7**)	N/A	SATV-IW0010 (40-50) is screened above the areas where VC was detected (51-55)	2015 VABRA ECA Report
E14	47-57	Proposed	E side of VAB	Provide data in 'gap' E of E4 and South of E4.	N/A	N/A	N/A		
E15	47-57	Proposed	E side of VAB	Verify detections following NADC exceedances at 46 to 50 feet bls. GCTL exceedances from 31 to 55 feet bls.	N/A	1341 (**280**)	N/A		2015 VABRA ECA Report
MLPV-IW0018D	50-55	Existing	E of VAB	Completes 47-57 interval when sampled together with MLPV-0020D	6/3/20 - **3.1**	N/A	VAB		2020 CMI Report
MLPV-IW0020D	45-50	Existing	E of VAB	Completes 47-57 interval when sampled together with MLPV-0018D	6/3/20 - 0.41 U	N/A	VAB		2020 CMI Report
MLPV-IW0001D	50-55	Existing	N edge of LCP	Vertical well at leading edge of LCP and HCP, N and center.	9/16/20 - 0.41 U	N/A	VAB	Deeper than 27D and 28D	2020 CMI Report
MLPV-IW0005D	52-57	Existing	SW of VAB	Provides complete 47-57 ft bls interval data when sampled with IW0050 (40-50). Dept data where these wells were installed indicated exceedances at 46-50 and 51-55 ft bls in 2013.	6/3/20 - 0.41 U	N/A	VAB	Alternate ID: MLPV-VAB-IW0005D; If abandoned, replace with new well screened from 47-57 ft bls.	2020 CMI Report
MLPV-IW0012D	45-50	Existing	SW of AS Area	Provide partial interval data SW area of LCP. Only well that shares 47-57 screen within this area of the LCP.	6/3/20 - **9.7**	N/A	VAB		2020 CMI Report
MLPV-IW0022D	48-55	Existing	SW of VAB	Verify border to the SW and concentrations close to the VAB facility	11/12/10 - 0.22 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0029D	42-47	Existing	NW of VAB	Confirm presence/absence of LCP at center of first 'arm'	10/4/18 - **40**	N/A	VAB		EGIS
MLPV-IW0050	40-50	Existing	SE of VAB	N of E18 and 19, north/upgradient end of 'foot' (groundwater flow to ESE). Provides complete 47-57 ft bls interval data when sampled with IW0005D (52-57). DPT data where these wells were installed indicated exceedances at 46-50 and 51-55 ft bls in 2013.	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0051	45-55	Existing	S of VAB, W of E17	Confirm absence/presence contamination at SE most end of plume	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW00052	40-50	Existing	NE of VAB	Part of existing LCP LTM plan and screened within interval	6/3/20 - **73.8**	N/A	VAB		2020 CMI Report
MLPV-IW0054	40-50	Existing	N of VAB	Confirm presence/absence of LCP at that distance to the W	5/26/20 - 0.50 U	N/A	VAB	Currently used for water gauging only	2020 CMI Report
MLPV-IW0055	40-50	Existing	NW of VAB	Confirm absence/presence of contamination at western most 'arm'	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0060	40-50	Existing	N edge of LCP	Monitor leading edge of LCP, NE	9/15/21 - **4.4**	N/A	BSA		2020 CMI Report
MLPV-IW009D	45-50	Existing	NW of AS area	Provide partial interval data W of E5 (47-57)	6/3/20 - **32.6**	N/A	VAB		2020 CMI Report
PRES-IW0009	40-50	Existing	Press Site	Part of existing LCP LTM plan and screened within interval.	6/2/20 - 1.2	N/A	VAB		2020 CMI Report

Table 4-8
LCP LTM Monitoring Well Network Rationale
Mobile Launch Platform Rehabilitation Sites / Vehicle Assembly Building Area, SWMU 056

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose / Rationale	Date of Nearby Well Last Sampled - VC (µg/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
Hot Spot 3 OFW/ Hot Spot 3 Area									
This area was not included in the LCP evaluation. The plume associated with these areas is evaluated in connection with the ongoing IM activities within Hot Spot 3.									

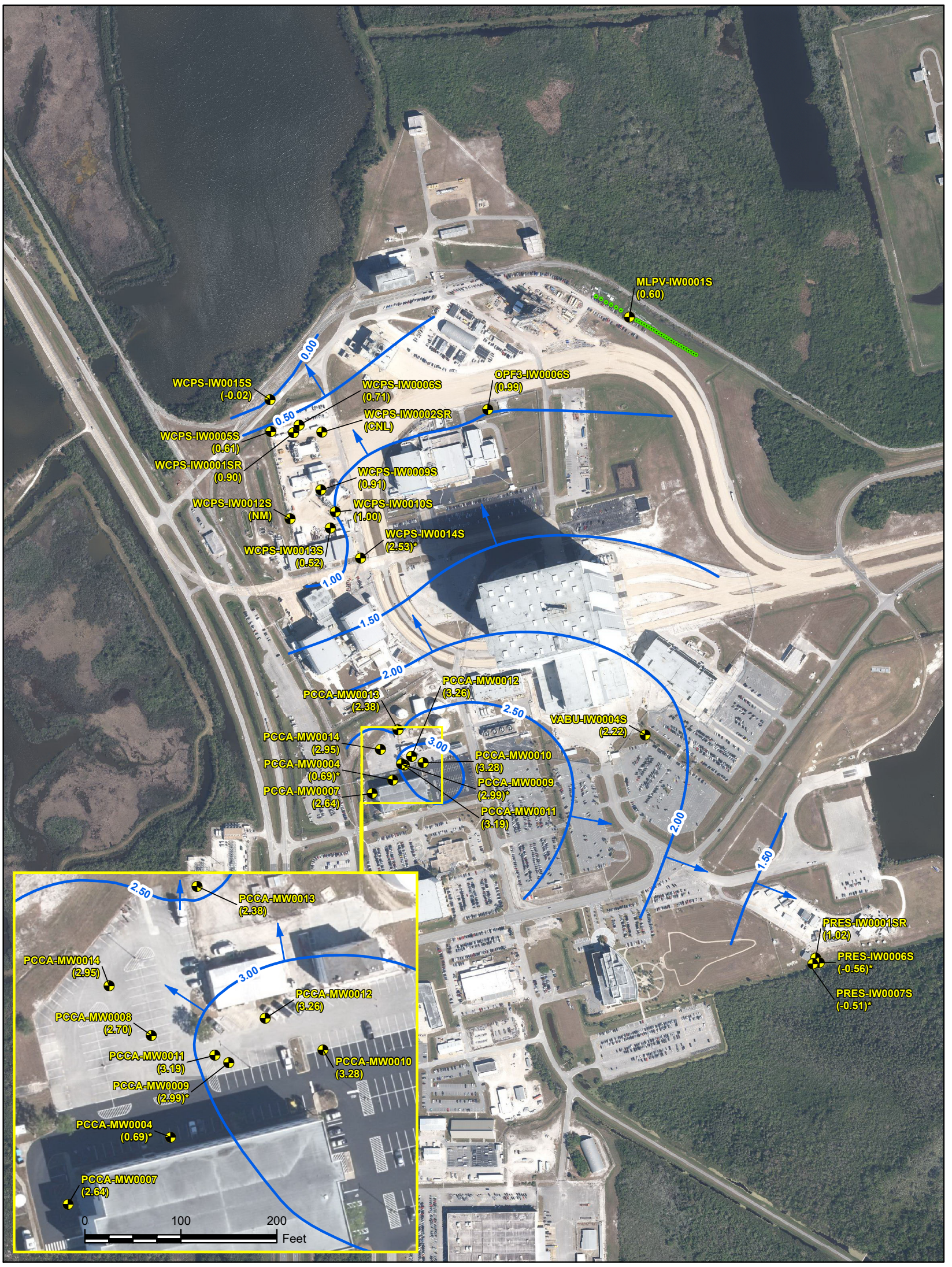
Notes:
Objective: Select existing wells and propose new locations for observing present LCP condition, not to delineate. May overlap with HCP footprint.
2013 Cross-section within Former Hot Spot 2 indicates low permeability soil layer beginning at 46 ft bls.
BSA DPT locations from Field Memo for March and April 2021 DPT sampling event.
HS2 DPT data from Table 4-10 of the MLPV CMI and IM - Section VI, August 2019, p.104 of the PDF.
HS2 DPT locations from Figure 3-1 "DPT Sampling Locations Around the Air Sparge System" of the MLPV CMI and IM - Section VI, August 2019, p.42 of the PDF.
HS3 OFW DPT data from Table 6-3 of the MLPV CMI and IM - Section VI, August 2019, p.180 of the PDF.
HS3 OFW DPT locations from Figure 6-2 "Hot Spot 3 OFW Summary of Sampling Results" of the MLPV CMI and IM - Section VI, August 2019, p.185 of the PDF.
Unknown pockets of confining layers (clay). Soil will be examined during well installation, and the screen depth adjusted as needed.
VAB Area DPT data from Table 4-3 of the VABRA ECA, May 2015, p.165 of the PDF and Figure 4-23 "Summary of CVOC Exceedances in Groundwater" p.264 of PDF.
VAB Area DPT locations from Figure 3-4 "DPT Groundwater Sampling Locations" of the VABRA ECA, May 2015, p.145 of the PDF.
* = Recommendation to install concurrently with a future event
ADP = Advance data package
bls = Below land
BSA = Biosparge Area
CCCPF = COMMERCIAL CREW & CARGO PROCESSING FACILITY (K6-0696)
CMI = Corrective Measures Implementation
CVOC = Chlorinated Volatile Organic Compounds
DPT = Direct Push Technology
DCE = Dichloroethene
ECA = Environmental Conditions Assessments
EGIS = Environmental Geographic Information System (for Kennedy Space Center)
ft = Feet
GCTLs = Groundwater Cleanup Target Levels
HCP = High Concentration Plume
HS2 = Former Hot Spot 2
HS3 = Hot Spot 3
ID = Identification
IM = Interim Measures
LCP = Low Concentration Plume
LTM = Long Term Monitoring
ug/L = micrograms per liter
MLPV = Mobile Launch Platform Rehabilitation Sites and VAB Area
NADC = Natural Attenuation Default Concentration
N/A = Not Applicable
OFW = Outstanding Florida Waters

Bold = Exceeds GCTLs
Red text = Exceeds NADC
OPF = Orbiter Processing Facility
PDF = Portable Document Format
TCE = Trichloroethene
U = Anayte was not detected above the laboratory method detection limit
VAB = Vehicle Assembly Building
VABRA = Vehicle Assembly Building Re-Assessment
VC = Vinyl chloride
WCPS = West Crawler Park Site

Table 4-9
Biennial LCP LTM Plan for 2022
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 059

Network Monitored	Location	Screen Interval (feet bls)	Month	Analytical Parameters
19 Existing LTM Plan Monitoring Wells	MLPV-IW0009D	45 to 50	June 2022	CVOCs (cDCE, tDCE, VC)
	MLPV-IW0009I	28 to 33		
	MLPV-IW0012D	45 to 50		
	MLPV-IW0018D	50 to 55		
	MLPV-IW0020D	45 to 50		
	MLPV-IW0029D	42 to 47		
	MLPV-IW0047	35 to 45		
	MLPV-IW0052	40 to 50		
	MLPV-IW0053	35 to 45		
	MLPV-SAMW0001	43 to 48		
	MLPV-SAMW0003	43 to 48		
	PRES-IW0009	40 to 50		
	SATV-IW0009I	22 to 27		
	VAB-IW0005D	52 to 57		
	VABU-IW0001I	20 to 30		
	WCPS-IW0001SR	2.5 to 12.5		
	WCPS-IW0016	15 to 25		
	MLPV-IW0002I	28 to 33		
	MLPV-IW0001D	50 to 55		
12 Existing Monitoring Wells Added to LTM Plan in 2022	WCPS-IW0005S	2 to 12		
	WCPS-IW0015S	3 to 13		
	MLPV-IW0027I	28 to 33		
	MLPV-IW0014I	35 to 40		
	MLPV-IW0017I	35 to 40		
	MLPV-IW0049	38 to 48		
	MLPV-IW0056	30 to 40		
	MLPVIW0022D	48 to 55		
	MLPV-IW0050	40 to 50		
	MLPV-IW0051	45 to 55		
	MLPV-IW0054	40 to 50		
	MLPV-IW0055	40 to 55		
39 Proposed Monitoring Wells Pending Installation	A1	1 to 10		
	B1: WCPS-IW0002 SRR	3 to 13		
	B3	15 to 25		
	Z1	15 to 25		
	C1 through C3	25 to 35		
	C4: MLPV-IW0002 IR	28 to 33		
	C5	20 to 30		
	C6 through C9	25 to 35		
	C10	20 to 30		
	D1 through D10	35 to 45		
	E1 through E5	47 to 57		
	E6 & E7	40 to 50		
	E8	45 to 55		
	E9 through E15	47 to 57		

Notes:
bls = Below land surface
cDCE = cis-1,2-dichloroethylene
CVOC = chlorinated volatile organic compounds
LCP LTM = Low Concentration Plume Long-term Monitoring, formerly referred to as VAB Area
OFW = Outstanding Florida Waters
SWMU = Solid Waste Management Unit
TCE = trichloroethylene
tDCE = trans-1,2-dichloroethene
VC = vinyl chloride
MLPV-IW0002I and MLPV-IW0001D were added to sampling plan in 2020 following analytical assessment of 2018 & 2020 da
MLPV-IW0028 I and MLPV-IW0046 were transferred from LCP LTM Area sampling plan to the Biosparge Area beginning in 2
MLPV-IW0006IR was added to the Biosparge Area sampling plan in September 2020.
WCPS-IW0006S and MLPV-SAMW0002 removed from LCP LTM sampling plan beginning in 2022.



Legend

- Shallow Monitoring Well
- Groundwater Contour (NAVD88 ft.)
- Approximate Direction of Groundwater Flow
- Biosparge Well Location

Notes:
1. bls = Below land surface.
2. NAVD88 = North American Vertical Datum of 1988.
3. * = Elevation was not used for contouring.
4. ND = No data available. Top-of-casing survey is pending for MLPV-IW0030, MLPV-SAMW002, and MLPV-SAMW0004D.
5. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
6. CNL = Could not locate

FIGURE 4-1
Sitewide Groundwater Contour Map
Shallow Interval (2 to 20 Feet bls)
March 18, 2021

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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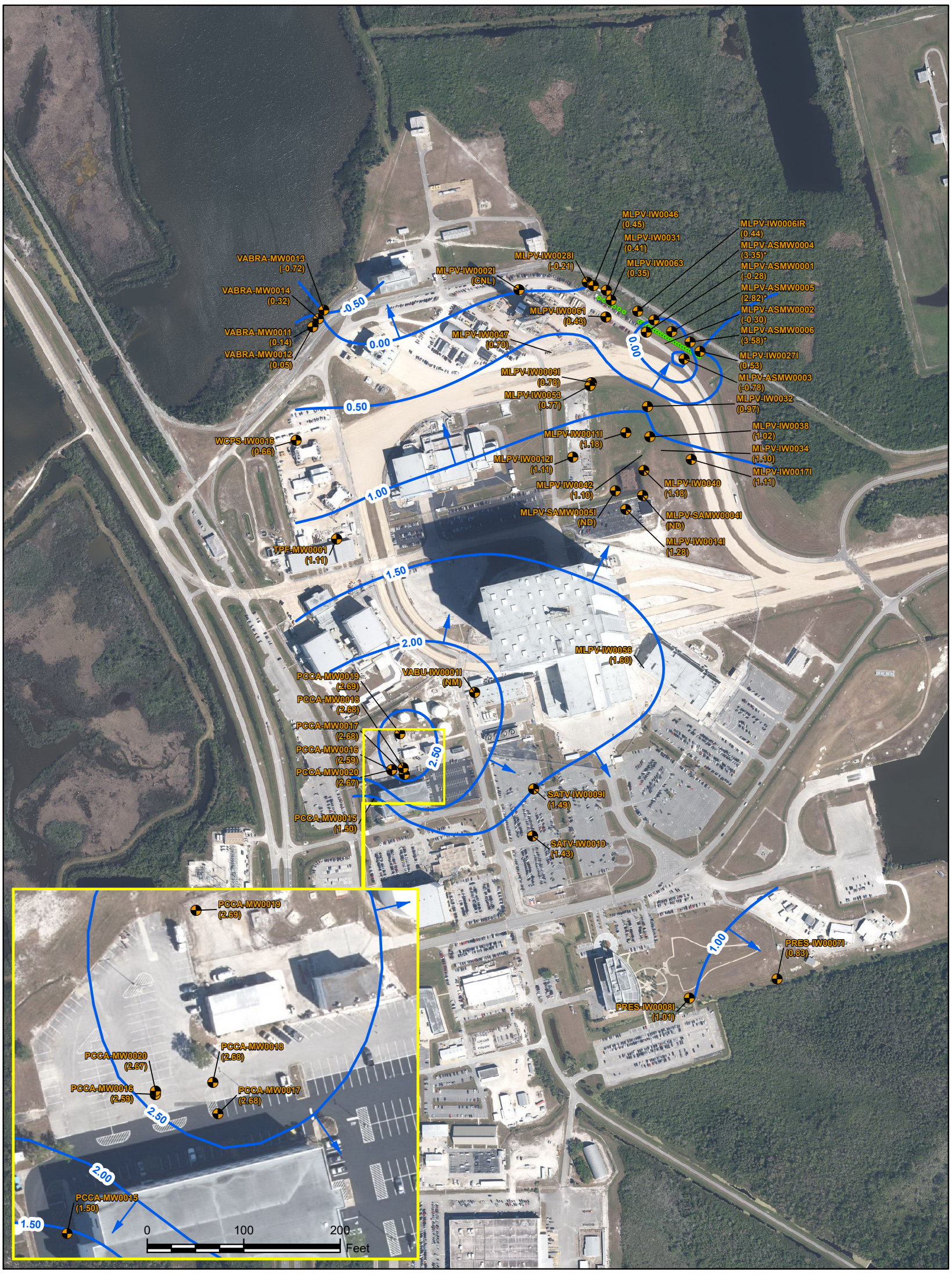


Legend

- Intermediate Monitoring Well (Groundwater Elevation NAVD88 ft.)
- Groundwater Contour (NAVD88 ft.)
- Approximate Direction of Groundwater Flow
- Biosparge Well Location

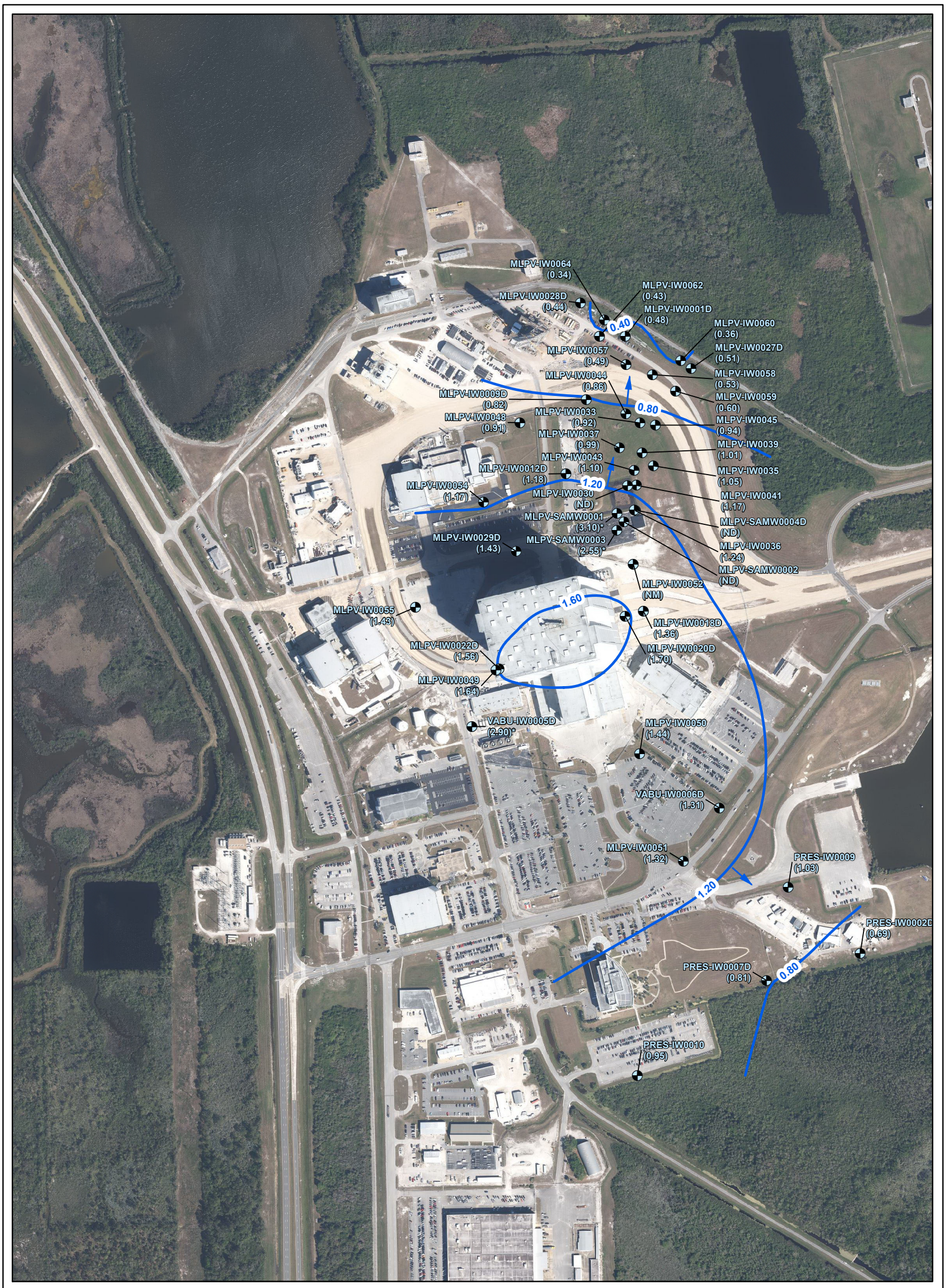
Notes:
1. bls = Below land surface.
2. NAVD88 = North American Vertical Datum of 1988.
3. * = Elevation was not used for contouring.
4. ND = No data available. Top-of-casing survey is pending for MLPV-IW0030, MLPV-SAMW002, and MLPV-SAMW0004D.
5. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
6. CNL = Could not locate

N

0 500 1,000 Feet

FIGURE 4-2
Sitewide Groundwater Contour Map
Intermediate Interval (20 to 45 Feet bls)
March 18, 2021

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



Legend

- Deep Monitoring Well Location (Groundwater Elevation NAVD88 ft.)
- Groundwater Contour (NAVD88 ft.)
- Approximate Direction of Groundwater Flow

Notes:
1. bls = Below land surface.
2. NAVD88 = North American Vertical Datum of 1988.
3. * = Elevation was not used for contouring.
4. ND = No data available. Top-of-casing survey is pending for MLPV-IW0030, MLPV-SAMW002, and MLPV-SAMW0004D.
5. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)

N

0 500 1,000 Feet

FIGURE 4-3
Sitewide Groundwater Contour Map
Deep Interval (45 to 70 Feet bls)
May 18, 2021

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

MLPV-IW0032 (30 - 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	0.26 U
05/31/2018	0.61 U	**0.36 I**	0.39 U	0.26 U
03/06/2019	0.61 U	**0.74 I**	0.39 U	0.26 U
03/18/2020	0.35 U	**0.35 I**	0.22 U	0.41 U
11/30/2020	NS	**0.68 I**	0.22 U	**0.49 I**
03/16/2021	NS	**0.84**	0.22 U	1.6
09/14/2021	CNL			

MLPV-IW0011I (35 to 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**1.1**	0.67 U	0.26 U
5/31/2018	0.61 U	**0.93 I**	0.39 U	1.9
3/6/2019	0.61 U	**0.72 I**	0.39 U	1.4
10/31/2019	0.35 U	0.28 U	0.22 U	**0.48 I**
3/18/2020	0.35 U	**0.35 I**	0.22 U	**0.92 I**
9/15/2020	NS	0.28 U	0.22 U	0.41 U
3/16/2021	NS	0.28 U	0.22 U	**0.46**
9/13/2021	NS	0.28 U	0.22 U	0.41 U

MLPV-IW0034 (30 to 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	13.0
05/31/2018	0.61 U	**0.4 I**	0.39 U	5.5
03/06/2019	0.61 U	**1.4**	0.39 U	2.4
10/31/2019	0.35 U	0.28 U	0.22 U	0.41 U
3/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2020	NS	0.28 U	0.22 U	0.41 U
3/15/2021	NS	**0.41**	0.22 U	0.41 U
9/14/2021	NS	0.28 U	0.22 U	0.41 U

MLPV-IW0042 (30 - 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**0.86 I**	0.67 U	0.26 U
05/30/2018	0.61 U	**0.32 I**	0.39 U	**0.34 I**
03/06/2019	0.61 U	0.32 U	0.39 U	0.26 U
03/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
03/16/2021	NS	**1.2**	0.22 U	**0.42**
09/14/2021	Well Submerged			

MLPV-IW0040 (30 - 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	0.26 U
05/30/2018	0.61 U	**0.58 I**	0.39 U	**0.36 I**
03/05/2019	0.61 U	0.32 U	0.39 U	0.26 U
03/18/2020	0.35 U	**0.39 I**	0.22 U	0.41 U
03/15/2021	NS	**0.50**	0.22 U	0.41 U
09/14/2021	CNL			

MLPV-IW0044 (40 to 50)

Date	TCE	cDCE	tDCE	VC
11/07/2017	6.1 U	**18.0**	**14.0**	1,500
05/30/2018	1.2 U	**7.5**	**6.4**	810
03/05/2019	1.2 U	**3.7**	**2.9 I**	510
10/31/2019	0.35 U	**2.9**	**1.8**	458
3/18/2020	0.35 U	**6.9**	**2.2**	325
11/30/2020	NS	**2.8**	**0.88 I**	307
3/16/2021	NS	**3.4**	**1.0**	249
9/14/2021	CNL			

MLPV-IW0033 (40 to 50)

Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	100	**17.0**	470
11/07/2017	0.61 U	**24.0**	**6.3**	68.0
05/31/2018	0.61 U	**21.0**	**3.0**	120
03/06/2019	1.2 U	**46.0**	**6.0**	400
10/31/2019	1.7 U	**58.4**	1.1 U	365
3/18/2020	**0.44 I**	**55.9**	**9.6**	455
11/30/2020	NS	82.3	**7.7**	497
3/16/2021	NS	**49.6**	**6.3**	471
9/14/2021	CNL			

MLPV-IW0045 (40 to 50)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**7.7**	**7.9**	200
05/30/2018	0.61 U	**2.4**	**10.0**	270
03/06/2019	0.61 U	**3.2**	**6.8**	170
10/31/2019	0.35 U	**4.8**	**3.6**	97.2
03/18/2020	0.35 U	**20**	**5.7**	207
09/15/2020	NS	**6.4**	**4.2**	205
03/16/2021	NS	75.8	**7.8**	295
09/14/2021	CNL			

MLPV-IW0037 (40 to 50)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	150	**1.2**	280
05/31/2018	0.61 U	94.0	**1.2 I**	360
03/06/2019	0.61 U	160	**0.89 I**	270
10/31/2019	0.69 U	135	0.44 U	178
3/18/2020	0.86 U	132	**0.67 I**	245
9/15/2020	NS	**55.4**	**0.52 I**	208
03/16/2021	NS	138	**0.71**	269
09/13/2021	NS	**25.1**	**0.47**	99.3

MLPV-IW0039 (40 to 50)

Date	TCE	cDCE	tDCE	VC
03/07/2017	**2.6**	200	**11.0**	250
11/07/2017	**1.5**	92.0	**5.1**	55.0
05/31/2018	**1.3 I**	**45.0**	**3.2**	55.0
03/06/2019	**0.83 I**	160	**7.1**	250
10/31/2019	0.86 U	198	**4.6**	241
3/18/2020	0.86 U	128	**4.4**	228
9/15/2020	NS	92.1	**3.9**	276
3/15/2021	NS	161	**6.5**	236
9/14/2021	NS	76.9	**3.3**	191

MLPV-IW0038 (30 - 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**0.78 I**	0.67 U	0.26 U
5/31/2018	0.61 U	**0.48 I**	0.39 U	0.26 U
03/06/2019	0.61 U	**0.94 I**	0.39 U	**1.1**
03/18/2020	0.35 U	**0.54 I**	0.22 U	0.41 U
03/15/2021	NS	**1.2**	0.22 U	2.3

MLPV-IW0041 (40 to 50)

Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	**63**	**3.8**	330
11/07/2017	0.61 U	140	**5.2**	300
05/30/2018	0.61 U	**9.7**	**3.9**	230
03/05/2019	**0.65 I**	76	**2.6**	260
10/31/2019	**0.39 I**	**14.0**	**2.3**	166
3/18/2020	0.35 U	106	**3.3**	183
9/15/2020	NS	**4**	**1.4**	201
3/16/2021	NS	113	**3.3**	259
9/14/2021	NS	**1.9**	**0.92**	146

MLPV-IW0043 (40 to 50)

Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	190	**4.9**	330
11/07/2017	0.61 U	**42.0**	**1.9**	120
05/30/2018	0.61 U	**31.0**	**0.96 I**	140
03/06/2019	**0.77 I**	100	**2.7**	150
10/31/2019	0.86 U	149	**2.4 I**	155
3/18/2020	**0.97 I**	193	**3.0**	131
9/15/2020	NS	73.2	**2.4**	146
3/16/2021	NS	249	**3.7**	180
9/14/2021	Well Submerged			

MLPV-IW0035 (40 to 50)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**1.8**	**5.4**	220
05/31/2018	0.61 U	**1.2**	**6.9**	330
03/06/2019	0.61 U	**2.3**	**3.3**	150
10/31/2019	0.86 U	0.69 U	0.55 U	152
3/18/2020	0.35 U	**3.2**	**4.0**	192
9/15/2020	NS	0.28 U	**3.0**	205
3/15/2021	NS	**3.2**	**2.5**	124
9/14/2021	CNL			

MLPV-SAMW0004D (45 to 50)

Date	TCE	cDCE	tDCE	VC
11/7/2017	0.67 U	0.61 U	**0.74 I**	5.1
5/30/2018	0.61 U	0.32 U	**0.45 I**	6.6
3/6/2019	0.61 U	**0.55 I**	0.39 U	4.3
10/31/2019	0.35 U	**0.32 I**	**0.37 I**	2.6
3/18/2020	0.35 U	**3.1**	**0.58 I**	22.2
9/15/2020	NS	0.28 U	**0.60**	4.2
3/15/2021	NS	**2.4**	**0.59**	14.6
9/14/2021	NS	**0.65**	**0.67**	5.0

MLPV-SAMW0004I (35 to 40)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	21.0
05/30/2018	0.61 U	0.32 U	0.39 U	1.6
03/06/2019	0.61 U	0.32 U	0.39 U	5.6
10/31/2019	0.35 U	**0.40 I**	0.22 U	15.9
3/18/2020	0.35 U	0.28 U	0.22 U	13.8
9/15/2020	NS	0.28 U	0.22 U	11.3
3/15/2021	NS	**0.61**	**0.41**	19.4
9/14/2021	NS	0.28 U	0.22 U	15.5

MLPV-IW0036 (40 to 45)

Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	87
05/30/2018	0.61 U	0.32 U	**0.63 I**	80
03/06/2019	0.61 U	**0.41 I**	0.39 U	32
10/31/2019	0.35 U	0.28 U	**0.33 I**	9.1
3/18/2020	0.35 U	**0.34 I**	**0.33 I**	22.1
9/15/2020	NS	0.28 U	0.22 U	5.5
3/15/2021	NS	**0.47**	0.22 U	24.9
9/14/2021	NS	**0.60**	0.22 U	32.3

	TCE	cDCE	tDCE	VC
	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
GCTL	3	70	100	1
NADC	300	700	1000	100

Notes:
1. Results shown in micrograms per Liter (µg/L)
2. IW0032, IW0038, IW0040 and IW0042 are sampled annually. Remaining wells are sampled semi-annually.
3. Data presented includes the last 5 years. Additional historical data is provided in the analytical table for Former Hot Spot 2.
4. MLP/VAB Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
5. Well IW0032, IW0033, and IW0044 were not accessible during the September 2020 sampling event. Therefore, wells were sampled in November 2020
6. U = The analyte was undetected
7. I = The analyte was detected but below the reporting limit; therefore, an estimated value
8. L = Value exceeds calibration range
9. GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
10. NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
11. 2018 Aerial Source: FDOT
12. NS = Not sampled
13. CNL = Could not locate
14. Wells IW0021, 32, 35, 40, 44, and 45 were not located during the September 2021 sampling event due to construction activities in the sampling area.

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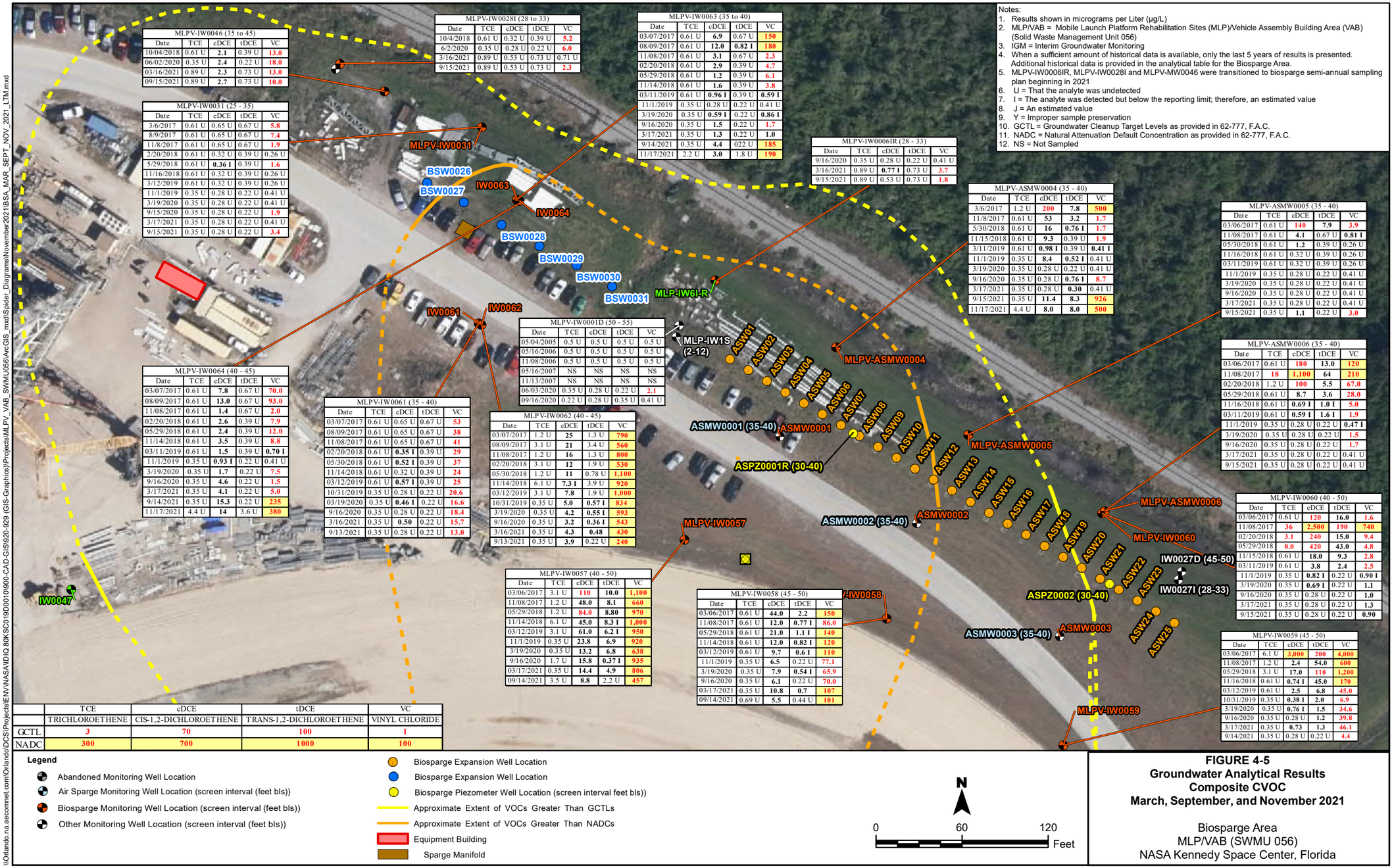
FIGURE 4-4
Groundwater Analytical Results
Composite CVOC
March and September 2021

Former Hot Spot 2
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



Notes:
1. Results shown in micrograms per Liter (µg/L)
2. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
3. IGM = Interim Groundwater Monitoring
4. When a sufficient amount of historical data is available, only the last 5 years of results is presented. Additional historical data is provided in the analytical table for the Biosparge Area.
5. MLPV-IW0006IR, MLPV-IW0028I and MLPV-MW0046 were transitioned to biosparge semi-annual sampling plan beginning in 2021
6. U = That the analyte was undetected
7. I = The analyte was detected but below the reporting limit; therefore, an estimated value
8. J = An estimated value
9. Y = Improper sample preservation
10. GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
11. NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
12. NS = Not Sampled

FIGURE 4-5
Groundwater Analytical Results
Composite CVOC
March, September, and November 2021

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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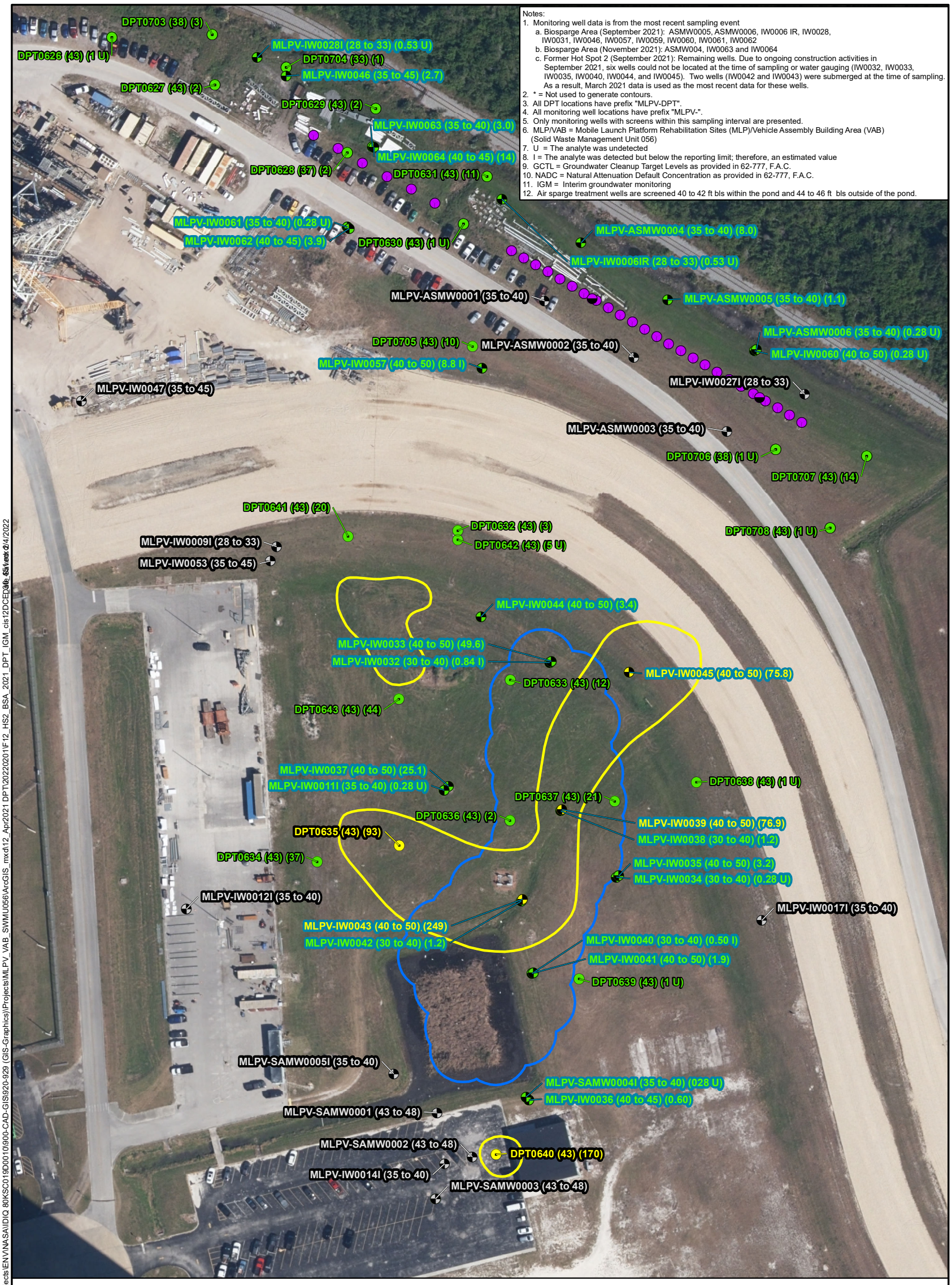

FIGURE 4-6
cis-1,2-Dichloroethene Plume Map
30 to 45 Feet bls
2021 DPT and 2021 IGM

Former Hot Spot 2 and Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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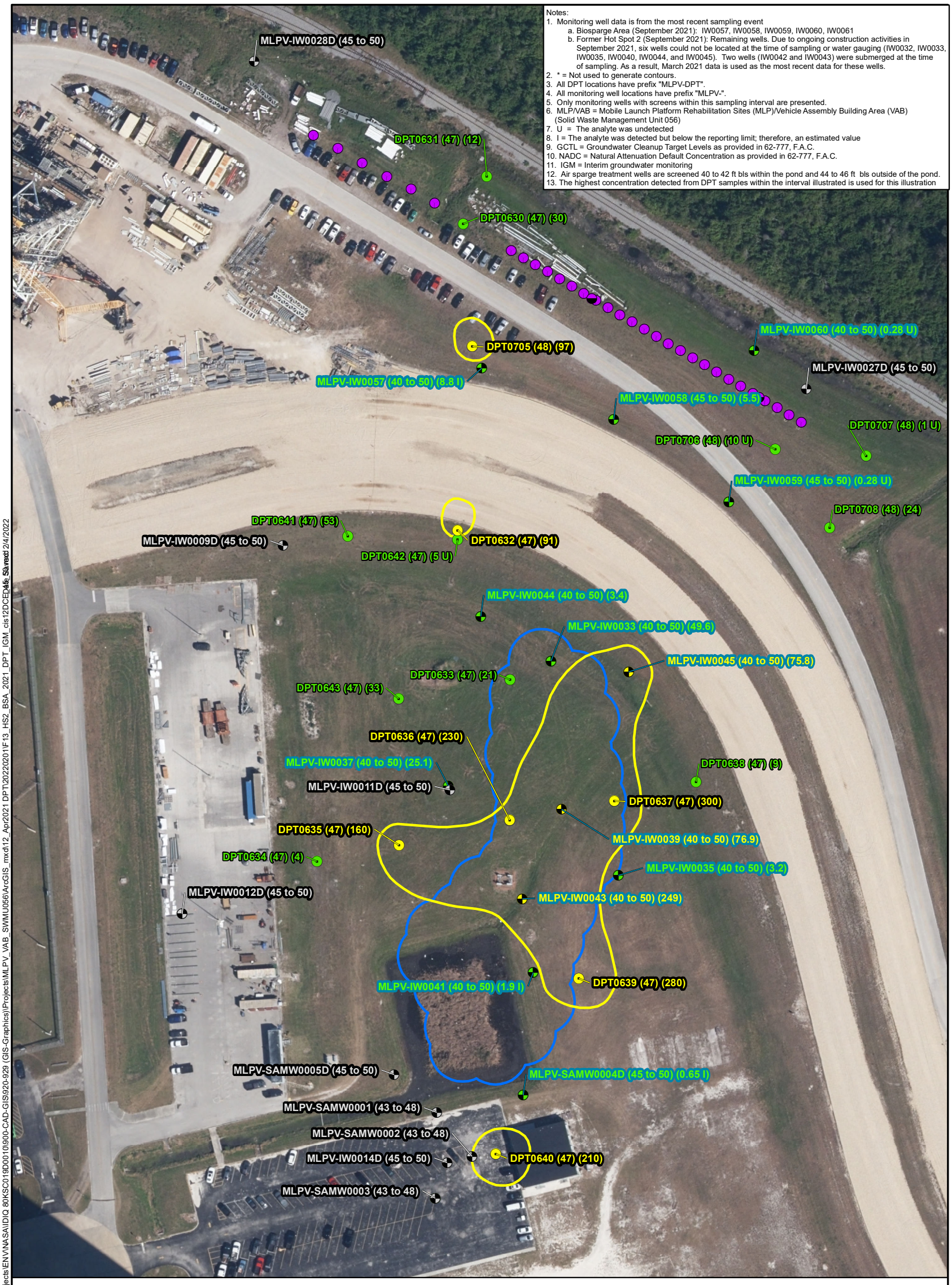

FIGURE 4-7
cis-1,2-Dichloroethene Plume Map
45 to 50 Feet bls
2021 DPT and 2021 IGM

Former Hot Spot 2 and Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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Notes:
1. Monitoring well data is from the most recent sampling event
   a. Biosparge Area (September 2021): ASMW0004, ASMW0005, ASMW0006, IW0006 IR, IW0028, IW0031, IW0046, IW0057, IW0058, IW0059, IW0060, IW0061, IW0062, IW0063, IW0064
   b. Biosparge Area (November 2021): ASMW004, IW0063 and IW0064
   c. Former Hot Spot 2 (September 2021): Remaining wells. Due to ongoing construction activities in September 2021, six wells could not be located at the time of sampling or water gauging (IW0032, IW0033, IW0035, IW0040, IW0044, and IW0045). Two wells (IW0042 and IW0043) were submerged at the time of sampling. As a result, March 2021 data is used as the most recent data for these wells.
2. * = not used to generate contours.
3. All DPT locations have prefix "MLPV-DPT".
4. All monitoring well locations have prefix "MLPV-".
5. Only monitoring wells with screens within this sampling interval are presented.
6. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
7. U = The analyte was undetected
8. I = The analyte was detected but below the reporting limit; therefore, an estimated value
9. GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
10. NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.
11. IGM = interim groundwater monitoring
12. Air sparge treatment wells are screened 40 to 42 ft bls within the pond and 44 to 46 ft bls outside of the pond.

DPT0626 (43) (3)
DPT0703 (38) (25)
DPT0704 (38) (20)
MLPV-IW0028D (45 to 50)
MLPV-IW0046 (35 to 45) (10)
DPT0629 (43) (5)
DPT0627 (43) (9)
MLPV-IW0064 (40 to 45) (380)
MLPV-IW0063 (35 to 40) (190)
DPT0628 (33) (22)
DPT0631 (43) (270)
MLPV-ASMW0004 (35 to 40) (500)
MLPV-IW0061 (35 to 40) (13.0)
MLPV-IW0062 (40 to 45) (0.35 U)
DPT0630 (43) (1200)
MLPV-ASMW0005 (35 to 40) (3.0)
MLPV-ASMW0001 (35 to 40)
MLPV-IW0060 (40 to 50) (0.90 I)
MLPV-ASMW0006 (35 to 40) (0.41 U)
DPT0705 (43) (1900)
MLPV-ASMW0002 (35 to 40)
MLPV-IW0047 (35 to 45)
MLPV-IW0027D (45 to 50)
MLPV-IW0057 (40 to 50) (457)
DPT0707 (43) (240)
MLPV-ASMW0003 (35 to 40)
DPT0706 (43) (1 U)
MLPV-IW0009D (45 to 50)
DPT0641 (43) (360)
DPT0632 (43) (660)
DPT0642 (43) (880)
DPT0708 (38) (9)
MLPV-IW0053 (35 to 45)
MLPV-IW0044 (40 to 50) (249)
MLPV-IW0033 (40 to 50) (471)
MLPV-IW0032 (30 to 40) (1.6)
MLPV-IW0045 (40 to 50) (295)
DPT0633 (43) (190)
DPT0643 (43) (810)
MLPV-IW0037 (40 to 50) (99.3)
MLPV-IW0011I (35 to 40) (0.41 U)
DPT0638 (43) (120)
DPT0637 (43) (550)
MLPV-IW0039 (40 to 50) (191)
MLPV-IW0038 (30 to 40) (2.3)
DPT0635 (43) (370)
DPT0636 (43) (46)
DPT0634 (43) (89)
MLPV-IW0034 (30 to 40) (0.41 U)
MLPV-IW0035 (40 to 50) (124)
MLPV-IW0012I (35 to 40)
MLPV-IW0043 (40 to 50) (180)
MLPV-IW0042 (30 to 40) (0.42 I)
MLPV-IW0017I (35 to 40)
MLPV-IW0041 (40 to 50) (146)
MLPV-IW0040 (30 to 40) (0.41 U)
DPT0639 (43) (14)
MLPV-SAMW0005I (35 to 40)
MLPV-SAMW0004I (35 to 40) (15.5)
MLPV-IW0036 (40 to 45) (32.3)
MLPV-SAMW0001 (43 to 48)
DPT0640 (43) (270)
MLPV-IW0014I (35 to 40)
MLPV-SAMW0002 (43 to 48)
MLPV-SAMW0003 (43 to 48)

Legend

- DPT sampling location (Sample Depth) (Result) (highest cDCE concentration (µg/L))
- Monitoring well location (screen interval (ft bls)) (most recent cDCE concentration (µg/L))
- Biosparge well location
- Biosparge piezometer well location
- Air sparge area of influence (based on 35 ft radius of influence)
- 1 µg/L VC isopleth (dashed where inferred)
- 100 µg/L VC isopleth (dashed where inferred)
- 1000 µg/L VC isopleth (dashed where inferred)
- IW0041 — Blue halo around well ID indicates well sampled during current reporting period

Symbology Color Coding

- cDCE concentration less than or equal to 70 µg/L (GCTL)
- cDCE concentration greater than 70 µg/L (GCTL) and less than or equal to 700 µg/L (NADC)
- cDCE concentration greater than 700 µg/L (NADC) and less than or equal to 7,000 µg/L (10xNADC)
- cDCE concentration greater than 7,000 µg/L (10xNADC)

N

0 100 200 Feet

FIGURE 4-8
Vinyl Chloride Plume Map
30 to 45 Feet bls
2021 DPT and 2021 IGM

Former Hot Spot 2 and Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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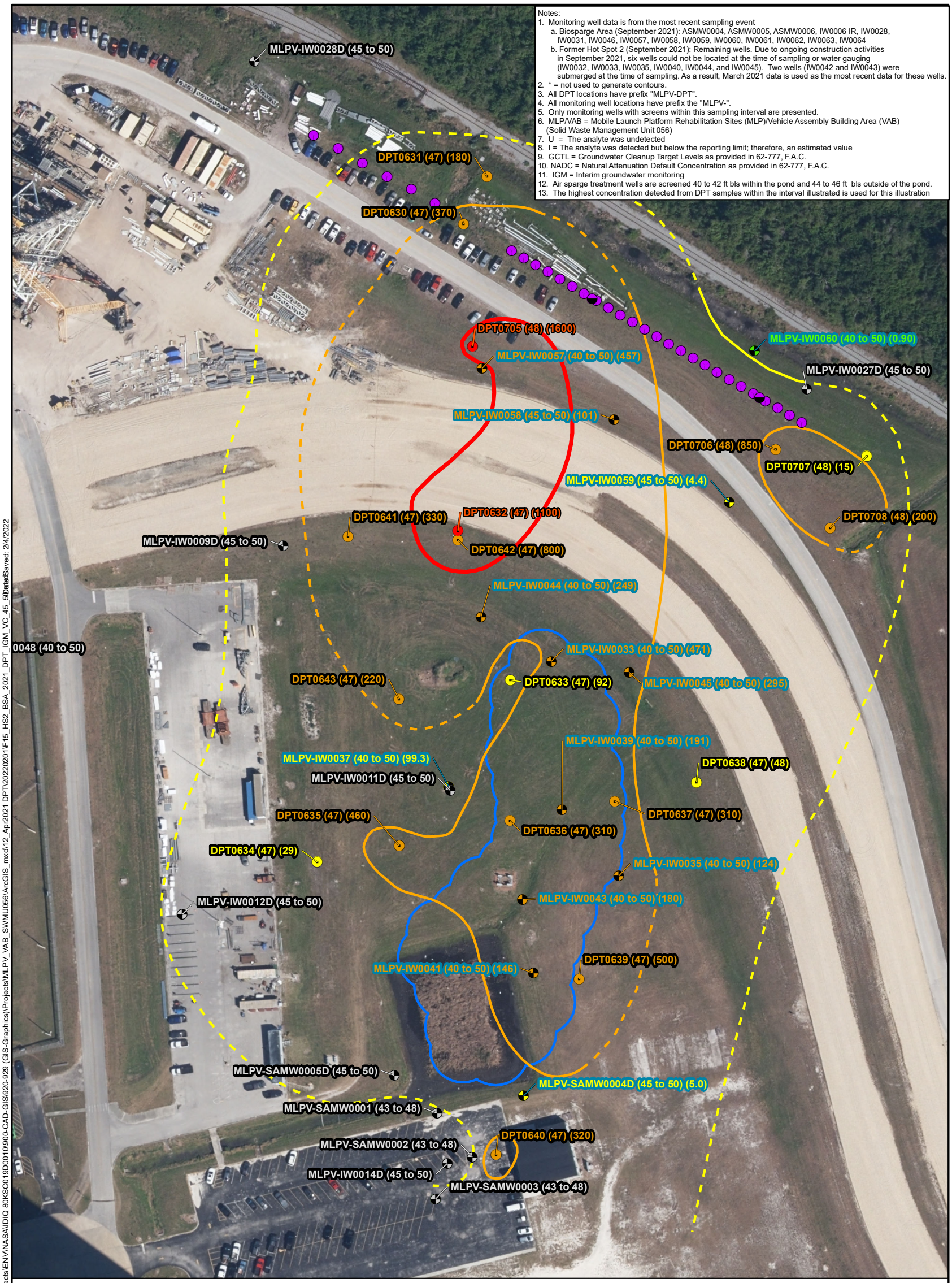
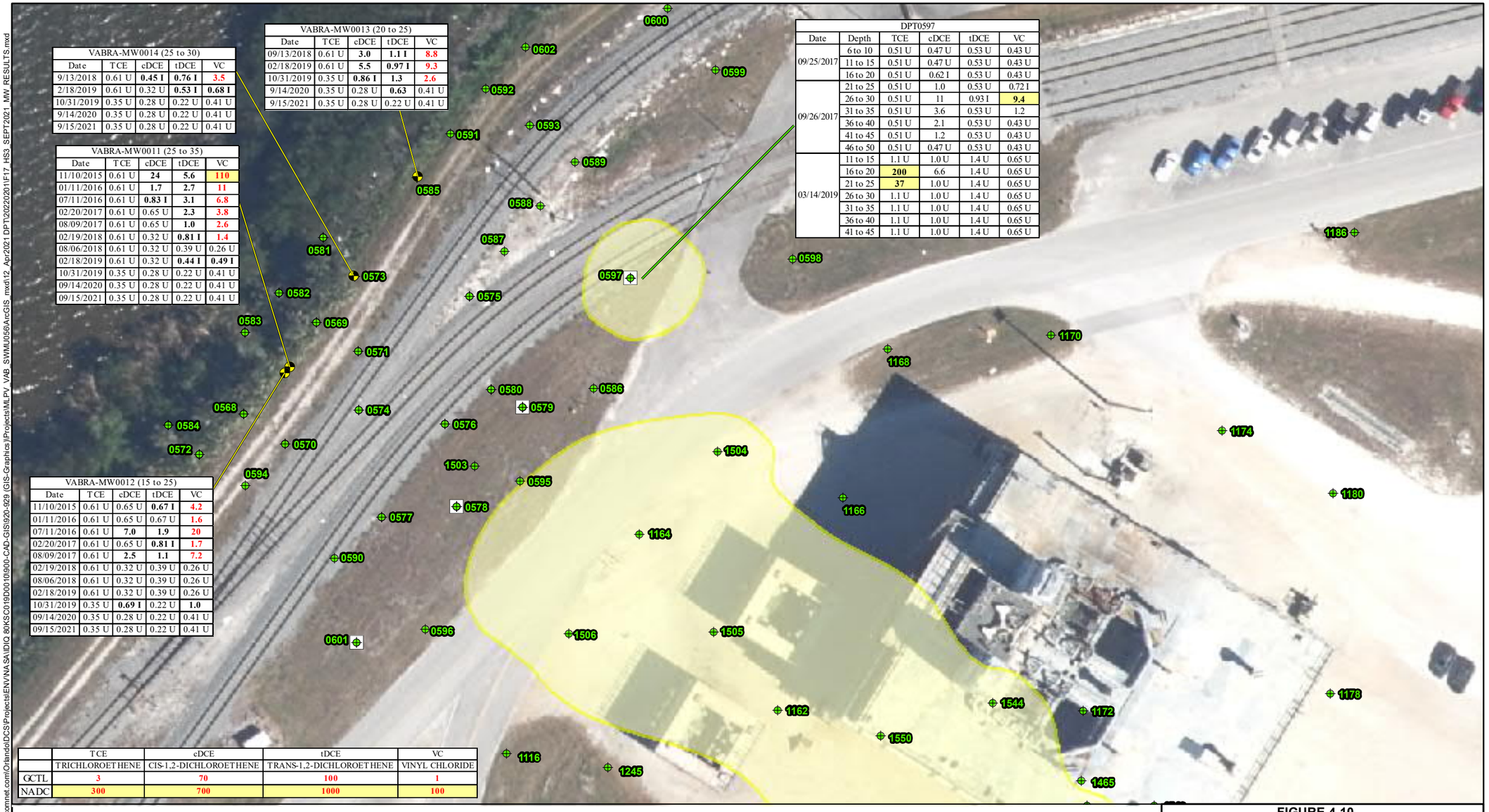


FIGURE 4-9
Vinyl Chloride Plume Map
45 to 50 Feet bls
2021 DPT and 2021 IGM

Former Hot Spot 2 and Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



Legend

- Monitoring Well Location
- DPT Sampling Locations (2012, 2013, 2016 and 2017)
- DPT Location Sampled in 2019
- Composite GCTL Isocontour (2012-2019 Data)

Notes:
1. Results shown in micrograms per Liter (µg/L)
2. Prefix for all direct push technology (DPT) locations is "VABRA-DPT". Monitoring wells have prefix "VABRA-"
3. OFW = Outstanding Florida Waters
4. 2018 Aerial Source: Florida Department of Transportation Surveying and Mapping Office APLUS website
5. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)

N

0 40 80 Feet

FIGURE 4-10
Groundwater Analytical Results
Composite CVOC
September 2021

Hot Spot 3 (OFW)
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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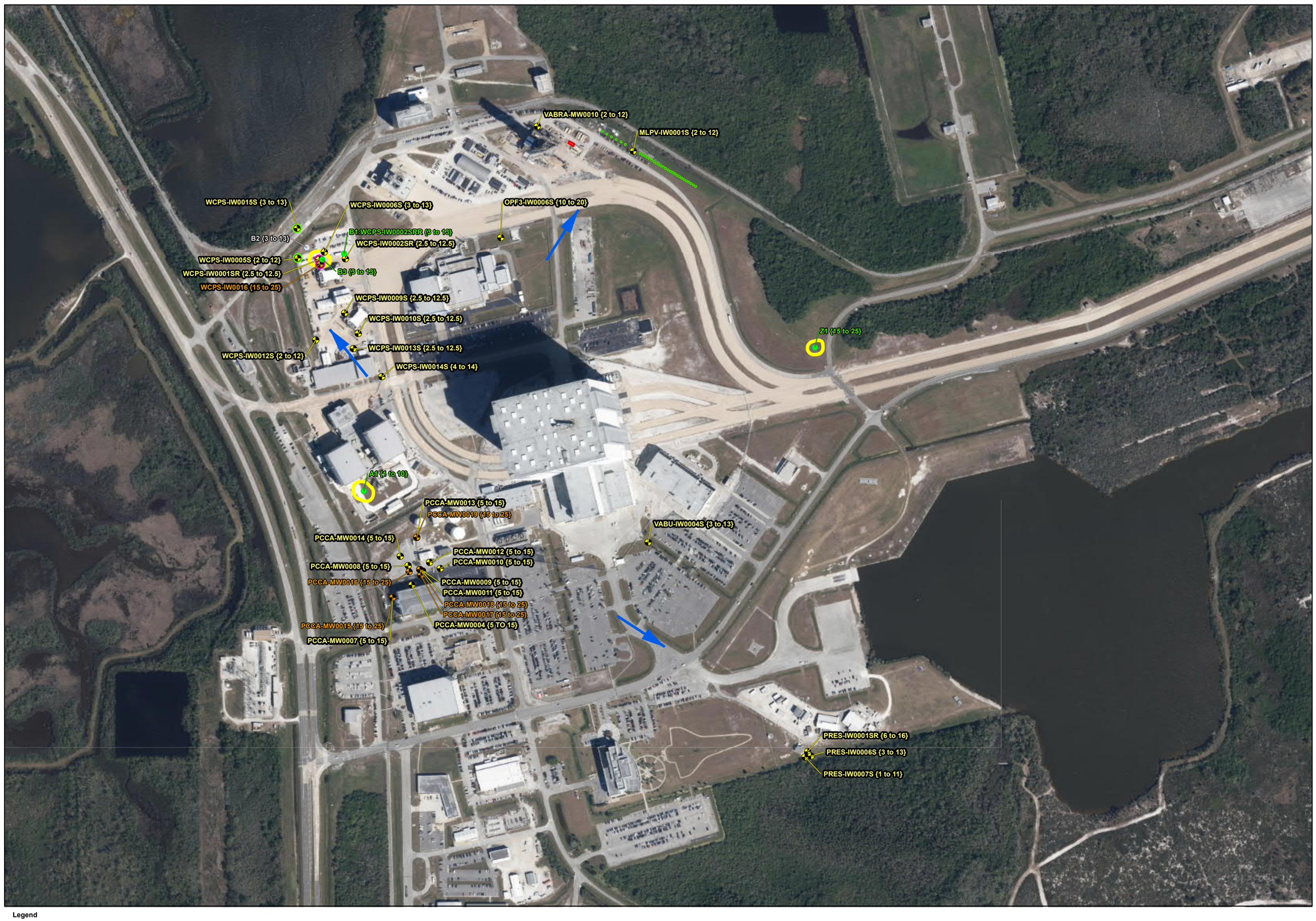

Legend

- Shallow Monitoring Well Location {screen interval}
- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Proposed LCP LTM Monitoring Well Location
- Eliminated Proposed LCP LTM Monitoring
- Biosparge Well Location
- Equipment Building
- Groundwater Flow Direction
- Composite GCTL Isocontour (2012-2021 Data)

Notes:
1. Screen interval is presented in feet below land surface.
2. Locations presented on this figure are only those that are associated with the Mobile Launch Platform (MLP)/ Vehicle Assembly Building (VAB).
3. Per Kennedy Space Center Remediation Information System, monitoring wells VABU-IW0004S and VABU-IW0006D are the same wells as MLPV-VAB-IW0004S and MLPV-VAB-0006D, respectively.
4. LCP LTM = Low Concentration Plume Long Term Monitoring

N

0 350 700 Feet

FIGURE 4-11
Proposed LCP LTM Monitoring Wells
1 to 25 Feet bls

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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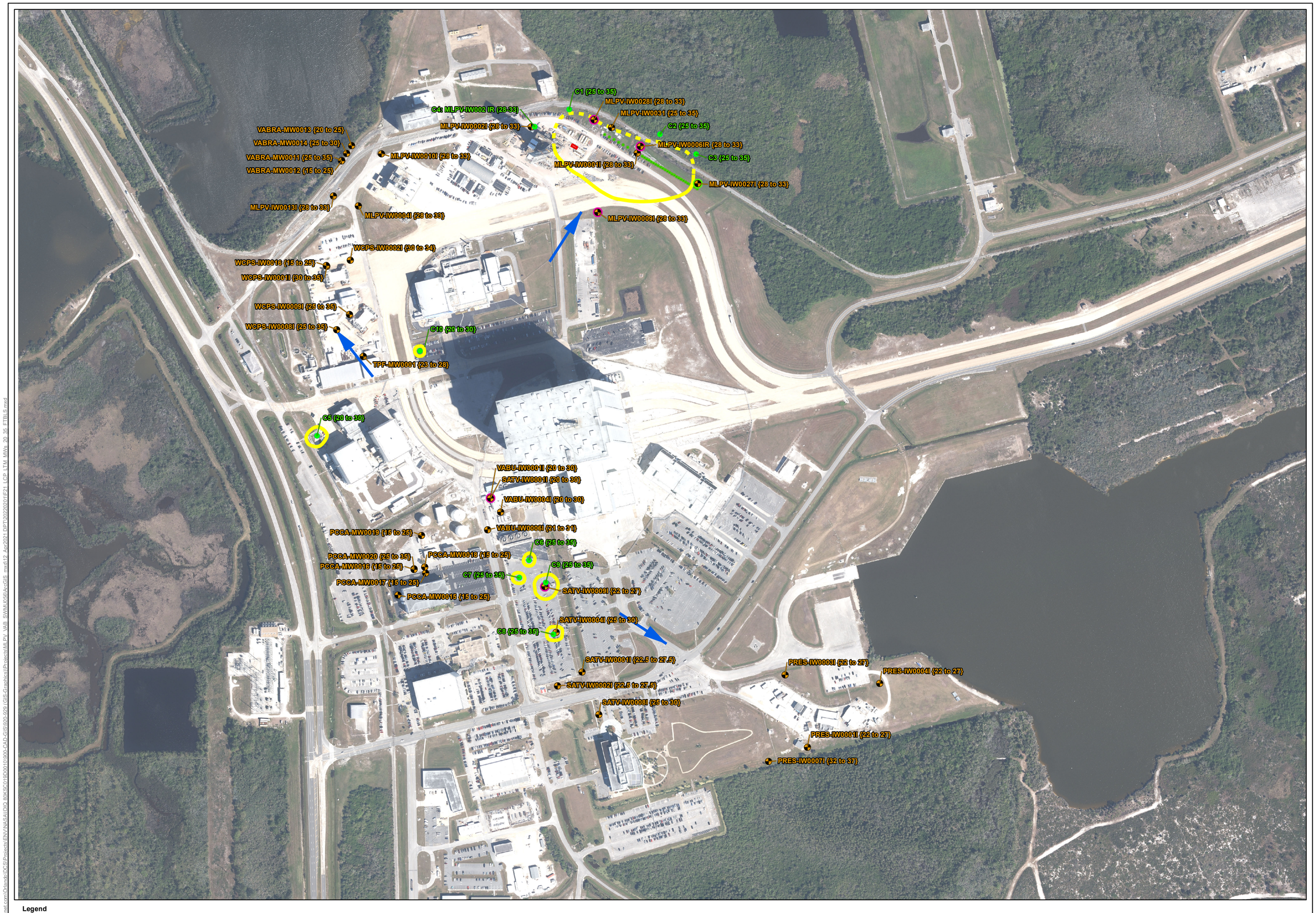

Legend

- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Proposed LCP LTM Monitoring Well Location
- Groundwater Flow Direction
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)

Notes:
1. Screen interval is presented in feet below land surface.
2. Locations presented on this figure are only those that are associated with the Mobile Launch Platform (MLP)/ Vehicle Assembly Building (VAB).
3. Per Kennedy Space Center Remediation Information System, monitoring wells VABU-IW0004S and VABU-IW0006D are the same wells as MLPV-VAB-IW0004S and MLPV-VAB-0006D, respectively.
4. LCP LTM = Low Concentration Plume Long Term Monitoring

N

0 350 700 Feet

FIGURE 4-12
Proposed LCP LTM Monitoring Wells
20 to 35 Feet bls

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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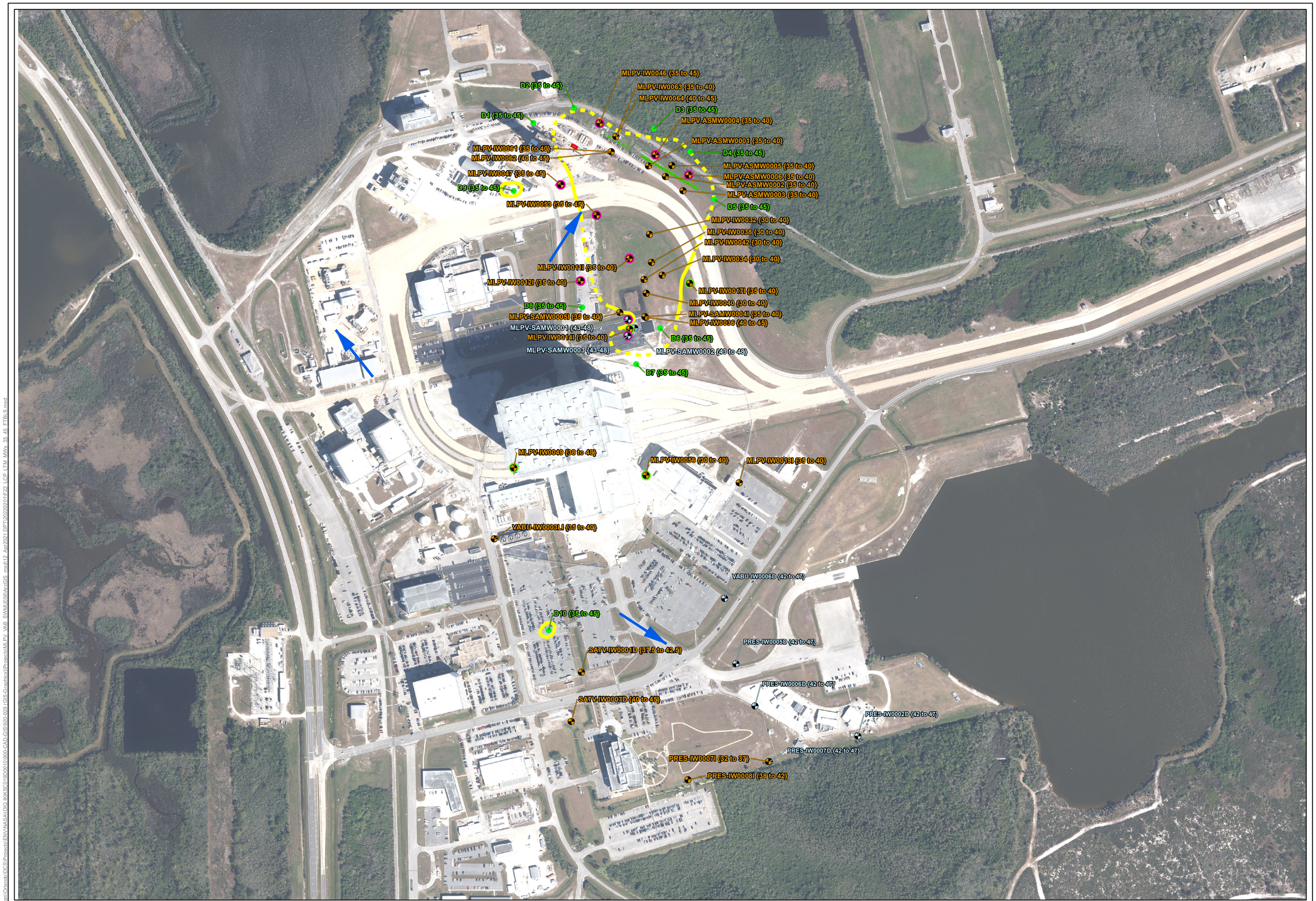

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Legend

- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Deep Monitoring Well Location {screen interval}
- Proposed LCP LTM Monitoring Well Location
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)
- Groundwater Flow Direction

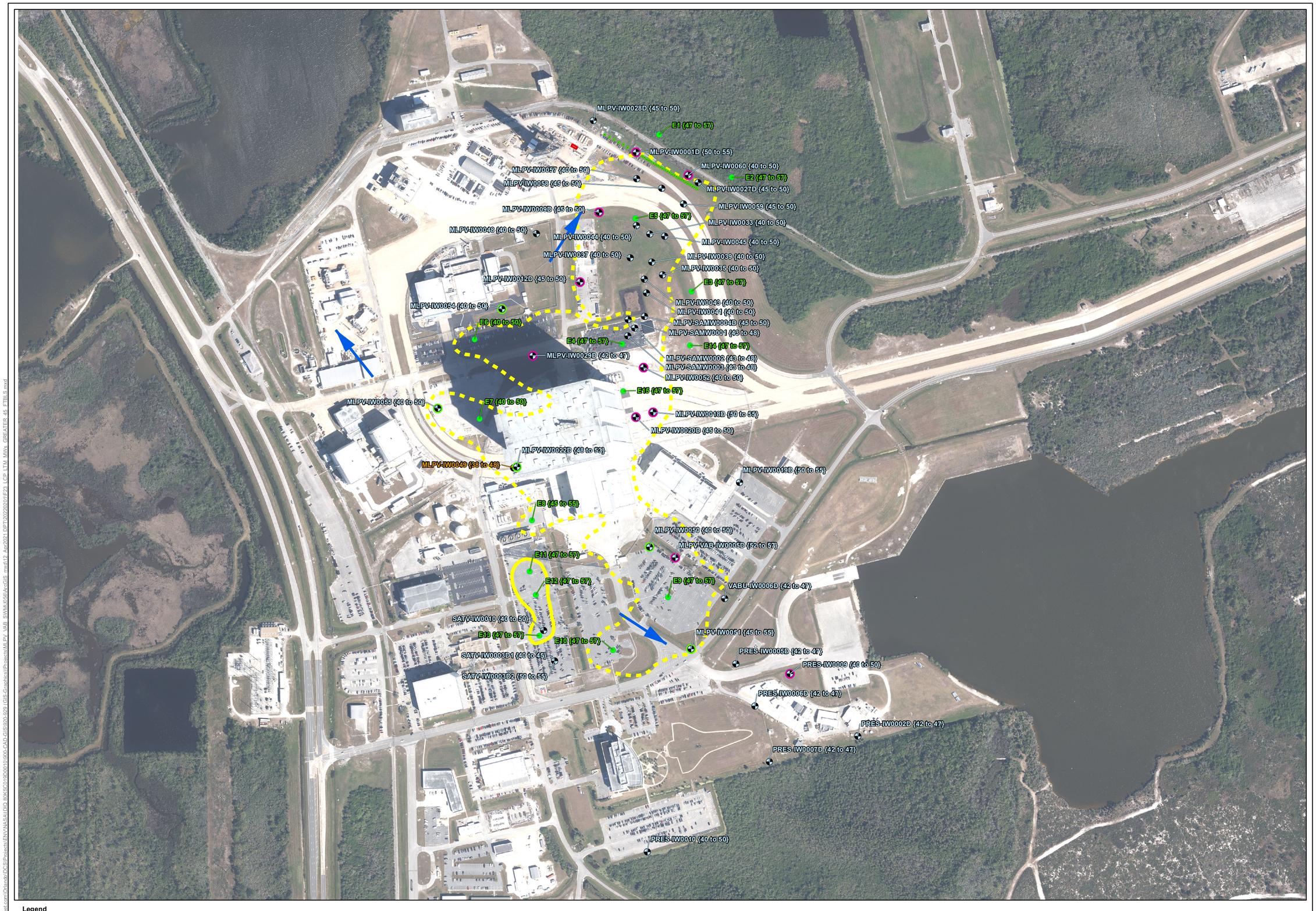
Notes:
1. Screen interval is presented in feet below land surface.
2. Locations presented on this figure are only those that are associated with the Mobile Launch Platform (MLP)/ Vehicle Assembly Building (VAB).
3. Per Kennedy Space Center Remediation Information System, monitoring wells VABU-IW0004S and VABU-IW0006D are the same wells as MLPV-VAB-IW0004S and MLPV-VAB-0006D, respectively.
4. LCP LTM = Low Concentration Plume Long Term Monitoring

N

0 350 700 Feet

FIGURE 4-13
Proposed LCP LTM Monitoring Wells
35 to 45 Feet bls

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida



Legend

- Deep Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Intermediate Monitoring Well Location {screen interval}
- Proposed LCP LTM Monitoring Well Location
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)
- Groundwater Flow Direction

Notes:
1. Screen interval is presented in feet below land surface.
2. Locations presented on this figure are only those that are associated with the Mobile Launch Platform (MLP)/ Vehicle Assembly Building (VAB).
3. Per Kennedy Space Center Remediation Information System, monitoring wells VABU-IW0004S and VABU-IW0006D are the same wells as MLPV-VAB-IW0004S and MLPV-VAB-0006D, respectively.
4. LCP LTM = Low Concentration Plume Long Term Monitoring

N

0 350 700 Feet

FIGURE 4-14
Proposed LCP LTM Monitoring Wells
40 to 57 Feet bls

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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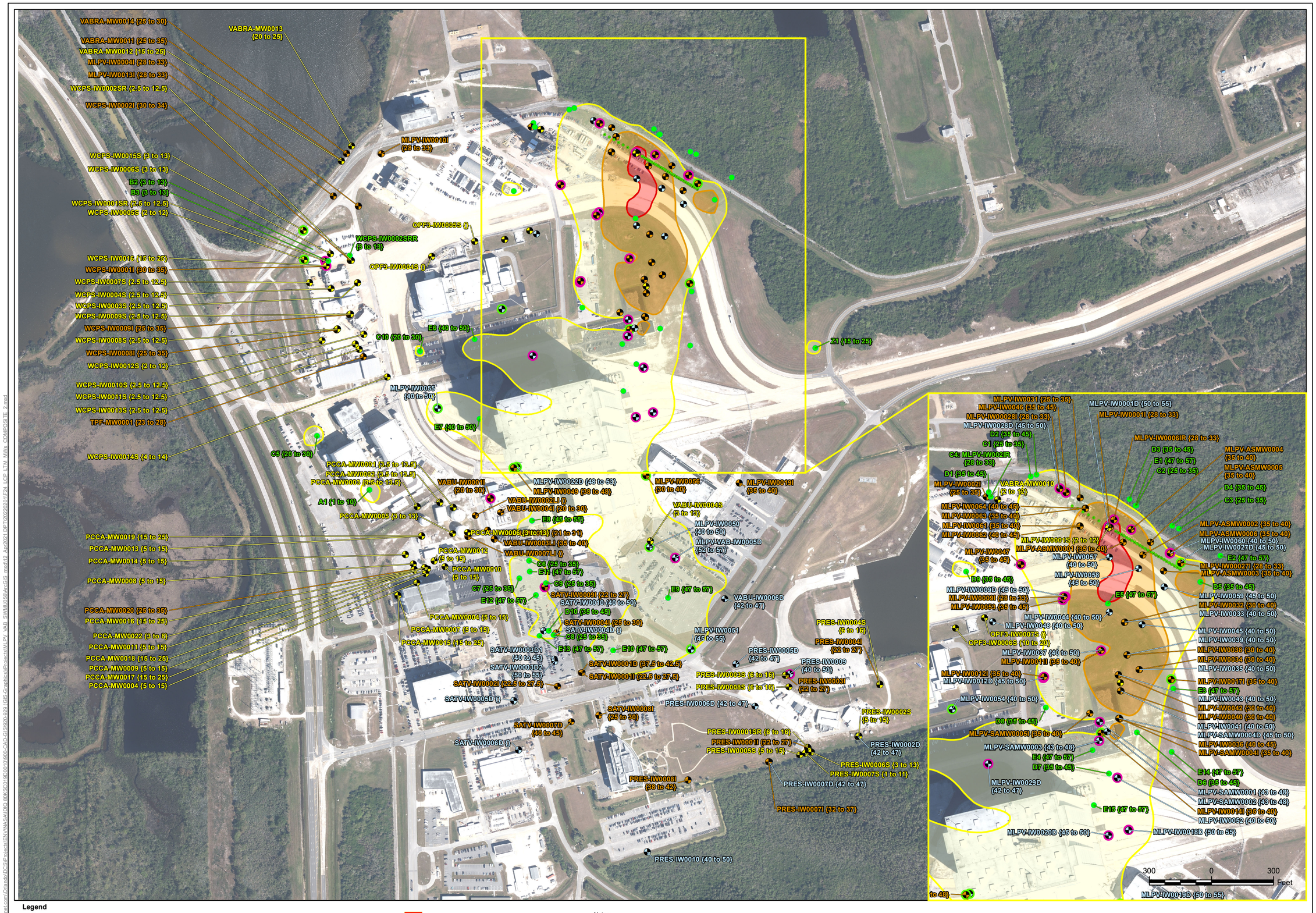

Legend

- Shallow Monitoring Well Location {1 to 25}
- Intermediate Monitoring Well Location {20 to 45}
- Deep Monitoring Well Location {40 to 57}
- Proposed LCP LTM Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)
- Groundwater Flow Direction
- Composite 10xNADC Isocontour (2012-2021 Data)
- Composite NADC Isocontour (2012-2021 Data)
- Composite GCTL Isocontour (2012-2021 Data)

Notes:
1. Screen interval is presented in feet below land surface.
2. Locations presented on this figure are only those that are associated with the Mobile Launch Platform (MLP)/ Vehicle Assembly Building (VAB).
3. Per Kennedy Space Center Remediation Information System monitoring wells VABU-IW0004S and VABU-IW0006D are the same wells as MLPV-VAB-IW0004S and MLPV-VAB-0006D, respectively.
4. LCP LTM = Low Concentration Plume Long Term Monitoring

N
0 350 700 Feet

FIGURE 4-15
Proposed LCP LTM Monitoring Wells Composite

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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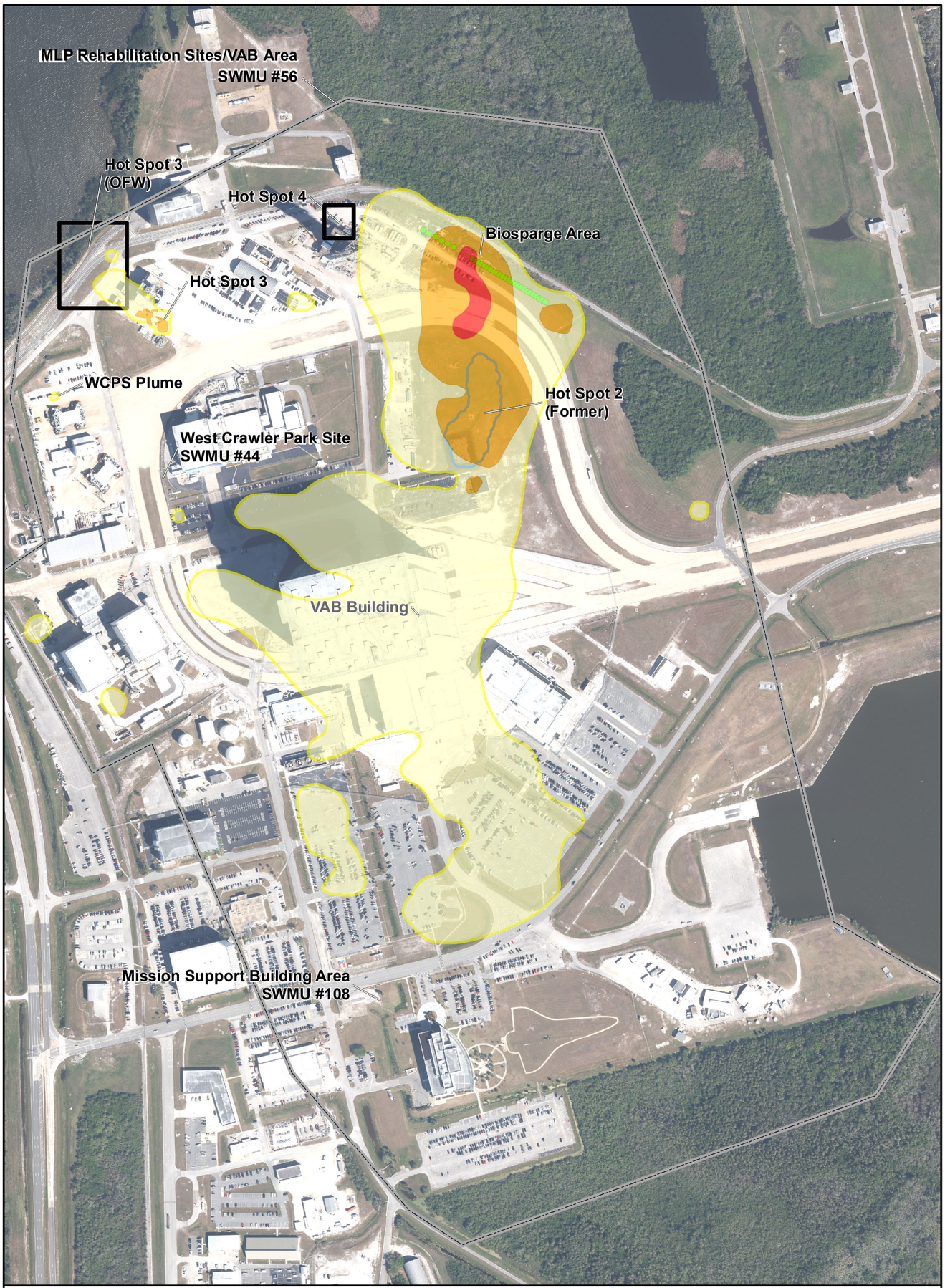

FIGURE 4-16
Composite CVOC Plume Map
2021

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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5. CONCLUSIONS, RECOMMENDATIONS, AND EXIT STRATEGY

5.1 HCP INTERIM MEASURES

5.1.1 Former Hot Spot 2

5.1.2 Conclusions

The air sparge system has remained off since it was shut down in April 2018. Based on 2021 DPT groundwater data and performance monitoring sampling activities, the following conclusions are provided:

- VC remains the predominant contaminant, with DPT data indicating the highest concentrations located north of the former treatment area.
- The HCP is migrating toward the treatment barrier at higher concentrations and confirms the need for additional remediation efforts.
- Data confirm the previous evaluation that significant mass and concentration of cDCE and VC remain in deep groundwater within lower permeability soil and are not expected to attenuate to standards in the short term.
- Performance monitoring will continue to provide valuable data under the current sampling plan.

5.1.3 Recommendations

The objective of the air sparge system was to reduce CVOC concentrations to less than their respective NADCs. It is recommended that the air sparge system remain off and continue IGM with an annual and semi-annual frequency (**Table 5-1**) for analysis of cDCE, tDCE, and VC.

Additionally, five soil cores are proposed in areas with limited soil classifications to gain an understanding of current soil conditions in the lower permeability soil layer (**Figure 5-1**). Observations will also aid in developing the RAE (Decision Item 2104-D28). Completion of soil cores is anticipated for the summer of 2022.

5.1.4 Exit Strategy

Following implementation of additional remediation efforts determined by the RAE, it is anticipated that remediation efforts will continue to decrease the HCP plume until concentrations are reduced to less than GCTLs.

5.2 BIOSPARGE BARRIER FOR MITIGATING THE HCP

5.2.1 Conclusions

Based on DPT and performance groundwater sampling data obtained during this reporting period, the following conclusions are provided:

- VC remains the predominant contaminant.
- DPT groundwater data indicate concentrations greater than NADCs at the 40 feet to 45-feet and 45 feet to 50-feet intervals have migrated beyond the treatment barrier since system shutdown in December 2020. In addition, CVOC concentrations greater than NADCs are migrating toward the barrier from the HCP in the 45 foot to 50-foot interval.
- VC concentrations are highest upgradient of the biosparge system and between the biosparge barrier segments.
- VC concentrations increased in downgradient monitoring wells above its NADC, which can be attributed to the sparge system not operating.
- Due to the expanded CVOC plume, additional monitoring wells are needed in the area to evaluate the LCP.
- Additional efforts are needed to mitigate discharge to the adjacent wetland.
- An RAE will be initiated in connection with the Former Hot Spot 2 area for remediating the upgradient portion of the untreated HCP (Decision Item 2104-D28).

5.2.2 Recommendations

Due to CVOC exceedances, an additional four to five air injection wells with a screen interval of 48 feet to 50 feet bls are recommended for installation between the biosparge barriers. Additionally, installation of up to nine monitoring wells downgradient and at each end of the biosparge barrier is recommended to monitor performance and plume behavior. If wetland conditions prohibit monitoring well installation, then other mitigation measures will be considered.

Following system reinstallation in the summer of 2022, continued weekly telemetric readings, monthly O&M activities, and semi-annual sparge well cleanouts are recommended. Semi-annual biosparge performance monitoring will continue. The 2022 sampling and analysis plan is provided as **Table 5-1** for monitoring TCE, cDCE, tDCE, and VC.

5.2.3 Exit Strategies

When operating, the biosparge barrier (biosparge barrier and biosparge barrier expansion) creates a zone of elevated DO to promote aerobic VC degradation to mitigate potential discharge to the adjacent wetlands. The biosparge barrier will operate until collapse of the HCP is observed (to be evaluated using data from monitoring wells within the biosparge area).

5.3 HOT SPOT 3

5.3.1 Conclusions

Based on the 2021 DPT groundwater analytical data, CVOC concentrations exceed both the NADC and GCTL in several intervals, with maximum CVOC concentrations in the shallow interval. The center of the CVOC plume, and likely TCE source, remains near the southeast

corner of the former MLP structure, which is consistent with the 2019 DPT data. While groundwater CVOC and geochemical parameters indicate previous bioremediation (Emulsified Vegetable Oil injections) decreased CVOC mass and plume footprint, the CVOC contamination source is likely still present and the previous bioremediation implementation is not adequate to meet cleanup objectives.

5.3.2 Recommendations

Additional remediation efforts are needed to treat upgradient CVOC mass and plumes still present at the MLP area. A remediation approach is recommended that creates optimal conditions for long-term CVOC degradation that treats the plumes and mass flux from the source. In situ chemical reduction (ISCR) is the recommended approach in accompaniment with a slow-release hydrogen substrate and micro- or nano-scale zero valent iron. An IMWP to implement ISCR will be completed in the fall of 2022.

5.3.3 Exit Strategy

It is anticipated that continued treatment of this area will lead to plume collapse and that IGM will be implemented and continue until concentrations are reduced to below GCTLs.

5.4 HOT SPOT 3 (OFW)

5.4.1 Conclusions

Based on the groundwater analytical data at Hot Spot 3 (OFW), CVOC concentrations are less than GCTLs in every well, and concentrations of VC continue to exhibit a decreasing trend.

5.4.2 Recommendations

Continued sampling at Hot Spot 3 (OFW) is recommended annually (**Table 5-1**) for analysis of TCE, cDCE, tDCE, and VC.

5.4.3 Exit Strategy

The source of the VC impacts in the OFW area was treated through the Hot Spot 3 Bioremediation IM (area with CVOC impacts greater than 10xNADC). It is anticipated that continued treatment of this area will lead to plume collapse, and that IGM will continue to monitor groundwater quality downgradient of the Hot Spot 3 treatment area until upgradient concentrations are reduced to less than the GCTL.

5.5 LCP LTM

5.5.1 Conclusions

Evaluation of the current LTM network indicated modifications are needed to the current LTM plan (formerly referred to as the VAB LTM Program) to better understand LCP behavior.

5.5.2 Recommendations

Based on the LCP LTM evaluation, 39 monitoring wells are proposed for installation sitewide. Additionally, 12 existing monitoring wells that are currently used for water gauging purposes only are recommended for sampling. The modified biennial sampling plan is provided in **Table 4-9**. Additional data collected from select monitoring wells sampled under existing sampling plans (Former Hot Spot 2 and Biosparge Area) will continue to be collectively evaluated. Continued biennial sampling is recommended with the previously reduced analyte list (cDCE, tDCE, and VC only).

5.5.3 Exit Strategy

The exit strategy for this site pursues the previously established path forward of modified biennial LTM until concentrations of VC establish a decreasing trend to less than the GCTL.

Table 5-1
Sampling and Analysis Plan for 2022
Mobile Launch Platform (MLP) Rehabilitation Sites / Vehicle Assembly Building (VAB) Area, SWMU 059

System Monitored	Location	Screen Interval (feet bls)	Frequency	Month	Analytical Parameters
Biosparge Area	MLPV-IW0006IR	28 to 33	Semi-Annual	March & September 2022	CVOCs (TCE, cDCE, tDCE, VC)
	MLPV-IW0028I	28 to 33			
	MLPV-IW0046	35 to 45			
	MLPV-IW0057	40 to 50			
	MLPV-IW0058	45 to 50			
	MLPV-IW0059	45 to 50			
	MLPV-IW0060	40 to 50			
	MLPV-ASMW0004	35 to 40			
	MLPV-ASMW0005	35 to 40			
	MLPV-ASMW0006	35 to 40			
	MLPV-IW0031	25 to 35			
	MLPV-IW0061	35 to 40			
	MLPV-IW0062	40 to 45			
	MLPV-IW0063	35 to 40			
	MLPV-IW0064	40 to 45			
Former Hot Spot 2 (Air Sparge System)	MLPV-IW0032	30 to 40	Annual (March only)	March & September 2022	CVOCs (cDCE, tDCE, VC)
	MLPV-IW0038	30 to 40			
	MLPV-IW0040	30 to 40			
	MLPV-IW0042	30 to 40			
	MLPV-IW0011I	35 to 40	Semi-Annual (Sept & Mar)		
	MLPV-IW0033	40 to 50			
	MLPV-IW0034	30 to 40			
	MLPV-IW0035	40 to 50			
	MLPV-IW0036	40 to 45			
	MLPV-IW0037	40 to 50			
	MLPV-IW0039	40 to 50			
	MLPV-IW0041	40 to 50			
	MLPV-IW0043	40 to 50			
	MLPV-IW0044	40 to 50			
	MLPV-IW0045	40 to 50			
	MLPV-SAMW0004I	35 to 40			
	MLPV-SAMW0004D	45 to 50			
Hot Spot 3 OFW Area	VABRA-MW0011	25 to 35	Annual	September 2022	CVOCs (TCE, cDCE, tDCE, VC)
	VABRA-MW0012	15 to 25			
	VABRA-MW0013	20 to 25			
	VABRA-MW0014	25 to 30			

Notes:
bls = Below land surface
cDCE = cis-1,2-dichloroethylene
CVOC = chlorinated volatile organic compounds
OFW = Outstanding Florida Waters
SWMU = Solid Waste Management Unit
TCE = trichloroethylene
tDCE = trans-1,2-dichloroethene
VC = vinyl chloride
MLPV-IW0002I and MLPV-IW0001D were added to sampling plan in 2020 following analytical assessment of 2018 & 2020 data
MLPV-IW0028 I and MLPV-IW0046 were transferred from LCP LTM Area sampling plan to the Biosparge Area beginning in 2021
MLPV-IW0006IR was added to the Biosparge Area sampling plan in September 2020.

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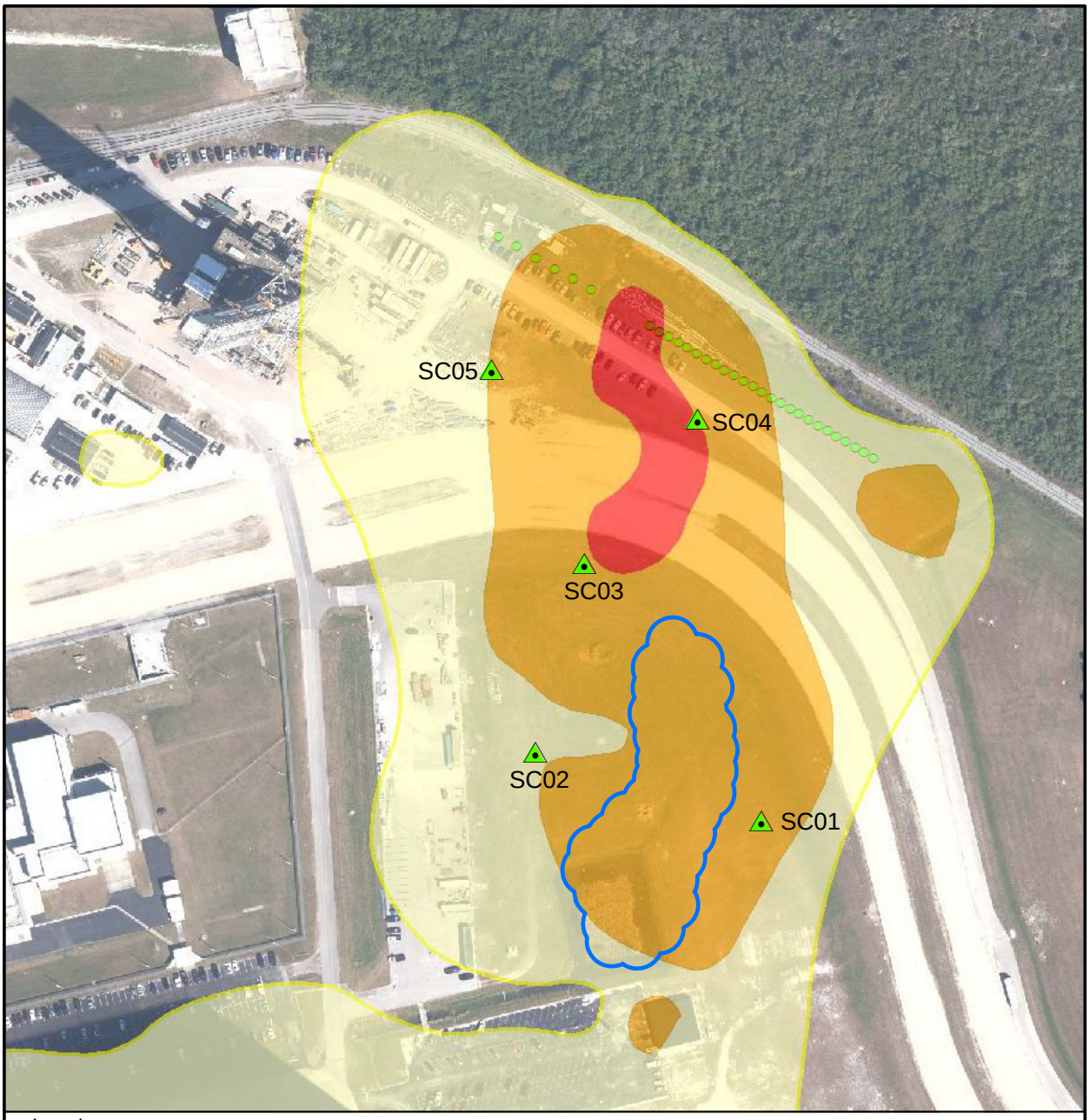

Notes:
1. MLP/VAB = Mobile Launch Platform Rehabilitation Sites (MLP)/ Vehicle Assembly Building Area (VAB) (Solid Waste Management Unit 056)
2. IGM = Interim groundwater monitoring
3. Source of plume boundaries: 2021 IGM data, 2021 DPT data, 2018 Annual CMI and IM report that included additional data form DPT sampling locations.
4. GCTL = Groundwater Cleanup Target Levels as provided in 62-777, F.A.C.
5. NADC = Natural Attenuation Default Concentration as provided in 62-777, F.A.C.

FIGURE 5-1
Proposed Soil Core Locations

MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

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NASA. 2012. *MLP/VAB Area, SWMU No. 056, Step 4a Engineering Evaluation: Air Sparge Construction Completion, Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. October 2012.

NASA. 2013a. *MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measures Report: Summary of Interim Long Term Monitoring and Biosparge and Air Sparge System Operation and Maintenance (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. June 2013.

NASA. 2013b. *Mobile Launch Platform/ Vehicle Assembly Area Air Sparge System Construction Completion Report (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. January 2013.

NASA. 2014a. *MLP/VAB Area, SWMU No. 056, CMI and IM Annual Report: Summary of Biosparge System Operation and Air Sparge System Operation (Step 4C), Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. August 2014.

NASA. 2014b. *MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measures Report: Biosparge and Air Sparge System Operation and Maintenance (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. September 2014.

NASA. 2014c. *MLP/VAB Area, SWMU No. 056, Step 4B Engineering Evaluation: Air Sparge System and Biosparge System Restart and Initial Performance Monitoring (Re-Start through Month 6), Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. March 2014.

NASA. 2015a. *MLP/VAB Area, SWMU No. 056, 2015 CMI and IM Annual Report: Summary of Biosparge System Operation and Air Sparge System Operation (Step 4 Engineering Evaluation) Advanced Data Package.* Prepared by Geosyntec Consultants Inc., Titusville, Florida. August 2015.

NASA. 2015b. *2015 MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measures Annual Report: Summary of Biosparge and Air Sparge System Operation and Maintenance and Interim Groundwater Monitoring (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. November 2015.

NASA. 2015c. *Vehicle Assembly Building Re-Assessment Area (VABRA) Step 1 Engineering Evaluation: Hot Spots 3 and 4 Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Clearwater, Florida. April 2015.

NASA. 2015d. *Vehicle Assembly Building Re-Assessment Area 2015 Environmental Conditions Assessment Report (Revision 1).* Prepared by Geosyntec Consultants Inc., Clearwater, Florida. June 2015.

NASA. 2016a. *MLP/VAB Area, SWMU No. 056, Biosparge Expansion Construction Completion Report (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. May 2016.

NASA. 2016b. *MLP/VAB Area, SWMU No. 056, CMI and IM Annual Report: Summary of Biosparge and Air Sparge System Operation and Maintenance (Step 4 Engineering Evaluation), Advanced Data Package (Revision 0*). Prepared by Geosyntec Consultants Inc., Titusville, Florida. September 2016.

NASA. 2016c. *MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measures Annual Report: Summary of Biosparge and Air Sparge System Operation and Maintenance and Interim Groundwater Monitoring (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. November 2016.

NASA. 2016d. *MLP/VAB Area, SWMU No. 056, Hot Spot 3 Bioremediation Interim Measures Work Plan (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. May 2016.

NASA. 2016e. *MLP/VAB Area, SWMU No. 056, Step 2 Engineering Evaluation: Hot Spot 3, Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. January 2016.

NASA. 2017a. *MLP/VAB Area, SWMU No. 056, Hot Spot 3 Bioremediation Implementation Work Plan (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. June 2017.

NASA. 2017b. *MLP/VAB Area, SWMU No. 056, Sampling and Analysis Plan for the RCRA Corrective Action Program at the John F. Kennedy Space Center, Florida (Revision 5).* Prepared by Geosyntec Consultants Inc., Boca Raton, Florida. August 2017.

NASA. 2018a. *MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measure Annual Report: Summary of Biosparge and Air Sparge System Operation and Maintenance and Interim Groundwater Monitoring (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. March 2018.

NASA. 2018b. *MLP/VAB Area, SWMU No. 056, Hot Spot 3 Bioremediation Annual Interim Measure Report (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. December 2018.

NASA. 2018c. *MLP/VAB Area, SWMU No. 056, Hot Spot 3 Bioremediation Construction Completion Report (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. February 2018.

NASA. 2018d. *MLP/VAB Area, SWMU No. 056, Hot Spot 3 OFW Site Characterization Engineering Evaluation Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. January 2018.

NASA. 2019a. *MLP/VAB Area, SWMU No. 056, CMI and IM Annual Report: Biosparge and Air Sparge System O&M, Hot Spot 3 Bioremediation IM, and Interim Groundwater Monitoring, Advanced Data Package (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. June 2019.

NASA. 2019b. *MLP/VAB Area, SWMU No. 056, CMI and IM Annual Report: Summary of Biosparge and Air Sparge System O&M, Hot Spot 3 Bioremediation IM, and Interim Groundwater Monitoring (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. August 2019.

NASA. 2019c. *MLP/VAB Area, SWMU No. 056, Vehicle Assembly Building Area 2018 Biennial Groundwater Monitoring Results (Revision 0).* Prepared by Geosyntec Consultants Inc., Titusville, Florida. March 2019.

NASA. 2020. *MLP/VAB Area, SWMU No. 056, Corrective Measures Implementation and Interim Measures Annual Status Report: Summary of Biosparge System O&M, and Interim Groundwater Monitoring (Revision 1).* Prepared by AECOM Technical Services, Inc., Orlando, Florida. December 2020.

NASA. 2021. *MLP/VAB Area, SWMU No. 056, CMI and IM Annual Status Report: Summary of Biosparge System O&M, and Interim Groundwater Monitoring (Revision 1).* Prepared by AECOM Technical Services, Inc., Orlando, Florida. July 2021.

United States Geological Survey. 1976. Orsino, Florida Quadrangle map.

APPENDIX A

KENNEDY SPACE CENTER REMEDIATION TEAM MEETING MINUTES (SEPTEMBER 2021 AND MARCH 2022) AND MARCH 2022 ADP

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Revision 2 Meeting Minutes for the KSCRT Meeting - September 15, 16, and 17 , 2021

Attendees:

1. Bruce Moore/FDEP
2. Jennifer Farrell/FDEP
3. Mike Deliz/NASA
4. Ryan O'Meara/NASA
5. Deda Johansen/NASA
6. Anne Chrest/NASA
7. Natasha Darre/NASA
8. Dinh Vo/NASA
9. Michelle Moore/NEMCON
10. Mark Speranza/Tetra Tech
11. Mark Jonnet/Tetra Tech
12. Jennifer Buel/Tetra Tech
13. Alex Murphy/Tetra Tech
14. Chris Neumann/Tetra Tech
15. James Lloyd/Tetra Tech
16. Sarah Damphousse/Tetra Tech
17. Chris Pike/Tetra Tech
18. Debbie Wilson/Tetra Tech
19. Jennifer Joyal/AECOM
20. Linnea King Clark/AECOM
21. Josh Lerch/AECOM
22. Brittany Follett/AECOM
23. Randy Sillan/AECOM
24. Matthew Zenker/AECOM
25. Chad Lee/AECOM
26. Richard Smith/HGL
27. Scott Starr/HGL
28. Howard Fowler/HGL
29. Brad Mitchell/HGL
30. Cady Carol/HGL

2109-M01 Team

Meeting Minutes and Miscellaneous Items

Team consensus was reached that Revision 0 of the meeting minutes and action/decision items for the June 2021 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 **(2109-D01).**

Open action items were reviewed by the Team. The following action item was closed out:

Review of Site Status and Deliverables, December 2020: Mike will summarize the look ahead and send a detailed version to Florida Department of Environmental Protection (FDEP) that will provide site histories, what NASA has completed, and where their path forward (including plume maps). 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.

Look ahead and maps have been provided to FDEP by NASA **(Closed 2012-A03).**

Area South of K7-0516 and Eastern Component Cleaning Facility Solid Waste Management Unit (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.

FDEP referenced the April 2021 advance data package (ADP) in their review letters dated May 11, 2021 (for Component Cleaning Facility [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 **(Closed 2104-A02).**

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.

NASA assisted FDEP with this inquiry **(Closed 2106-A03).**

Results: Decision Items: 2109-D01

2109-M02 Bruce Moore /FDEP

FDEP Program Update, September 2021

Goal: The objective is to summarize any changes at 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.

New hire Andrew Franz joined the team recently and Roger Durham and Nadine Brooks were promoted within the organization. FDEP is also recruiting for Other Personal Services for land use control (LUC) entries. There are ongoing concerns with balancing workload with new hires and upcoming retirements.

Due to workload, FDEP is beginning to use outside contractors to assist with Per- and Polyfluoroalkyl Substances (PFAS) and other investigations. These contractors are not reviewing any information with regards to KSC PFAS at this time.

On September 8th FDEP hosted a RCRA Program update for Federal Facilities. Its focus was permit modifications, including public notice upon approval of certain decision documents. FDEP inquired if there was any feedback on this presentation from NASA? NASA commented that they do have some points to discuss, and the NASA Remediation Program Manager has questions about what will trigger notice requirements, in particular. FDEP stated they would like to get feedback early on, and acknowledged that public noticing has the potential to slow down the current process. FDEP observed there may be room to incorporate remedies into the permit modifications and if we do that, individual project noticing may not be required.

NASA shared that, as part of the executive branch, NASA personnel and contractors are subject to the executive order requiring Federal employees and contractors to be vaccinated against COVID-19. More guidance coming on this. All NASA contractors are expected to comply with this mandate.

2109-M03 Jennifer Joyal/AECOM

Wilson Corners (SWMU 001) High Concentration Plume Site Characterization and Revised AS System Layout, September 2021

Goal: The objective is to provide a summary of direct push technology groundwater sampling work performed from October 2020 through May 2021, and propose modifications to the approved Interim Measure Work Plan.

Discussion: The ADP provided a brief background and overview for the site. The direct push technology (DPT) sampling was conducted to verify the extent of the chlorinated volatile organic compound (CVOC) high concentration plume (HCP) prior to installing the air sparge (AS) system at the site per the 2019 design. Locations and intervals chosen were based on the objective of refining the HCP treatment area. Delineation prioritized data from 2020 and 2021, followed by historical DPT data from 2015 to 2017. Trichloroethene (TCE), its breakdown products, and Freon 113 are being examined in this briefing.

DAY 3

2109-M10 – Randy Sillan/AECOM

Mobile Launch Platform Rehabilitation (MLP) Sites and VAB Area Hot Spot #3 (SWMU 056), September 2021

Goal: The goal is to present 2021 direct push technology (DPT) groundwater sampling results from the Hot Spot 3 area and gain Team concurrence of the path forward. Field efforts summarized in the ADP include sampling for chlorinated volatile organic compound (CVOC) analysis. The objective of the ADP is to present current site conditions that support additional interim measures.

Discussion: Taking advantage of a lull in construction activities at the MLP, 188 DPT groundwater samples were collected at 62 locations and analyzed for CVOCs to evaluate current site conditions. A subset of samples was also analyzed for parameters useful in evaluating bioremediation. CVOC results confirm that the 2017 emulsified vegetable oil injections and bioaugmentation interim measure (IM) has decreased CVOC mass and shrunken the plume footprint. A small area with elevated trichloroethene (TCE) concentrations indicate a source is likely still present. The geochemical parameters indicate that aquifer conditions may be limiting enhanced reductive dechlorination. The recommended path forward is to utilize in situ chemical reduction (ISCR) by emplacing a product that enhances biotic and abiotic reduction of CVOCs for a long period (5 or more years), and maintains optimal conditions by limiting methanogenesis and managing sulfate reduction and sulfide accumulation. Preparation of an IM Work Plan is the next step.

FDEP requested clarification regarding the footprint and depths of the 2017 IM and conceptual treatment area for additional treatment. AECOM stated that concentrations above NADC are in similar locations now as prior to the 2017 IM, but the CVOC concentrations are lower compared to 2017. Since the groundwater flow is toward an Outstanding Florida Water, FDEP asked if a consideration had been given to expanding the existing air sparge system, which might be more quickly implemented since there is an infrastructure in place. NASA described the difficulties with accessibility and construction in the adjacent crawlerway and the highly compacted ground around the MLP. FDEP noted that the underground injection

control component of the proposed ISCR IM may require public notice.

The Team reached consensus to proceed with an IM Work Plan to implement ISCR to treat key CVOCs (TCE, cis-1,2-dichloroethene [cDCE], and VC) exceeding their respective NADC (TCE greater than 300 ug/L, cDCE greater than 700 ug/L, and VC greater than 100 ug/L) **(2109-D35).**

Results: Decision Item 2109-D35

2109-M11 Jennifer Joyal/AECOM

KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021

As a general note, NASA stated that the confirmation sampling that was performed or is planned at these AOPCs is for purposes of determining the presence or absence of PFAS. If there are detections, then the location will move into site assessment (SA) and at that time the extents of the PFAS will be determined. If media were not sampled prior, the SA is where that would get picked up.

Center-wide surface water sampling was conducted within the Industrial Area and other regional areas. The regional results will be presented at a future meeting.

AOPC 1 is the former Fire and Rescue Building at the Shuttle Landing Facility (SLF). It was used for emergency vehicle parking during landings, former fire pump testing, and former aqueous film-forming foam (AFFF) storage according to interviews. Phase III CS will include groundwater and soil sampling at this location. FDEP requested that a surface water sample be collected from the ditch by the AOPC on the east side of the landing strip. NASA inquired if a sample should also be collected for the swale north of Sharkey Road? FDEP concurred. The Phase III sampling results will be presented to the Team.

AOPC 2 is the former Contractor Support Building #7 north of the VAB area. According to interviews, this location was a former storage area for AFFF materials. A groundwater sample collected from this area during the Phase I CS revealed PFOA and PFOS

The Team reached consensus to discontinue groundwater monitoring of MW0013M, MW0067, MW0068, MW0069, MW0070, MW0071, and MW0072 due to at least two consecutive events below GCTLs **(2109-D58).**

The Team reached consensus to change sampling frequency to annual, alternating between wet and dry seasons. First annual event will be in wet season 2021 (November-December) **(2109-D59).**

The Team reached consensus to perform annual groundwater monitoring at MW0073, MW0074, MW0076, and MW0077 for select VOCs (tetrachloroethene; trichloroethene; cis-1,2-dichloroethene; trans-1,2-DCE; 1,1-dichloroethene; and vinyl chloride) **(2109-D60).**

The Team tested consensus to perform annual UIC groundwater monitoring at MW0073 for iron and TDS, and at MW0071 for TDS. NASA stated they will seek consensus for this item (UIC) via email after the full data set is distributed.

Results: Decision Items 2109-D53 through D60
Action Item 2109-A03

2109-M15 KSCRT

Miscellaneous Discussion

The final 2021 KSCRT Meeting schedule is planned for November 9 & 10. January 11 & 12 was mentioned as a possibility for the first 2022 meeting, although this date needs to be verified so that it doesn't interfere with Air Force scheduled dates.

NASA requested that each A&E email agenda topics for the November 2021 meeting to the Meeting Leader Ryan O'Meara. The timekeeper for the next meeting will be Richard Smith.

Standard ADP due date to RPM for first review is October 1st. Standard ADP due to the team October 19th.

AECOM
VAB LTM – Chad Lee – 45 minutes

Tetra Tech

Schwartz Rd Landfill Work Plan Jen Buel – 30 minutes
HBF PFAS Assessment Addendum – Jen Buel / Scott Anderson – 90 minutes
CHP First Quarter Results CCR Air Sparge - Alex Murphy – 30 minutes (maybe)

HGL

UNOA CSWP – Howard Fowler - 30 minutes

FDEP

15-20-minute FDEP update by Program Manager

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D01	2109-M01	**Meeting Minutes and Misc. Items:** Team consensus was reached that Revision 0 of the meeting minutes and action/decision items for the June 2021 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.
2109-D02	2109-M03	**Wilson Corners (SWMU 001) High Concentration Plume Site Characterization and Revised AS System Layout, September 2021:** The Team reached consensus that the High Concentration Plume has been refined horizontally and vertically to 50 feet below land surface to support air sparging
2109-D03	2109-M03	**Wilson Corners (SWMU 001) High Concentration Plume Site Characterization and Revised AS System Layout, September 2021**: The Team reached consensus to proceed with implementing the air sparging groundwater interim measure as presented in the September 2021 ADP.
2109-D04	2109-M04	**False Cape Data Collection (FCDC) Annex (SWMU 113) Confirmatory Sampling and Revised Interim Measure Work Plan Report, September 2021:** The Team reached consensus to implement the soil Interim Measure. No further action for these areas will be necessary for human health and ecological receptors following excavation.
2109-D05	2109-M05	**Paint and Oil Locker (POL) Area (SWMU 067) Construction Completion Report (CCR) and 1st Quarter Performance Data, September 2021:** The Team reached consensus to continue annual LTM for the Northern POL Area (SWMU 067) utilizing MW0026S, MW0031S, MW0033SI and MW0033SI; and at SW3 (SWMU 088) sites utilizing MW0001, MW0006, MW0009, MW0024, MW0025, MW0027 and MW0028. MW0034S will be incorporated into the POL STA quarterly performance monitoring program.
2109-D06	2109-M06	**C-5 Electrical Substation (C5ES) (SWMU 066) Year 1 Performance Monitoring Results, September 2021:** The Team reached consensus to conduct 3 additional quarterly post system shutdown monitoring events (July 2021, October 2021, and January 2022) at MW0020, MW0021, and MW0022.
2109-D07	2109-M06	**C-5 Electrical Substation (C5ES) (SWMU 066) Year 1 Performance Monitoring Results, September 2021:** The Team reached consensus to conduct biennial long-term monitoring in April 2022 for target CVOCs and include additional site wells that have not attained two consecutive events below the GCTLs. This will include continuing the biennial sampling of MW0017S, MW0018S, and MW0019I, the addition of biennial sampling of MW0001S, MW0001I, MW0004S, MW0004I, MW0005S, MW0009S, MW0023, and MW0025. The biennial event will also include MW0020, MW0021, and MW0022 if two consecutive events below the GCTLs have not been attained by April 2022. HGL will prepare a biennial Long-Term Monitoring Letter Report.

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D08	2109-M06	**C-5 Electrical Substation (C5ES) (SWMU 066) Year 1 Performance Monitoring Results, September 2021:** The Team reached consensus to transition the site back into the VAB LTM program after the April 2022 event, and until the GCTLs are attained for two consecutive events at each sampling location.
2109-D09	2109-M07	**Components Cleaning Facility West (SWMU 030) Air Sparge System Status and Proposed Natural Attenuation Monitoring Path Forward, September 2021:** The Team reached consensus on the proposed NAM monitoring well network presented on Slides 40 and 43 of the ADP (proposed monitoring wells IW00A, IW00B, IW00C, IW00D, IW00E, IW00F, IW00G, IW00H, IW00I, IW00J, IW00K, IW00L, IW00M, IW00N, IW00O, IW00P, IW00Q, and existing monitoring wells IW0003ID, IW003IS, IW003S, IW0004IS, IW0004S, IW005ID, IW005IS, IW0011ID, IW0011IS, IW0012IS, IW0017S, IW0025IS, IW0017S, IW0025IS, IW0036, IW0041, IW0042, IW0046, IW0059, IW0060, IW0061, IW0062, IW0063, IW0064, IW0066, IW0067, and IW0068.
2109-D10	2109-M07	**Components Cleaning Facility West (SWMU 030) Air Sparge System Status and Proposed Natural Attenuation Monitoring Path Forward, September 2021:** The Team reached consensus to conduct the semi-annual sampling events in December 2021 (dry season) and June 2022 (wet season).
2109-D11	2109-M07	**Components Cleaning Facility West (SWMU 030) Air Sparge System Status and Proposed Natural Attenuation Monitoring Path Forward, September 2021:** The Team reached consensus to abandon the twelve (12) redundant groundwater monitoring wells listed on Slide 40 (IW0004S, IW0041, IW05S, IW05IS, IW05D, IW11D, IW12IS, IW12D, IW0026D, IW0060, IW0065, IW66).
2109-D12	2109-M08	**Components Cleaning Facility East (SWMU 030) High Concentration Plume Site Characterization, September 2021:** The Team reached consensus that the High Concentration Plume (HCP) is delineated horizontally and vertically.
2109-D13	2109-M08	**Components Cleaning Facility East (SWMU 030) High Concentration Plume Site Characterization, September 2021:** Team consensus was reached for the revised air sparging layout and performance monitoring plan.
2109-D14	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #114, Fire Station #2 and Towway Area (includes PRL #237 LOC 2 and LOC 12).
2109-D15	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with SA activities under SWMU #105, Former Fire Station #2 Area (includes PRL #237 LOC 3).

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D16	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #106, Fire Station #3 Area (formerly known as Fire Station #6; includes PRL #237 LOC 4).
2109-D17	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with SA activities for LOC 5 under SWMU #115, VAB North Area (includes PRL #237 LOC 5, AOPC 3, AOPC 4, and AOPC 10).
2109-D18	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** After the surface water sampling discussion for LOC 7, Team consensus was reached to collect one surface water sample at LOC 6 from the former percolation pond.
2109-D19	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to collect one surface water sample from the former percolation pond at LOC 7.
2109-D20	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #111, LC39 Observation Support Building Area (includes PRL #237 LOC 9).
2109-D21	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #114, Fire Station #2 and Towway Area (includes PRL #237 LOC 2 and LOC 12).
2109-D22	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** The Team reached consensus to proceed with site assessment activities for LOC 14 under SWMU #119, Morpheus Test Area (included PRL #237 LOC 14 North).
2109-D23	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to add two surface water sampling locations. One sample location will be north of the former facility, and the other sample will be collected from the eastern swale along the SLF Runway.
2109-D24	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #114, Fire Station #2 and Towway Area (includes PRL #237 LOC 2 and LOC 12).
2109-D25	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with LOC 17 site assessment activities under SWMU #055, Contractors Road Heavy Equipment Area.

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D26	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** The Team reached consensus to proceed with site assessment activities under SWMU #116, Fire Station #1 Area (formerly known as Fire Station #4; includes PRL #237 LOC 19); site assessment activities are under contract.
2109-D27	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** The Team reached consensus to proceed with site assessment activities under SWMU #117, Sewage Treatment Plant #1 and Sludge Disposal Area (includes PRL #237 LOC 20 and PFAS impacts at SWMU #067 [POL Area, M6-0894]).
2109-D28	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached for no further action for LOC 22.
2109-D29	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus reached to proceed with site assessment activities under SWMU #099, Visitors Center Maintenance Area.
2109-D30	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #120, Former Treatment Plant #11 and Percolation Pond.
2109-D31	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached for no further action for LOC 26 with further surface water assessment proceeding as part of LOC 31.
2109-D32	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #118, KARS Park II Area (2109-D33).
2109-D33	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021:** Team consensus was reached to proceed with site assessment activities under SWMU #014, Base Support Building (includes PRL #237 AOPC 12 and LOC 32).
2109-D34	2109-M09	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PRL 237) Locations of Concern, September 2021**: Team consensus was reached to proceed with site assessment activities under SWMU #003, Ransom Road Landfill.
2109-D35	2109-M10	**Mobile Launch Platform Rehabilitation (MLP) Sites and VAB Area Hot Spot #3 (SWMU 056), September 2021:** The Team reached consensus to proceed with an IM Work Plan to implement ISCR to treat key CVOCs (TCE, cDCE, and VC) exceeding their respective NADC (TCE greater than 300 ug/L, cDCE greater than 700 ug/L, and VC greater than 100 ug/L).
2109-D36	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus reached to proceed with site assessment activities at AOPC 2 based upon the Phase I CS results. A SWMU name and number will be assigned.

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D37	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached to proceed with AOPC 3 site assessment activities under SWMU #115, VAB North Area (includes PRL #237 Location of Concern [LOC] 5, AOPC 3, AOPC 4, and AOPC 10).
2109-D38	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached to proceed with site assessment activities for AOPC 4 under SWMU #115, VAB North Area (includes PRL #237 LOC 5, AOPC 3, AOPC 4, and AOPC 10).
2109-D39	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached for no further action at this AOPC 5.
2109-D40	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached to proceed with AOPC 7 site assessment activities under SWMU #041, Components Refurbishment and Chemical Analysis Facility.
2109-D41	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached to proceed with AOPC 10 site assessment activities under SWMU #115, VAB North Area (includes PRL #237 LOC 5, AOPC 3, AOPC 4, and AOPC 10).
2109-D42	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached to proceed with AOPC 12 site assessment activities under SWMU #014, Base Support Building (includes PRL #237 AOPC 12 and LOC 32).
2109-D43	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** The Team reached consensus for no further action at AOPC14.
2109-D44	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** The Team reached consensus for No Further Action at AOPC 17.
2109-D45	2109-M11	**KSC Center-Wide Per- and Polyfluoroalkyl Substances (PFAS) Investigation, Areas of Potential Concern (AOPC), September 2021:** Team consensus was reached for no further action at AOPC 19.
2109-D46	2109-M12	**Converter Compressor Building (SWMU #089), DPT Update and Proposed Monitoring Wells, September 2021:** The Team reached consensus to install a downgradient monitoring well screened 40-50 ft bls south of MW056 to delineate the low concentration plume (LCP).
2109-D47	2109-M12	**Converter Compressor Building (SWMU #089), DPT Update and Proposed Monitoring Wells, September 2021:** Team consensus was reached for a new side gradient monitoring well co-located with DPT462 (north of MW133) screened from 20 to 30 ft bls.
2109-D48	2109-M12	**Converter Compressor Building (SWMU #089), DPT Update and Proposed Monitoring Wells, September 2021:** The Team reached consensus that monitoring well MW096 is compromised and should be abandoned properly. A well screened 60-70' bls will be installed, to be sampled in December 2021.
2109-D49	2109-M13	**Fluid Servicing Road Area Sites, September 2021:** The Team reached consensus on the 2021-2022 Sampling Plan to include biennial sampling event of 8 annual wells (MW0005, MW0015, MW0019, MW0031, MW0034, MW0035, MW0036, MW0037) and 14 additional biennial wells (MW0006, MW0007, MW0009, MW0010, MW0012, MW0014, MW0020, MW0024, MW0025, MW0026, MW0027, MW0028, MW0029, MW0030) to be sampled in December 2021 for TCE, cDCE, tDCE and VC; collecting depth to water measurements from 37 site-wide monitoring wells; conducting the 5-year plume monitoring DPT event in 2022; and installing potential new wells depending on DPT results. Recommendations from the sampling will be brought back to Team.

September 2021 Decision Items Rev 2		
Decision No.	**Minutes Reference**	**Decision**
2109-D50	2109-M13	**Fluid Servicing Road Area Sites, September 2021:** The Team reached consensus to continue monitoring to evaluate natural attenuation and concentration trends and evaluate optimization of the monitoring program on an annual basis.
2109-D51	2109-M13	**Fluid Servicing Road Area Sites, September 2021:** The Team reached consensus to continue annual/biennial IGWM activities at FDSA as follows: Sample 27 wells annually (MW03S2, MW14S2, MW15S2, MW16S2, MW17D1, MW025S, MW027S, MW0029, MW003, MW0033, MW0034, MW0035, MW0036, MW0038, MW0039, MW0040, MW0044, MW0045, MW0047, MW0048, MW0050, MW0051, MW0052, MW0055, MW0057, MW0058, MW0059); 14 additional wells biennially (MW02I2, MW03I1, MW08S2, MW09S2, MW023S, MW0032, MW0037, MW0041, MW0042, MW0043, MW0046, MW0049, MW0054, MW0056); and 1 well quarterly (MW0061) quarterly for TCE, cDCE, tDCE, and VC. Depth to water measurements will be made from 72 site-wide monitoring wells.
2109-D52	2109-M13	**Fluid Servicing Road Area Sites, September 2021:** The Team reached consensus to continue monitoring to evaluate natural attenuation and concentration trends and evaluate optimization of monitoring program on an annual basis.
2109-D53	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to conduct annual water level measurements at 54 existing monitoring wells plus any newly installed monitoring wells.
2109-D54	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to change sampling frequency to annual, alternating between wet and dry seasons. First annual event will be in the 2021 wet season (November-December).
2109-D55	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to perform a direct push technology (DPT) groundwater sampling event with mobile lab prior to the next monitoring event to investigate the extent of the chlorobenzene-related VOC plume, and install new monitoring wells as appropriate based on findings.
2109-D56	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to perform annual monitoring at 28 monitoring wells and one surface water location plus any new monitoring wells added based on the DPT groundwater sampling results. The surface water sample will be analyzed for the select VOAs (1,2,4- and 1,2,3-trichlorobenzene; 1,2-, 1,3- and 1,4-dichlorobenzene; chlorobenzene; and benzene) and PCBs; samples from 25 wells will be analyzed for the select VOAs and PCBs (MW0030R, MW0031, MW0036R), MW0040, MW0041, MW0042R, MW0043, MW0044, MW0046R, MW0049 through MW0060, MW0062, MW0063, MW0066); MW0011S will be sampled for PCBs only; and samples from 3 wells will be analyzed for the select VOAs (MW0061, MW0064, MW0075).
2109-D57	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to perform UIC monitoring at the six northeast monitoring wells (MW0049, MW0050, MW0057, MW0061, MW0066, and MW0067) plus the site-specific background well (MW0002I) for select UIC parameters sulfate, iron, manganese, sodium, and TDS.
2109-D58	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to discontinue groundwater monitoring of MW0013M, MW0067, MW0068, MW0069, MW0070, MW0071, and MW0072 due to at least two consecutive events below GCTLs.

September 2021 Decision Items Rev 2		
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2109-D59	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to change sampling frequency to annual, alternating between wet and dry seasons. First annual event will be in wet season 2021 (November-December).
2109-D60	2109-M14	**General Services Administration Reclamation Yard (GSRY) SWMU 010, May/June Groundwater Monitoring Results September 2021:** The Team reached consensus to perform annual groundwater monitoring at MW0073, MW0074, MW0076, and MW0077 for select VOCs (tetrachloroethene; trichloroethene; cis-1,2-dichloroethene; trans-1,2-DCE; 1,1-dichloroethene; and vinyl chloride).

Action Item No.	Minutes Referenc	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 (Vo)	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	Reviewed June 2021 - will remain open and revisit topic at a later date. No changes at this time. Update: this will be revisited again in 2022 based on sampling results.
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	Open	Followed up with NASA Compliance and the Institutional contractor (BOSS) to obtain information on these discharge reports. Malfunction/discharge records are only retained on file for the last five years by BOSS. Update: Discharge records were located and saved to the NASA shared drive. No additional spill records have been located for these releases.
2102-A07	2102-M13	NASA (RO)	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	NASA is looking into the sites and will provide follow up on this at a later date. Update: NASA has completed their review of these sites and is currently briefing the other RPMs on their findings/recommendations. Once the briefing is completed, findings will be provided to FDEP."
2102-A08	2102-M13	NASA (RO)	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	NASA is looking into the sites and will provide follow up on this at a later date. Update: NASA has completed their review of these sites and is currently briefing the other RPMs on their findings/recommendations. Once the briefing is completed, findings will be provided to FDEP."
2102-A10	2102-M13	NASA (RO)	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	NASA is looking into the sites and will provide follow up on this at a later date. Update: NASA has completed their review of these sites and is currently briefing the other RPMs on their findings/recommendations. Once the briefing is completed, findings will be provided to FDEP."
2102-A11	2102-M13	NASA (RO)	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	NASA is looking into the sites and will provide follow up on this at a later date. Update: NASA has completed their review of these sites and is currently briefing the other RPMs on their findings/recommendations. Once the briefing is completed, findings will be provided to FDEP."

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2102-A12	2102-M13	NASA (RO)	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	NASA is looking into the sites and will provide follow up on this at a later date. Update: NASA has completed their review of these sites and is currently briefing the other RPMs on their findings/recommendations. Once the briefing is completed, findings will be provided 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	
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.	Open	
2019-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	Open	Sample results provided to FDEP
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.	Open	

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.

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.
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.

Action Item No.	Minutes Reference	Responsible Team member	Action item	Status	Date Closed	Closure Comments
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)	Industrial Area LTM, February 2021 (FSA1 Site): FDEP stated that there 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.
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

Revision 1 Meeting Minutes for March 8th & 9th, 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. Sarah Damphousse/Tetra Tech
10. Debbie Wilson/Tetra Tech
11. Jennifer Joyal/AECOM
12. Randy Sillan/AECOM
13. Linnea King Clark/AECOM
14. Chris Marshall/AECOM
15. Richard Smith/HGL
16. Scott Starr/HGL
17. Carol Cady/HGL

2203-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 January 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 **(2203-D01).**

Open action items were reviewed and updated. No action items were closed at that time.

Results: Decision Item 2203-D01

2203-M02 Bruce Moore /FDEP

FDEP Program Update, March 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 two staff vacancies: one for a professional engineer and another for a professional geologist as a

result of one retirement (Jeff Lockwood) and one resignation (Roger Durham). Staffing continues to be a challenge while the section operates with six technical staff out of a planned eight-person staff.

FDEP was already utilizing Geosyntec and Arcadis for technical review support. They are now adding CDM Smith as a third contract reviewer to assist with this effort. A graph presenting workload projection based on influx from various partners was presented. Cumulatively, FDEC estimates approximately 26,000 hours of work for their federal partners. As a result, FDEP is looking to increase their staff to ten positions in total.

All FDEP staff continue to work at the office. Travel is still allowed at this point, but is optional for staff. FDEP in general requests that virtual meetings continue to allow those who need or want accommodations. Masks are still encouraged. Bruce is available for travel and in-person meetings as soon as the KSCRT begins meeting on site again.

2203-M03 Scott Starr/HGL

Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022

Goal: The objective of the Advanced Data Package (ADP) is to evaluate and summarize the results of the 2021 annual groundwater monitoring, sub-slab gas sampling, and direct push technology (DPT) groundwater investigation. Based upon evaluation of the data, recommendations are presented to obtain consensus on changes to the groundwater monitoring program.

Discussion:

Annual groundwater monitoring was conducted in December 2021. The 2021 sampling and analysis plan specified the annual sampling of 18 monitoring wells for volatile organic compounds (VOCs) and seven wells for 1,4-dioxane. Eight monitoring wells were also sampled in December 2021 for Underground Injection Control (UIC) parameters (total dissolved solids, sodium, and total recoverable petroleum hydrocarbons [TRPH]). In addition to sampling activities, groundwater levels were collected from 47 out of 48 wells to evaluate the groundwater flow. A water level was not collected at

something triggers additional remediation and we are in a position to do so.

Results: Decision Items 2203-D05

2203-M05 Linnea King Clark/AECOM

MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022

Goal: The purpose is to present activities performed in 2021 and corresponding data associated with groundwater interim measures (IM) within the Hot Spot (HS) 2 (Air Sparge Area), HS 3 Outstanding Florida Waters (OFW), Biosparge Area, and low concentration plume (LCP) Long Term Monitoring (LTM) formerly referred to as Vehicle Assembly Building (VAB) LTM Program.

Discussion:
Field efforts summarized in the advance data package (ADP) include direct push technology (DPT) groundwater sampling in March and April of 2021; installation of the new biosparge system trailer in November 2021; semi-annual groundwater sampling in March and September 2021 from HS2, HS3 Outstanding Florida Waters (OFW), and Biosparge Area; and supplemental groundwater sampling from select monitoring wells in November 2021 from the Biosparge Area. Groundwater samples were collected for chlorinated volatile organic compound (CVOC) analysis. The objective of the ADP is to evaluate (1) the existing groundwater quality based on current data, (2) trends, (3) the need for system optimization, and (4) to determine if modifications to the sampling schedule are warranted.

Referencing slide 7 showing an overview of the MLP/VAB Area plumes, FDEP inquired is this an area of ongoing construction? Has dewatering been coordinated at this location? NASA responded they have had to coordinate some dewatering here for construction operations, but the volatile organic compound (VOC) plume is below 35 ft and dewatering has been shallow. No locations containing per- and polyfluoroalkyl substances (PFAS) have been dewatered recently.

Biosparge Barrier

FDEP requested confirmation that the biosparge system has not operated since December 2020? AECOM confirmed that was true; the compressor and controls were lost in a fire.

FDEP inquired if the northern-most of the 3 monitoring wells are downgradient of the curtain? AECOM confirmed yes and referenced Slide 9. Looking at the HS2 area upgradient of the biosparge wall, FDEP inquired if the current Remedial Alternatives Evaluation (RAE) is evaluating whether site conditions preclude installation of air sparge wells to address the area where vinyl chloride concentrations are 10 times its Natural Attenuation Default Concentration (NADC) in the 40-50ft level? ACEOM responded that they want additional soil data to verify the lithology in those depths is conducive to air sparging. FDEP is wondering if there is so much construction going on that this will impact remediation efforts.

AECOM stated that the northern segment of the biosparge curtain was designed to treat up to 48ft deep. DPT results for 2021 show that some of the deeper contaminants from HS2 are reaching the biosparge area. For that reason, additional biosparge wells screened at 48 to 50 ft. are proposed for the gap between the current biosparge segments. The former HS2 treatment system decreased the mass significantly and the RAE is looking at how to treat what remains and also reduce the mass flux towards the biosparge area.

The Team reached consensus that upon startup of the biosparge system, continue operation until the HCP in former Hot Spot 2 shows signs of full plume collapse. **(2203-D06)**

The Team reached consensus to continue interim groundwater monitoring (IGM) on a semi-annual basis (as presented on slide 25) for selected CVOCs: TCE, cDCE, tDCE, and VC. **(2203-D07)**

The Team reached consensus based on 2021 DPT groundwater data, to optimize the biosparge system. Install 4 to 5 additional treatment wells screened 48 to 50 feet bls in the space between biosparge segments, the same depth as southern barrier (original barrier) treatment wells. **(2203-D08)**

The Team reached consensus to install up to 9 additional monitoring wells downgradient and at each end of the biosparge barrier. Wells will serve to monitor biosparge performance and plume behavior. Installation will be performed in accompaniment with evaluating

remedial alternatives for upgradient portion of the HCP. **(2203-D09)** Monitoring well locations may be subject to change based on wetland conditions. We are considering other mitigations if installation is not feasible. The monitoring wells are expected to be installed in fall 2022.

Former Hot Spot 2 IM Area

DPT groundwater sampling in 2021 in the HS2 area showed that vinyl chloride is the predominant contaminant and that its concentrations are highest north of the former air sparge area, approaching the biosparge curtain. Performance monitoring samples for the air sparge area were collected in March and September 2021 along the centerline of the air sparge well network and at its periphery. Highest concentrations of cis-1,2-dichloroethene and vinyl chloride were in the 40-50 ft. interval, corresponding with DPT findings. DPT and performance monitoring results indicate that additional remediation is warranted. The expansion of the biosparge curtain is part of that, and the HS2 RAE is looking at further options. AECOM anticipates presenting the RAE later this year.

The Team reached consensus to collect soil cores for soil permeability analysis to gain an understanding of current soil characteristics in the low permeability soil layer and to aid in the RAE. The soil cores are proposed in areas with limited soil classifications. Proposed locations are on Slide 44. **(2203-D10)**

The Team reached consensus to continue Interim Groundwater Monitoring within the Former Hot Spot 2 Air Sparge Area for select CVOCs (cDCE, tDCE, and VC) and monitoring well locations as outlined on Slide 45. **(2203-D11)**

Hot Spot 3 OFW Area

The four wells adjacent to the OFW were sampled in September 2021. CVOCs were below groundwater cleanup target levels (GCTLs) in all samples.

The Team reached consensus to continue Interim Groundwater Monitoring at HS3 OFW Area for select CVOCs (TCE, cDCE, tDCE, and VC) on an annual basis (September) of the following wells: VABRA-MW0011, VABRA-MW0012, VABRA-MW0013, VABRA-MW0014. The 2022 sampling and analysis plan is provided on Slide 51 of the presentation. **(2203-D12)**

Low Concentration Plume Long-Term Monitoring (LTM)
LTM is conducted biennially for the MLP/VAB Area, most recently in June 2020. The 2020 results showed little change in the overall plume since 2018. There was a notable increase in the vinyl chloride concentration in WCPS-IW0001SR that was confirmed by re-sampling in September 2020. The most recent plume footprint based on LTM results is shown on Slide 53.

In 2021, an overall evaluation of the LTM network was initiated to determine if additional monitoring wells within the overall GCTL plume are required. Available lithological information, historical monitoring well and DPT results, and groundwater flow direction were considered in the evaluation. Based on the acreage of the plume, 39 new wells are needed and 12 existing wells will be added to the sampling plan.

The Team reached consensus to continue LTM on a biennial basis and include additional existing and proposed monitoring wells. The updated LTM network of monitoring wells will provide sufficient data for monitoring the GCTL plume behavior. Based on the LTM evaluation, install 39 proposed monitoring wells in accordance with the rationale table and add 12 existing monitoring wells that are usually used for water gauging only. Additional data will be evaluated from wells sampled during Biosparge Area and former HS2 Area performance monitoring. Installation is scheduled for the fall of 2022 and wells will be sampled following installation. Construction activities within the Former HS2 area may limit where installation will be possible. The biennial sampling and analysis plan depicting well locations and intervals is provided on slides 57 through 64 of the presentation. **(2203-D13).**

Installation is scheduled for the Fall of 2022 and wells will be sampled following installation. A number of existing wells will be repaired, and some wells that are currently impacted by limited access may be relocated. Construction activities within the Former Hot Spot 2 area may limit where installation will be possible.

Results: Decision Items 2203-D06-D13

The next sampling event will be in May 2022 for FSA1, alternating wet and dry seasons (PRL 157) **(2203-D44).**

Slide 56 of the advanced data package (ADP) outlines the upcoming sampling schedule for reference.

Results: Decision Item 2203 D37 through D44
Action Item 2203-A05

2203-M09 Anne Chrest/NASA

CAMP Deliverables Look-Ahead and Document Requirements, March 2022

Goal: This is a new recurring topic. The purpose is to present a deliverables look-ahead and review document requirements.

Discussion:
Specific comments related to CAMP documents and submittal dates were noted by NASA for incorporation into the CAMP schedule. A quick review of the CAMP was given by NASA, noting that there were a few revisions to the version that was sent earlier in March. For clarity, active sites and closed sites are now on separate tabs. Summary information for the 57 PFAS Locations of Concern/Areas of Potential Concern is presented on one tab, with a cross-reference to assigned Solid Waste Management (SWMU) or Potential Release Location (PRL) numbers where appropriate.

General note: While all KSCRT members are provided PDF versions of each set of KSCRT meeting minutes, some members requested that the minutes be uploaded to the Remediation Information System (RIS). This will be done. The NASA RPMs should also upload any final ADPs to the RIS Document Management System for the records as well.

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 **(2203-A06).**

NASA inquired if FDEP needs an update monthly; is there a required frequency for review? FDEP stated there is not a set frequency for CAMP submittals, but noted they find it useful to talk

every 2 weeks about hot topics with the Space Force. FDEP invited NASA to do the same by email or regular phone call.

Results: Action Item 2203-A06

2201-M10 KSCRT

Miscellaneous Discussion

2022 Meeting Dates
May 3-4th, 2022
June 28-29th, 2022
September 13-14th, 2022
November 15-16th, 2022

Agenda Topics for May 2022 Meeting

AECOM

1. WC LTM update (30 min) Linnea

Tetra Tech

1. CCF / Area South of K7-516 IM M and IGM (2 hours) Jonnet
2. HBF PFAS Assessment (30 min) Jen Buel or Chris Pike
3. Schwartz Rd Landfill PFAS CS (30 min) Jen Buel or Chris Pike
4. HBF IGM (65 min) Jen Buel or Chris Pike

HGL

1. PRL #239
2. FSRA tentatively but may be June (will be close)
3. PRL 229 IM soil removal Howard (45 min)
4. Pond Confirmatory Sampling Brad Mitchell (45 min)

FDEP

15-20-minute FDEP update by Program Manager

Natasha Darre is the team leader next meeting so email topics to her after the meeting is over.

March 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2203-D01	2203-M01	**Meeting Minutes and Miscellaneous Items:** Team consensus was reached that Revision 1 of the meeting minutes and action/decision items for the January 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.
2203-D02	2203-M03	**Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022:** Team consensus was reached to conduct annual sampling in June 2022 as follows: Sample 15 wells for CVOCs to include monitoring wells in HS1 consisting of MW0025, MW0027, MW0029, MW0047, MW0048, and MW0058 with the elimination of MW0026 (3 consecutive events over 2 years less than GCTLs) and MW0046 (2 consecutive events over 2 years less than GCTLs); sample monitoring wells in Hot Spot 2 (HS2) consisting of MW0031, MW0032, MW0042; sample monitoring wells in the Northern Area consisting of MW0017I, MW0019I, and MW0034; sample down gradient monitoring wells consisting of: MW0035, MW0039, and MW0041 with the elimination of MW0037 (3 consecutive events over 2 years less than GCTLs); sample 4 monitoring wells (MW0025, MW0035, MW0039, and MW0041) for 1,4-dioxane; sample 3 monitoring wells (MW0044, MW0047, and MW0056) for TRPH; sample 2 monitoring wells (MW0044 and MW0047) for sodium; revise the frequency of sampling for TDS to a biennial basis; collect depth to water measurements from 48 site-wide monitoring wells; and generate Mann-Kendall statistics for all applicable wells (that meet the criteria for using Mann-Kendall).
2203-D03	2203-M03	**Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022:** Team consensus was reached to sample 10 monitoring wells for PFAS under a separate mobilization from the annual groundwater sampling event. The proposed monitoring wells to be sampled for PFAS in 2022 include IW001S, IW004S, IW004I, IW009S, IW0013S, IW0017I, IW0019I, MW0024, MW0025, and MW0030.
2203-D04	2203-M03	**Contractors Rd Heavy Equipment Area (SWMU 055) 2021 Annual Groundwater Monitoring Report Advanced Data Package, March 2022:** The Team reached consensus to conduct sub-slab soil gas sampling event (CVOCs only) in June and December 2022 to evaluate if there are changes in sub-slab soil gas in the four vapor probes due to previous interim measure activities or plume movement.
2203-D05	2203-M04	**Converter/Compressor Building (SWMU 089) Performance Monitoring Update, March 2022:** The Team reached consensus to conduct the December 2022 sampling event that includes the 25 wells sampled in December 2021 and the 23 wells sampled biennially that were recommended in the 2019 – 2020 Performance Monitoring Report submitted in February 2021. The results from the December 2022 sampling event (48 wells) will be evaluated and incorporated into an annual PMR that will likely recommend transitioning the site, with the exception of the MW21 area, to LTM/MNA.
2203-D06	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus that upon startup of the biosparge system, continue operation until the HCP in former Hot Spot 2 shows signs of full plume collapse.
2203-D07	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to continue interim groundwater monitoring (IGM) on a semi-annual basis (as presented on slide 25) for selected CVOCs: TCE, cDCE, tDCE, and VC.
2203-D08	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus based on 2021 DPT groundwater data, to optimize the biosparge system. Install 4 to 5 additional treatment wells screened 48 to 50 feet bls in the space between biosparge segments, the same depth as southern barrier (original barrier) treatment wells.

March 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2203-D09	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to install up to 9 additional monitoring wells downgradient and at each end of the biosparge barrier. Wells will serve to monitor biosparge performance and plume behavior. Installation will be performed in accompaniment with evaluating remedial alternatives for upgradient portion of the HCP.
2203-D10	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to collect soil cores for soil permeability analysis to gain an understanding of current soil characteristics in the low permeability soil layer and to aid in the RAE. The soil cores are proposed in areas with limited soil classifications. Proposed locations are on Slide 44.
2203-D11	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to continue Interim Groundwater Monitoring within the Former Hot Spot 2 Air Sparge Area for select CVOCs (cDCE, tDCE, and VC) and monitoring well locations as outlined on Slide 45.
2203-D12	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to continue Interim Groundwater Monitoring at HS3 OFW Area for select CVOCs (TCE, cDCE, tDCE, and VC) on an annual basis (September) of the following wells: VABRA-MW0011, VABRA-MW0012, VABRA-MW0013, VABRA-MW0014. The 2022 sampling and analysis plan is provided on Slide 51 of the presentation.
2203-D13	2230-M05	**MLP/VAB (SWMU 056) Corrective Measures and Interim Measures Update, March 2022:** The Team reached consensus to continue LTM on a biennial basis and include additional existing and proposed monitoring wells. The updated LTM network of monitoring wells will provide sufficient data for monitoring the GCTL plume behavior. Based on the LTM evaluation, install 39 proposed monitoring wells in accordance with the rationale table and add 12 existing monitoring wells that are usually used for water gauging only. Additional data will be evaluated from wells sampled during Biosparge Area and former HS2 Area performance monitoring. Installation is scheduled for the fall of 2022 and wells will be sampled following installation. Construction activities within the Former HS2 area may limit where installation will be possible. The biennial sampling and analysis plan depicting well locations and intervals is provided on slides 57 through 64 of the presentation.
2203-D14	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to conduct annual water level measurements at 55 existing monitoring wells.
2203-D15	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to install a new monitoring well GSRY-MW0078 for delineation to the east of GSRY-MW0074 with a screen of 7 to 17 feet bls.
2203-D16	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to add PFAS analysis for seven monitoring wells (GSRY-MW0069, GSRY-MW0070, GSRY-MW0073, GSRY-MW0074, GSRY-MW0076, GSRY-MW0077, and GSRY-MW0078) to the annual sampling program. The next annual event will be in June 2022.
2203-D17	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to collect nine surface water samples for PFAS analysis from the water bodies surrounding the site (proposed sample locations are provided on Slide 11).
2203-D18	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to perform annual monitoring at 28 monitoring wells and one surface water location; same VOA and PCB analytes for each location as in December 2021 will be analyzed (Slide 15).
2203-D19	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to discontinue UIC monitoring at GSRY-MW0057, GSRY-MW0061, and GSRY-MW0064.

March 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2203-D20	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to continue annual UIC monitoring at GSRY-MW0049, GSRY-MW0050, and GSRY-MW0066 for UIC parameters: sulfate, iron, manganese, sodium, and TDS.
2203-D21	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to discontinue annual groundwater monitoring for VOCs due to at least two consecutive events in which concentrations were below GCTLs. This will include discontinuing sampling of GSRY-MW0071, GSRY-MW0073, GSRY-MW0074, GSRY-MW0076, and GSRY-MW0077 for VOCs.
2203-D22	2203-M06	**GSA Reclamation Yard (SWMU 010) Groundwater Monitoring Update, March 2022:** The Team reached consensus to perform annual UIC groundwater monitoring at GSRY-MW0067 for iron, and at GSRY-MW0071 and GSRY-MW0073 for iron and TDS.
2203-D23	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to reduce air sparge operation to Zones A and I for 2022.
2203-D24	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to adjust sampling frequency for MW0011, MW0016S, and MW0017S from semi-annual to annual. Monitoring wells MW0044 and MW0045 are the only remaining semi-annual wells.
2203-D25	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to remove LOX-MLW0001-C2 and MW0026S from the Performance Monitoring Program.
2203-D26	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to conduct site-wide well inventory and abandon wells with integrity issues.
2203-D27	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to collect samples for PFAS analysis from MW0025S and MW0034 during June 2022 event.
2203-D28	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to install a monitoring well to the west of MW0011 in the LC39A LOX Area.
2203-D29	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to continue with AS operations of Zones 1, 2, and 4 at LC39B for 2022.
2203-D30	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to adjust sampling frequency for the AS monitoring network from quarterly to semi-annual.
2203-D31	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to evaluate Action Item 1810-M04, 1810-A02 in 2022 to re-evaluate the need for a weir near OFW.
2203-D32	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to conduct site-wide well inventory and abandon wells with integrity issues.
2203-D33	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** FDEP recommended that the results of the well inventory be discussed and a rationale for any wells proposed for abandonment be presented. The Team reached consensus on that recommendation.
2203-D34	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to collect samples for PFAS analysis from LOX-TA0002S and MW0046 during June 2022 event.

March 2022 Decision Items Rev 1		Decision
Decision No.	Minutes Reference	
2203-D35	2203-M07	**Launch Complexes 39A (SWMU 008) and 39B (SWM U009) Groundwater Remediation Update, March 2022:** The Team reached consensus to complete Hot Spot 2 evaluation pending data assessment.
2203-D36	2203-M08	**Firex Water Tank (FWT) Site (SWMU 069) Confirmatory Sampling Results and Path Forward, March 2022:** The Team reached consensus to update the LUCIP and Statement of Basis to remove arsenic as a site COC from the Firex Water Tank (SWMU 069).
2203-D37	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to discontinue MNA of groundwater at the Orsino Storage Yard (SWMU 004).
2203-D38	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to conduct a relative TOC elevation survey and collect water levels from 11 wells to verify groundwater flow at HMF South (SWMU 070).
2203-D39	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to continue LTM at KARS Park I (SWMU 084) on a 5-year interval at monitoring wells KP1-MW0003, KP1-MW0022, and KP1-MW0035 with 16 water level measurements.
2203-D40	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to re-develop and sample KP1-MW0022 in May 2022 to confirm lead concentration at KARS Park I (SWMU 084).
2203-D41	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to continue biennial sampling frequency at the LETF (SWMU 091).
2203-D42	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to reduce sampling scope to two monitoring wells (LETF-MW0001 and LETF-PSB-MW0001I), and collect 14 water level measurements in May 2023 at the LETF (SWMU 091).
2203-D43	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to continue annual LTM sampling of 14 monitoring wells for select VOCs (tetrachloroethene [PCE], trichloroethene [TCE], cis-1,2-dichloroethene [cis-1,2-DCE], trans-1,2-DCE, and VC), and three monitoring wells for naphthalene, and collect 33 water level measurements in November 2022 at the GSSP (SWMU 095).
2203-D44	2203-M09	**Industrial Area (IA) Long-Term Monitoring (LTM) Update, March 2022:** The Team reached consensus to continue annual LTM sampling with addition of FSA-MW0017A to the existing monitoring network for a total of 10 wells. Samples will be analyzed for select VOCs (benzene, ethylbenzene, and isopropylbenzene), select PAHs (naphthalene, 1-mehtylnapthalene, and 2-methylnapthalene), and TPH. Water level measurements will be collected from 18 wells. The next sampling event will be in May 2022 for FSA1, alternating wet and dry seasons (PRL 157).

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	Update: this will be revisited again in 2022 based on sampling results.
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.
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	

Action Item No.	Minutes Reference	Responsible Team Member	Action item	Status	Comments
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-A02	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 will update the summary table for KARS Park I and email back out to the Team.	Open	
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 NASA owes FDEP an update on Q6 Radar Station (SWMU #112), so they will put together an ADP to review the RFI they completed.	Open	

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.

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.

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.

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.

2021 Corrective Measures Implementation (CMI) and Interim Measures (IM) Update

Mobile Launch Platform Rehabilitation Sites and the Vehicle Assembly Building Area (MLP/VAB)

Solid Waste Management Unit (SWMU) 056

March 8, 2022

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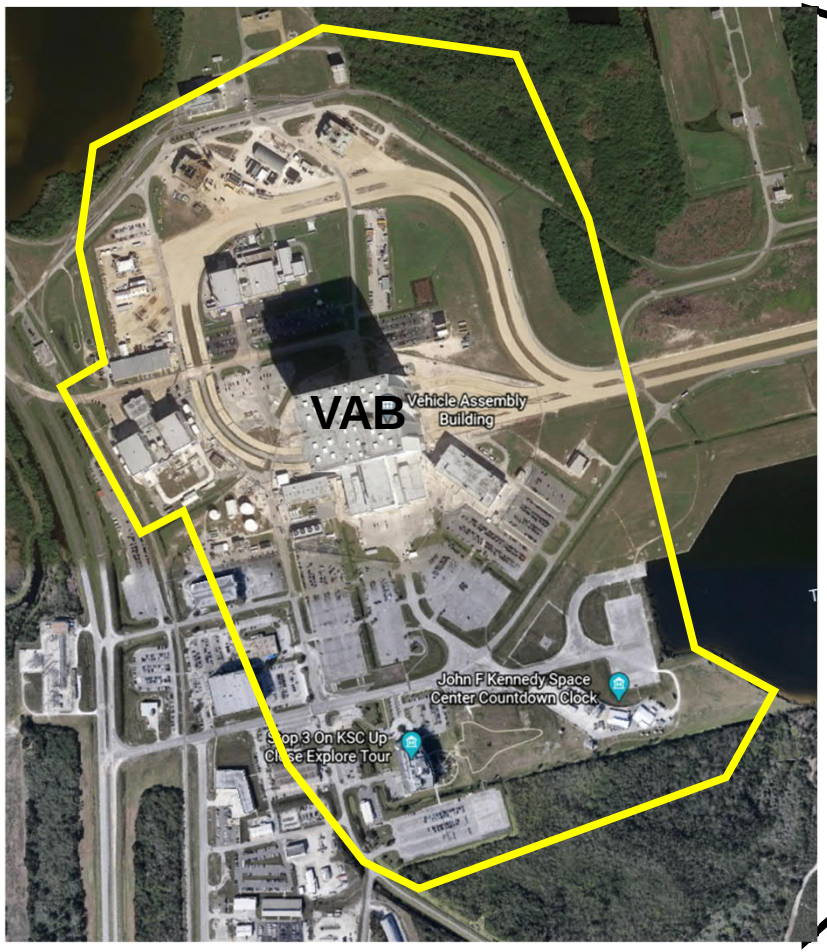
Outline

1. Mobile Launch Platform Rehabilitation Sites and Vehicle Assembly Building Area (MLP/VAB), Solid Waste Management Unit (SWMU), Overview
2. Biosparge Barrier for Mitigating the High Concentration Plume (HCP)
   - Biosparge System Overview
   - Direct Push Technology (DPT) Groundwater Sampling, March 2021
   - Performance Monitoring 2021
3. HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area
   - DPT Groundwater Sampling, March 2021
   - Performance Monitoring 2021
4. Hot Spot 3 Outstanding Florida Waters (OFW) Area
5. Low Concentration Plume (LCP) Long Term Monitoring (LTM)

MLP/VAB, SWMU 056 Overview

Site Location

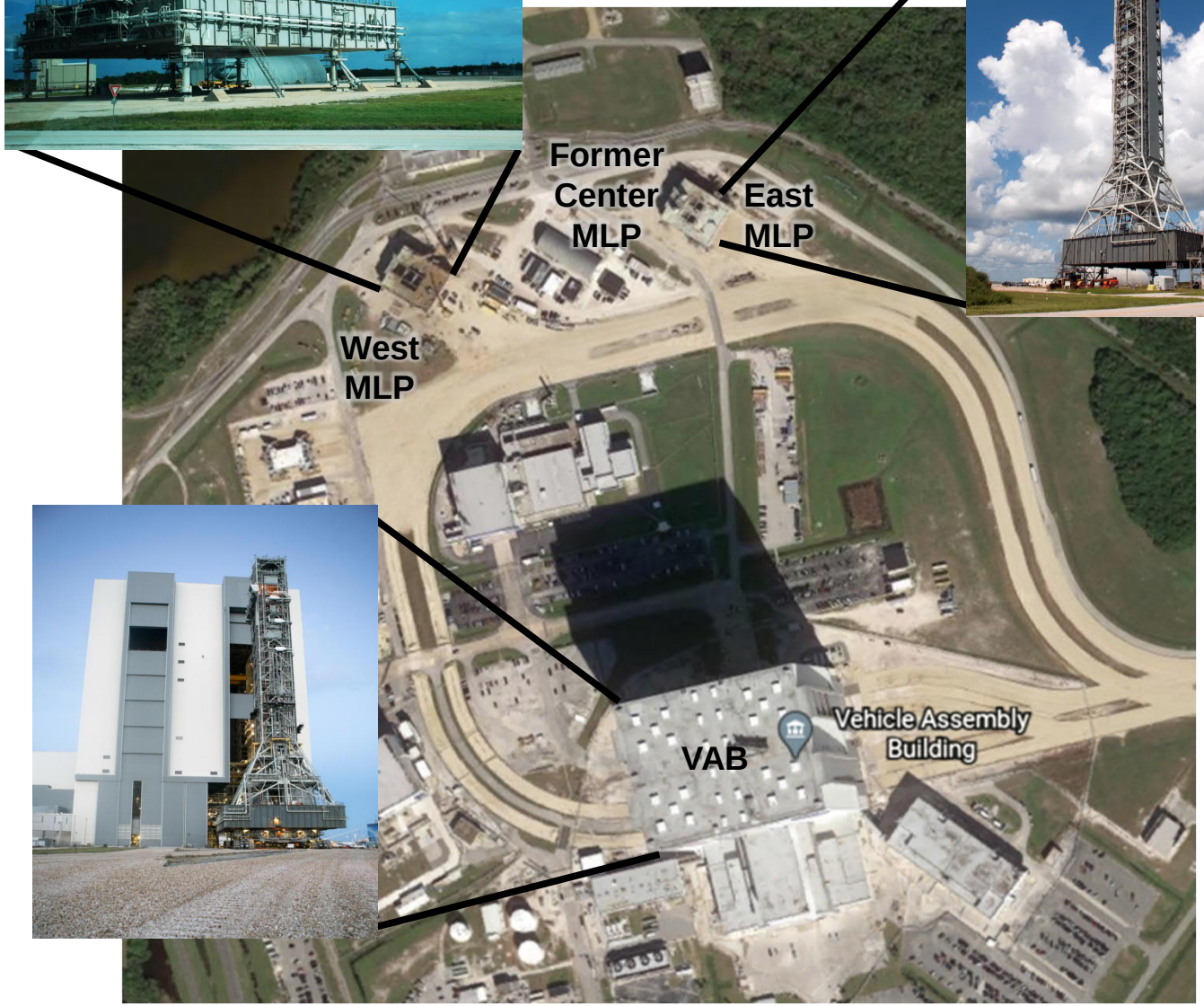
Solid Waste Management Unit (SWMU) #056 is in the northern half of Kennedy Space Center around the Vehicle Assembly Building (VAB).



MLP/VAB, SWMU 056 Overview

Site Use

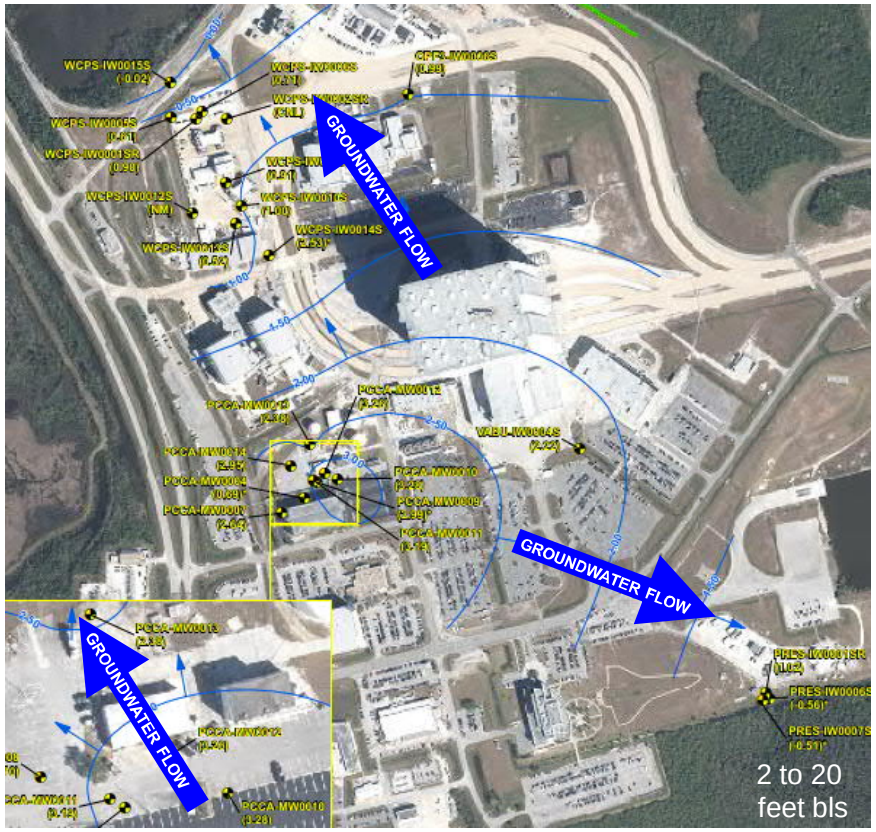
- Mobile Launch Platform (MLP) area and VAB were constructed in the mid-1960s
- MLP area historical site use:
  - Original construction sites for the Apollo Mobile launchers; consisted of three park sites
  - Area was used to repair corrosion and blast damage on the mobile launchers following launches
  - Center MLP site was replaced with a storage building in 1991.
- VAB historical use:
  - Used to stack and prepare the space vehicles prior to launch.
- Current Use:
  - VAB and MLP areas are construction sites
  - Facilities within the Solid Waste Management Unit boundary have been leased to tenants



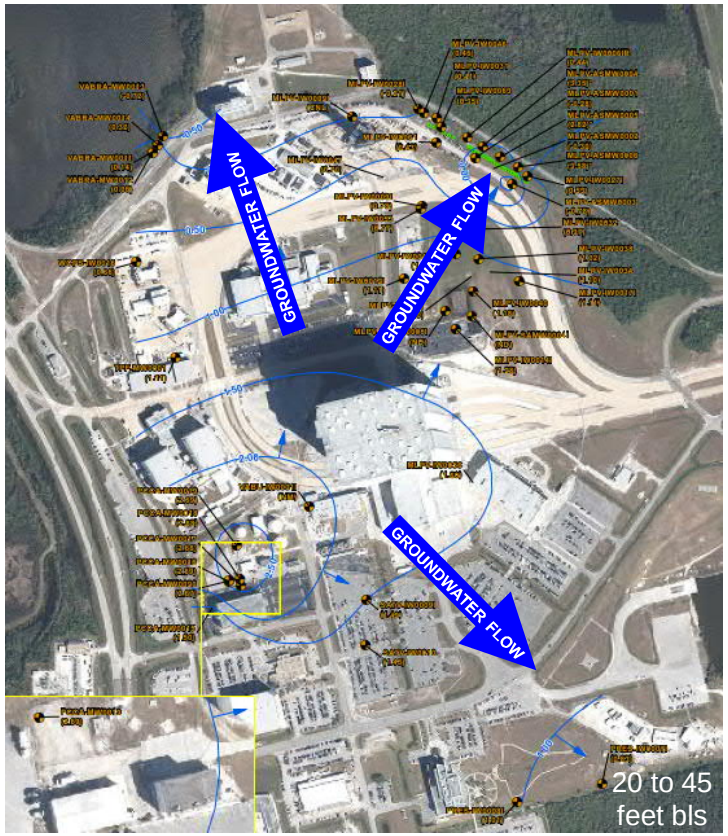
MLP/VAB, SWMU 056 Overview

Site-Wide Hydrogeology

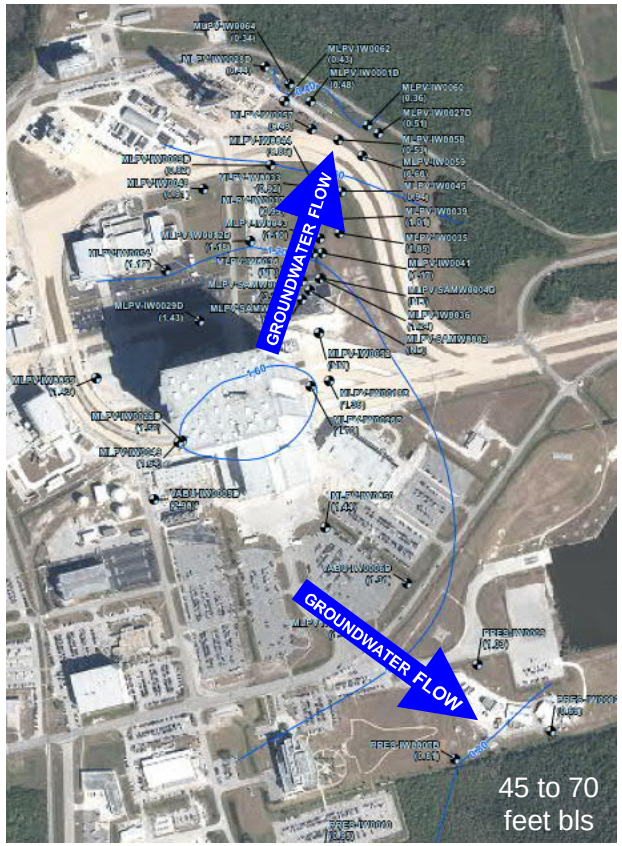
- 2021 Average depth to water in the dry season (November through April) ranged from 3 to 4 feet below land surface (bls)
- Average depth to water in the wet season (May through October) is scheduled for 2022
- Groundwater generally flows to N and NE on the north side of the VAB and E and SE to the south of the VAB, with an NW flow in the shallow intervals



SHALLOW



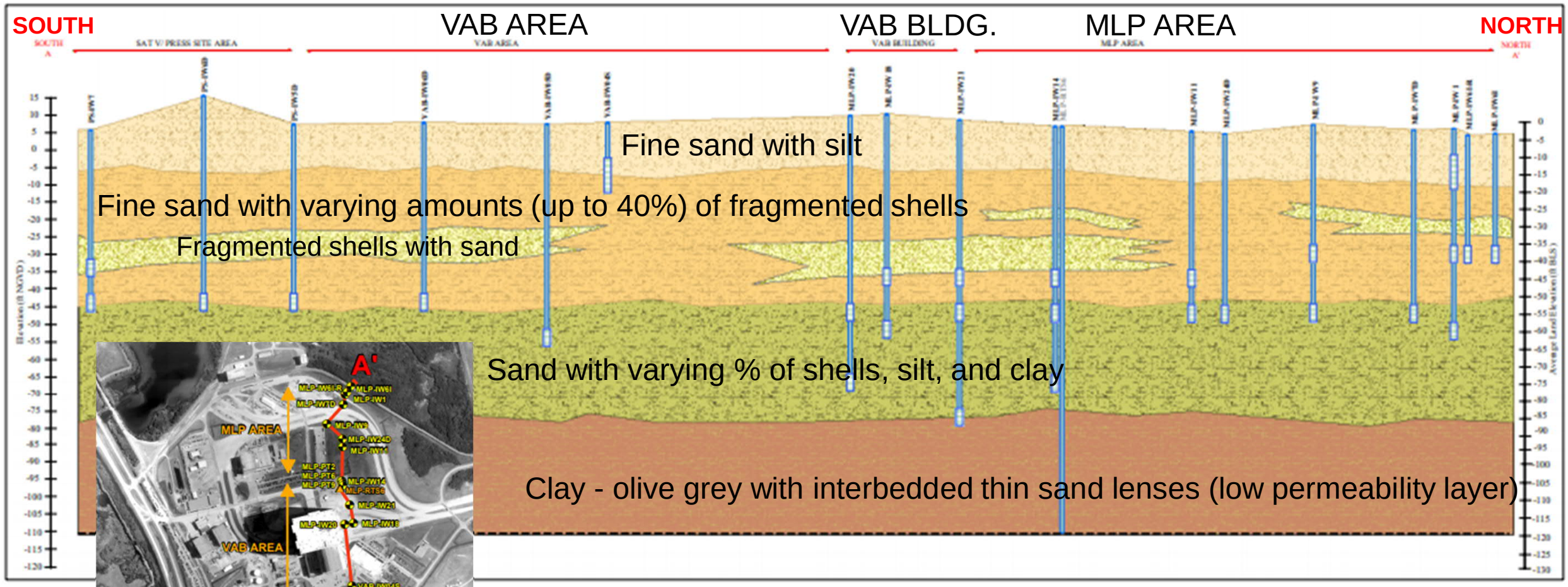
INTERMEDIATE

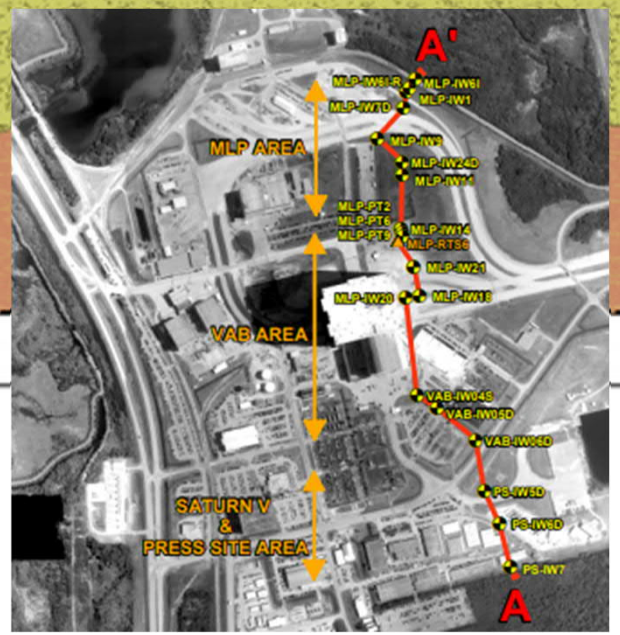


DEEP

MLP/VAB, SWMU 056 Overview

Site-wide Lithology



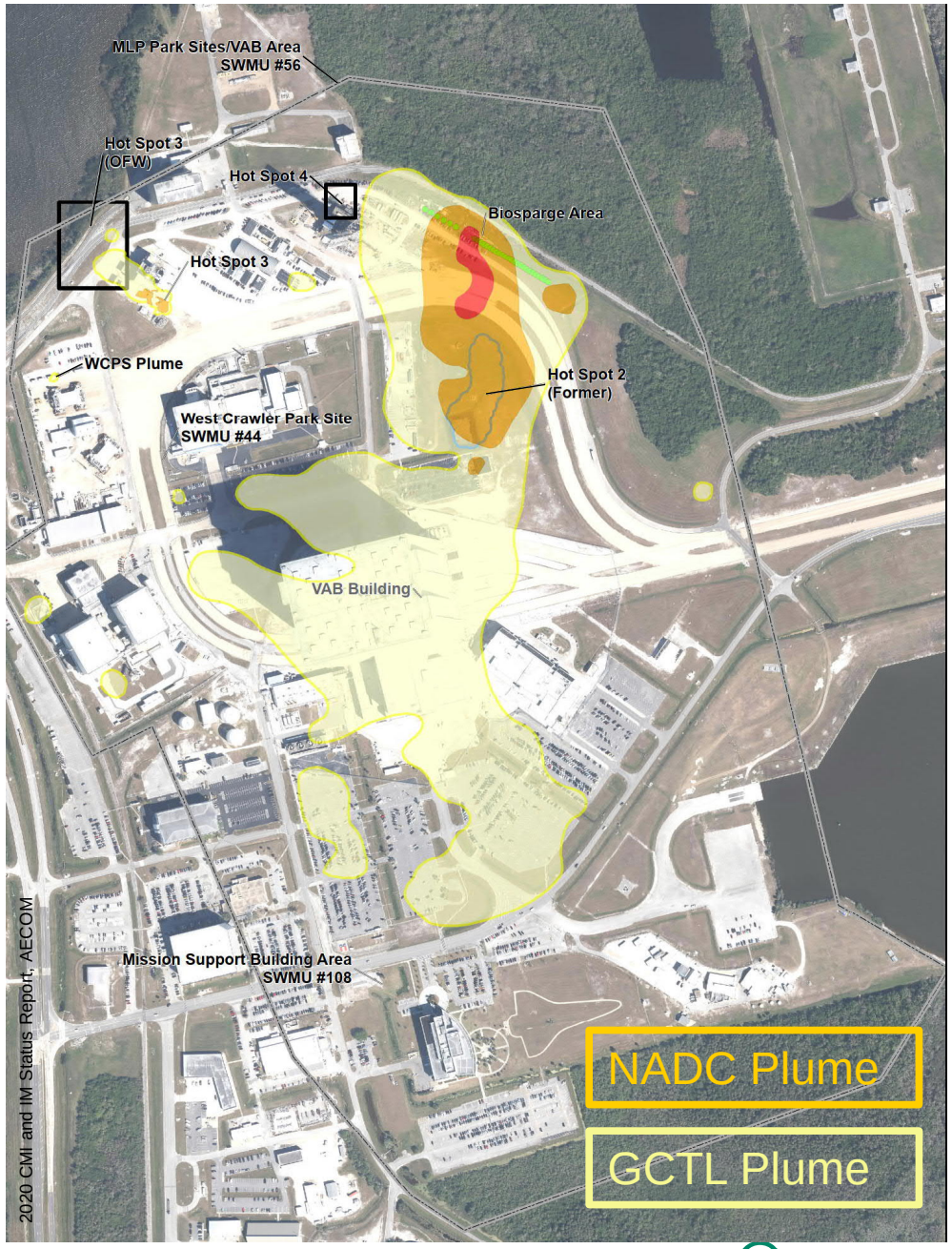


Lithology: sandy silts with shell fragments to 46 feet below land surface (bls), followed by low permeability layer from 50 to 85 feet bls

MLP/VAB, SWMU 056 Overview

Current Site Conditions

- **Groundwater Contaminants of Concern (COCs):** Chlorinated volatile organic compounds (CVOCs) to include trichloroethene (TCE), cis-1,2-dichlorethylene (cDCE), trans-1,2-dichloroethylene (tDCE), and vinyl chloride (VC)
- **Horizontal extent:**
  - ~65.44 acres groundwater plume with concentrations of COCs greater than Groundwater Cleanup Target Levels (GCTLs); also referred to as the low concentration plume
  - ~12.78 acres groundwater plume with concentrations of COCs greater than NADC; also referred to as the high concentration plume
- **Vertical extent:** Varies by area within SMWU #056 (detailed in backup slides)
- **Groundwater Land Use Control:** In place to prohibit use of groundwater. Remains in effect until land use change or concerns are mitigated, or evidence no longer a concern.



Biosparge Barrier for Mitigation of the HCP

Biosparge Barrier for Mitigating the HCP

Current Biosparge Area System Layout

- System Objectives
  - System installed in 2005 and expanded in 2016 to address areas of VC HCP (concentrations >100 µg/L)
  - Mitigate potential discharge to adjacent wetlands
  - Create zone of elevated dissolved oxygen (DO) to promote aerobic biooxidation of VC
  - Operate until plume collapse is observed

Legend

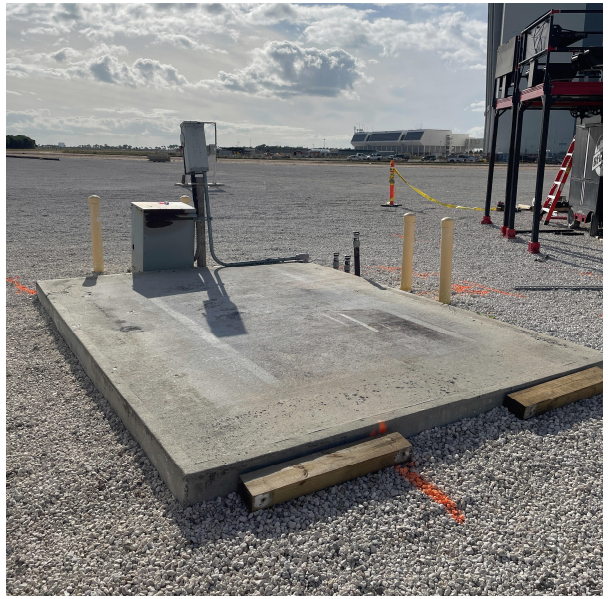
- Air Sparge Monitoring Well Location (screen interval [ft BLS])
- Biosparge Monitoring Well Location (screen interval [ft BLS])
- Long Term Monitoring Program Monitoring Well Location (screen interval [ft BLS])
- Abandoned Monitoring Well Location (screen interval [ft BLS])
- Other Monitoring Well Location (screen interval [ft BLS])
- Piezometer Location (screen interval [ft BLS])
- Biosparge Well Location
- Biosparge Expansion Well Location
- Air Sparge Well Location, Leg 3
- Air Sparge Well Location, Leg 4
- Junction Box
- Sparge Manifold Location (not to scale)
- Equipment Building
- Biosparge Header Pipe - Leg 1
- Biosparge Header Pipe - Leg 2
- Biosparge Expansion Piping - 2" Sch. 80 PVC
- Biosparge Expansion Piping - 1" Sch. 80 PVC
- Air Sparge Piping - 2, 4" SCH 80 PVC pipes
- Air Sparge Piping - 2, 4" High-Density Polyethylene (HDPE) pipes under Crawler Track
- Air Sparge Piping - 1" Flexhose
- Air Sparge Piping - 1" SCH 80 PVC from Manifold to Well
- Temporary Construction Fencing

Notes:
1. ft BLS indicates feet below land surface.
2. PVC indicates polyvinyl chloride.
3. Biosparge header piping placement is approximate.
4. Source of 2015 aerial: Florida Department of Transportation Aerial Photo Lookup System website.

Biosparge Barrier for Mitigating the HCP

Biosparge System Overview – OM&M

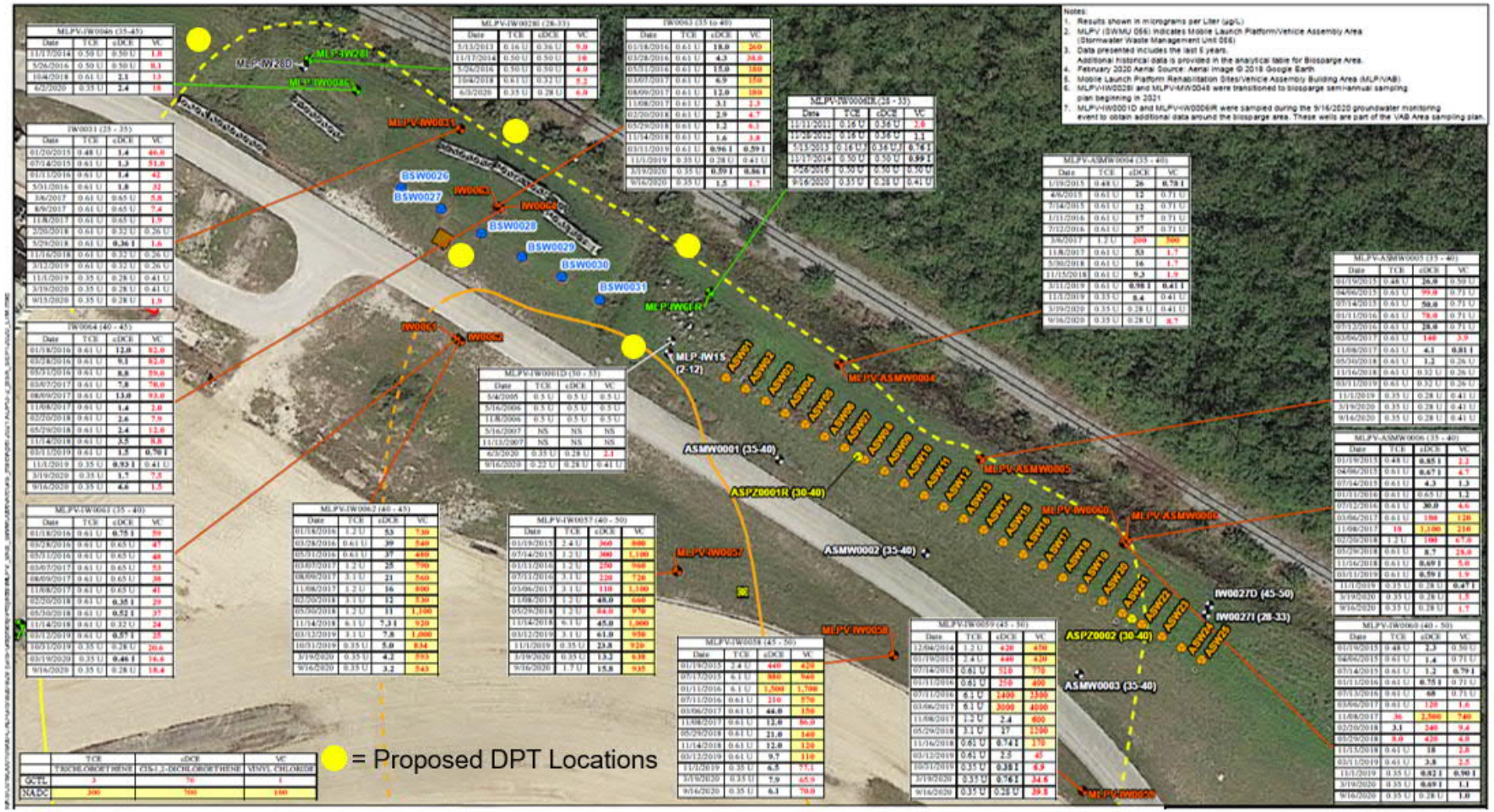
- System Layout: 31 biosparge wells (BSW)/air sparge wells (ASW) over 510 linear feet
  - Zone/Leg 1: ASW01 through ASW13 (Screened 48-50 ft bls)
  - Zone/Leg 2: ASW14 through ASW25 (Screened 48-50 ft bls)
  - Zone/Leg 5: BSW26 through BSW31 (Screened 46-48 ft bls)
- Reporting Period: December 2020 through December 2021
  - System components fire shut the system down on December 12, 2020
  - Bechtel site operations began northeast of the VAB in February 2021
  - Replacement trailer installed November 17 through 19, 2021
  - Electrical hook-up anticipated in April/Spring 2022



Biosparge Barrier for Mitigating the HCP

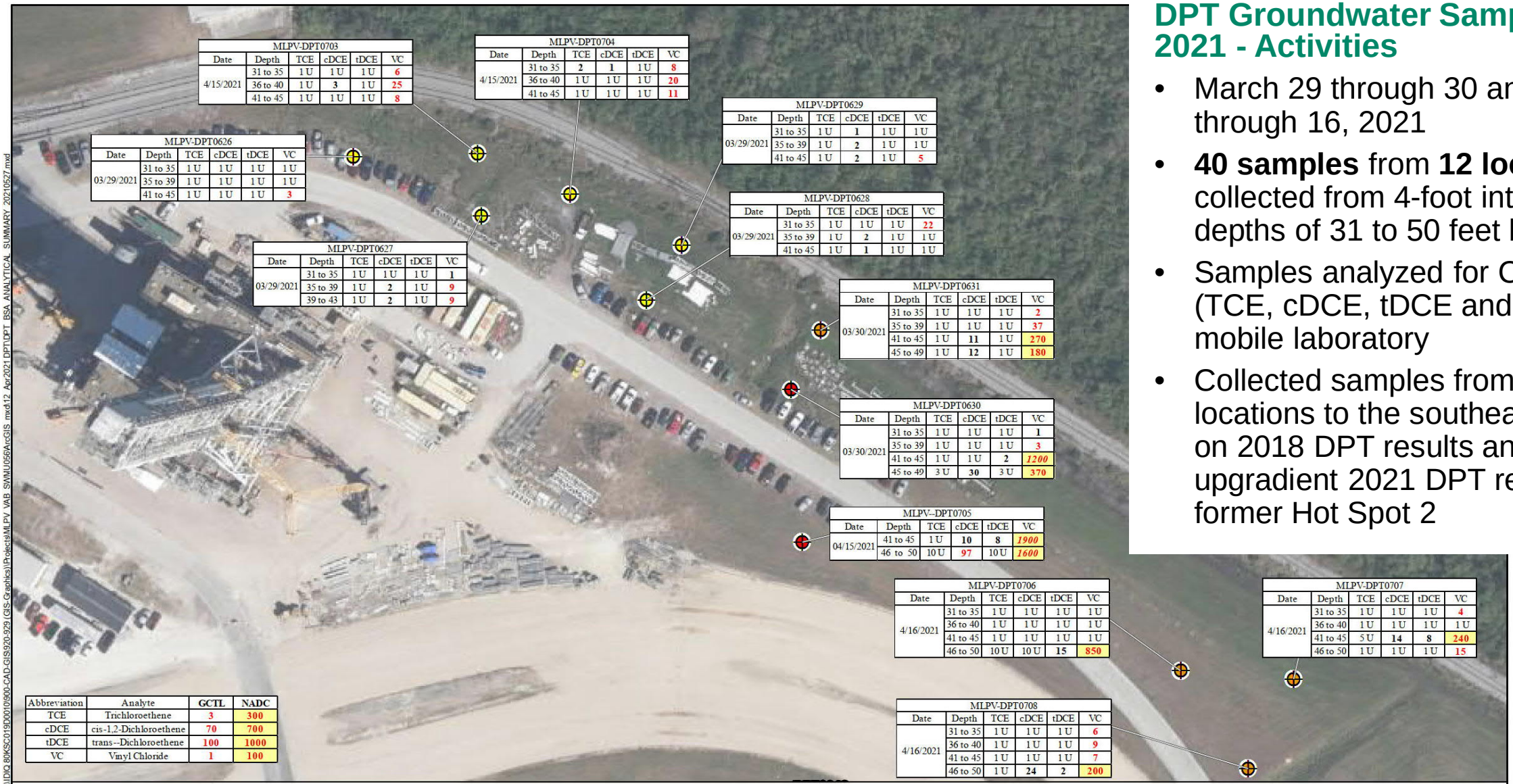
DPT Groundwater Sampling 2021 - Plan

- Based on 2020 data, 5 sampling locations were proposed within biosparge area to better evaluate current site conditions and determine possible remedial alternative evaluation



DPT Groundwater Sampling 2021 - Activities

- March 29 through 30 and April 15 through 16, 2021
- **40 samples** from **12 locations** collected from 4-foot intervals to depths of 31 to 50 feet bls
- Samples analyzed for CVOCs (TCE, cDCE, tDCE and VC) by mobile laboratory
- Collected samples from 3 locations to the southeast based on 2018 DPT results and upgradient 2021 DPT results from former Hot Spot 2



MLPV-DPT0703

Date	Depth	TCE	cDCE	tDCE	VC
4/15/2021	31 to 35	1 U	1 U	1 U	6
	36 to 40	1 U	3	1 U	25
	41 to 45	1 U	1 U	1 U	8

MLPV-DPT0704

Date	Depth	TCE	cDCE	tDCE	VC
4/15/2021	31 to 35	2	1	1 U	8
	36 to 40	1 U	1 U	1 U	20
	41 to 45	1 U	1 U	1 U	11

MLPV-DPT0629

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1	1 U	1 U
	35 to 39	1 U	2	1 U	1 U
	41 to 45	1 U	2	1 U	5

MLPV-DPT0626

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	1 U
	35 to 39	1 U	1 U	1 U	1 U
	41 to 45	1 U	1 U	1 U	3

MLPV-DPT0628

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	22
	35 to 39	1 U	2	1 U	1 U
	41 to 45	1 U	1	1 U	1 U

MLPV-DPT0627

Date	Depth	TCE	cDCE	tDCE	VC
03/29/2021	31 to 35	1 U	1 U	1 U	1
	35 to 39	1 U	2	1 U	9
	39 to 43	1 U	2	1 U	9

MLPV-DPT0631

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	31 to 35	1 U	1 U	1 U	2
	35 to 39	1 U	1 U	1 U	37
	41 to 45	1 U	11	1 U	270
	45 to 49	1 U	12	1 U	180

MLPV-DPT0630

Date	Depth	TCE	cDCE	tDCE	VC
03/30/2021	31 to 35	1 U	1 U	1 U	1
	35 to 39	1 U	1 U	1 U	3
	41 to 45	1 U	1 U	2	*1200*
	45 to 49	3 U	30	3 U	370

MLPV--DPT0705

Date	Depth	TCE	cDCE	tDCE	VC
04/15/2021	41 to 45	1 U	10	8	*1900*
	46 to 50	10 U	97	10 U	*1600*

MLPV-DPT0706

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	1 U
	36 to 40	1 U	1 U	1 U	1 U
	41 to 45	1 U	1 U	1 U	1 U
	46 to 50	10 U	10 U	15	850

MLPV-DPT0707

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	4
	36 to 40	1 U	1 U	1 U	1 U
	41 to 45	5 U	14	8	240
	46 to 50	1 U	1 U	1 U	15

MLPV-DPT0708

Date	Depth	TCE	cDCE	tDCE	VC
4/16/2021	31 to 35	1 U	1 U	1 U	6
	36 to 40	1 U	1 U	1 U	9
	41 to 45	1 U	1 U	1 U	7
	46 to 50	1 U	24	2	200

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Legend

- DPT sampling location
- Monitoring well location (screen interval (ft bls)) (most recent VC concentration (µg/L))
- 1 µg/L VC isopleth (dashed where inferred)
- 100 µg/L VC isopleth (dashed where inferred)
- 1,000 µg/L VC isopleth

Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than NADCs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs

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
- **Red bold font** indicates an exceedance of FDEP GCTLs
- **Highlighted Red bold font** indicates an exceedance of FDEP NADCs
- ***Highlighted Red italic font*** indicates an exceedance of FDEP 10xNADCs
- 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.
- MLP/VAB indicates Mobile Launch Platform/Vehicle Assembly Building
- Aerial Source: FDOT 2018

N

0 80 160 Feet

FIGURE
DPT Sampling Locations
Composite 2021

Biosparge Area
MLP/VAB (SWMU 056)
NASA Kennedy Space Center, Florida

Document Path: P:\DCS\Projects\ENVNASA\IDIQ 80KSC019D0010\900-CAD-GIS\920-929 (GIS-Graphics)\Projects\MLPV_VAB_SWMU056ArcGIS_mxd\12_Apr2021 DPT\DPT_BSA_ANALYTICAL_SUMMARY_20210527.mxd

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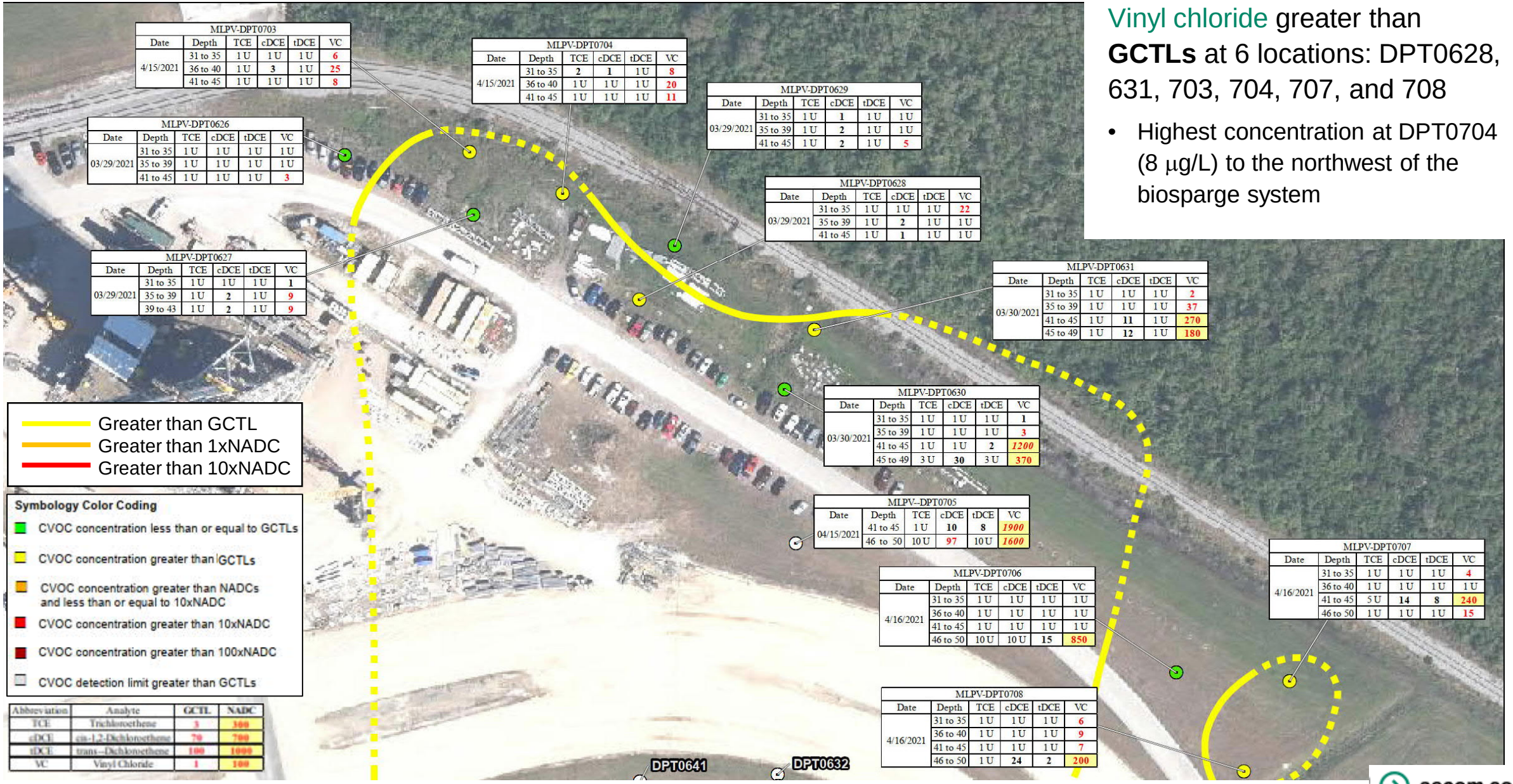
DPT Groundwater Sampling March 2021 – Results 31 to 35



Vinyl chloride greater than **GCTLs** at 6 locations: DPT0628, 631, 703, 704, 707, and 708

- Highest concentration at DPT0704 (8 μg/L) to the northwest of the biosparge system

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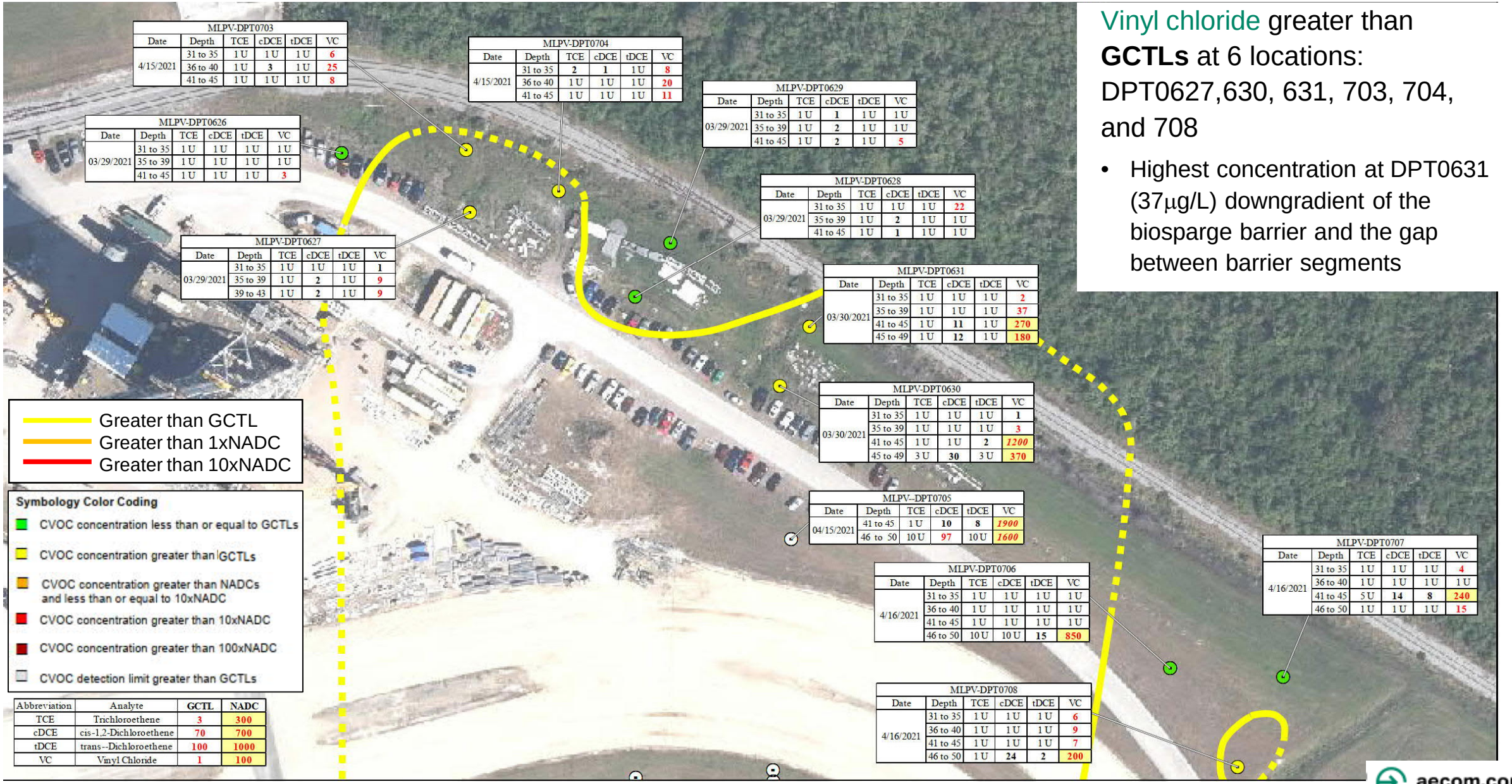
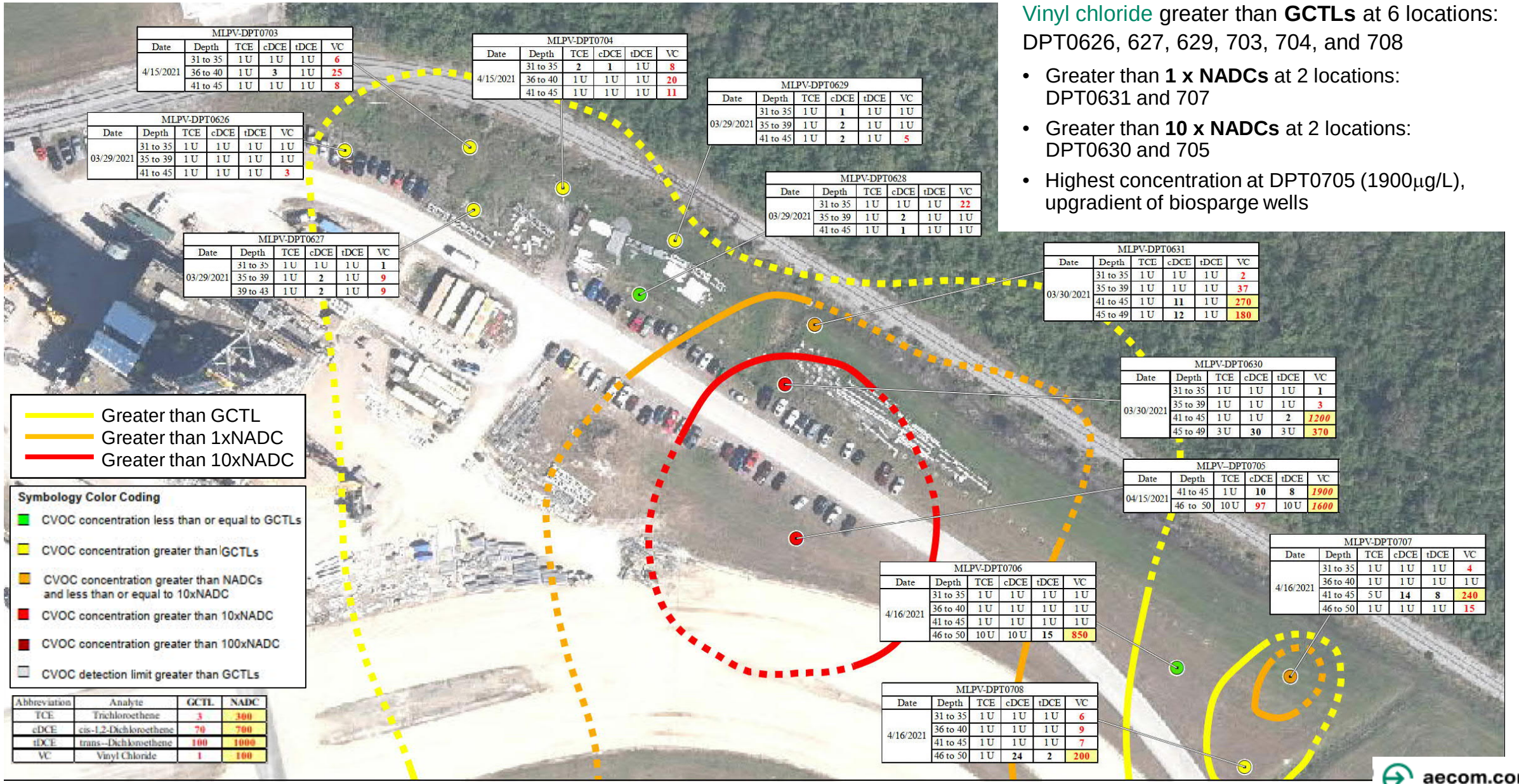
DPT Groundwater Sampling March 2021 – Results 35 to 40



Vinyl chloride greater than **GCTLs** at 6 locations: DPT0627,630, 631, 703, 704, and 708

- Highest concentration at DPT0631 (37µg/L) downgradient of the biosparge barrier and the gap between barrier segments

DPT Groundwater Sampling March 2021 – Results 41 to 45



Vinyl chloride greater than **GCTLs** at 6 locations: DPT0626, 627, 629, 703, 704, and 708

- Greater than **1 x NADCs** at 2 locations: DPT0631 and 707
- Greater than **10 x NADCs** at 2 locations: DPT0630 and 705
- Highest concentration at DPT0705 (1900µg/L), upgradient of biosparge wells

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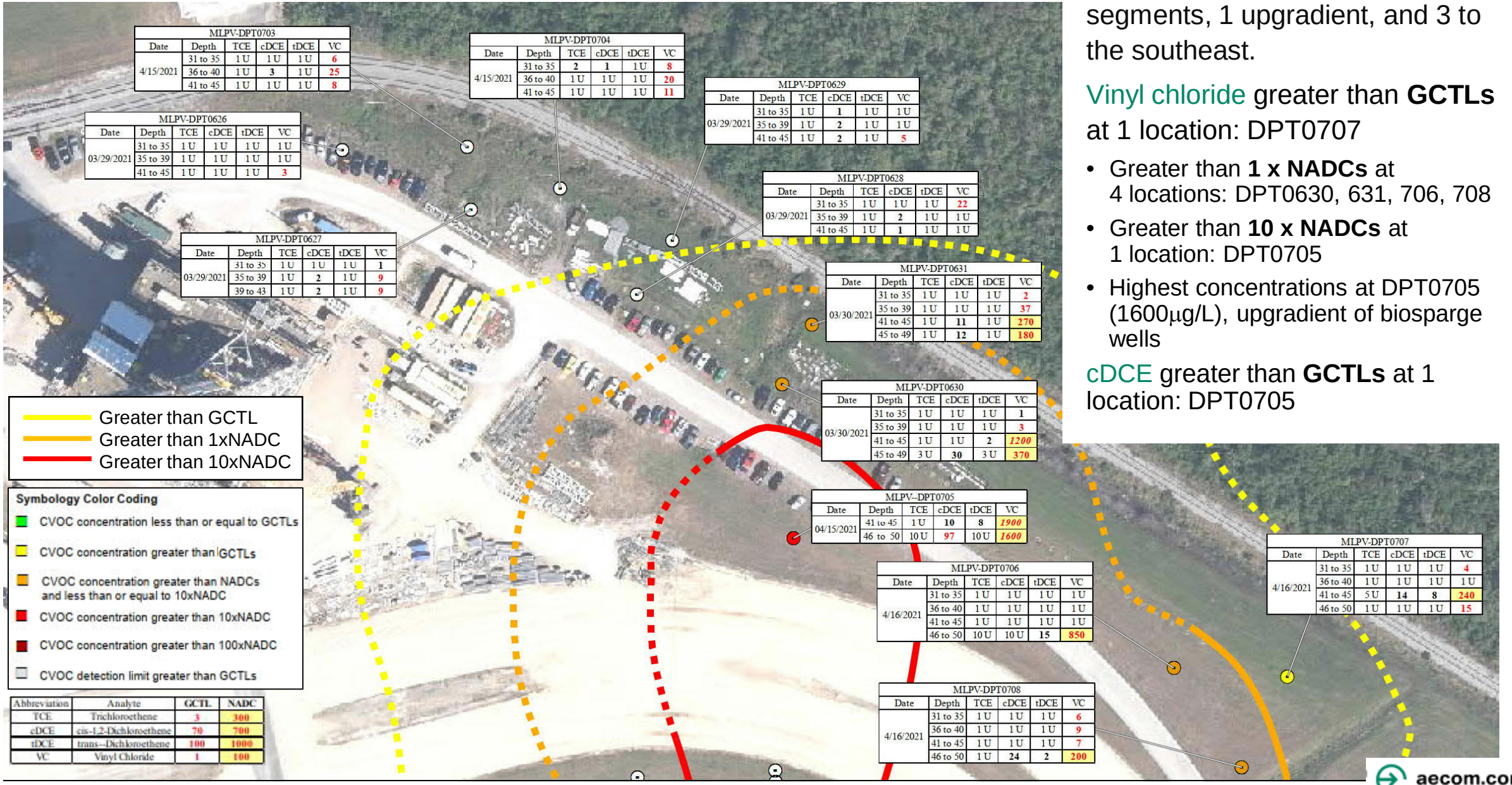
DPT Groundwater Sampling March 2021 – Results 45 to 50



Deeper intervals collected at 6 locations: 2 between barrier segments, 1 upgradient, and 3 to the southeast.

Vinyl chloride greater than **GCTLs** at 1 location: DPT0707

- Greater than **1 x NADCs** at 4 locations: DPT0630, 631, 706, 708
- Greater than **10 x NADCs** at 1 location: DPT0705
- Highest concentrations at DPT0705 (1600µg/L), upgradient of biosparge wells

cDCE greater than **GCTLs** at 1 location: DPT0705

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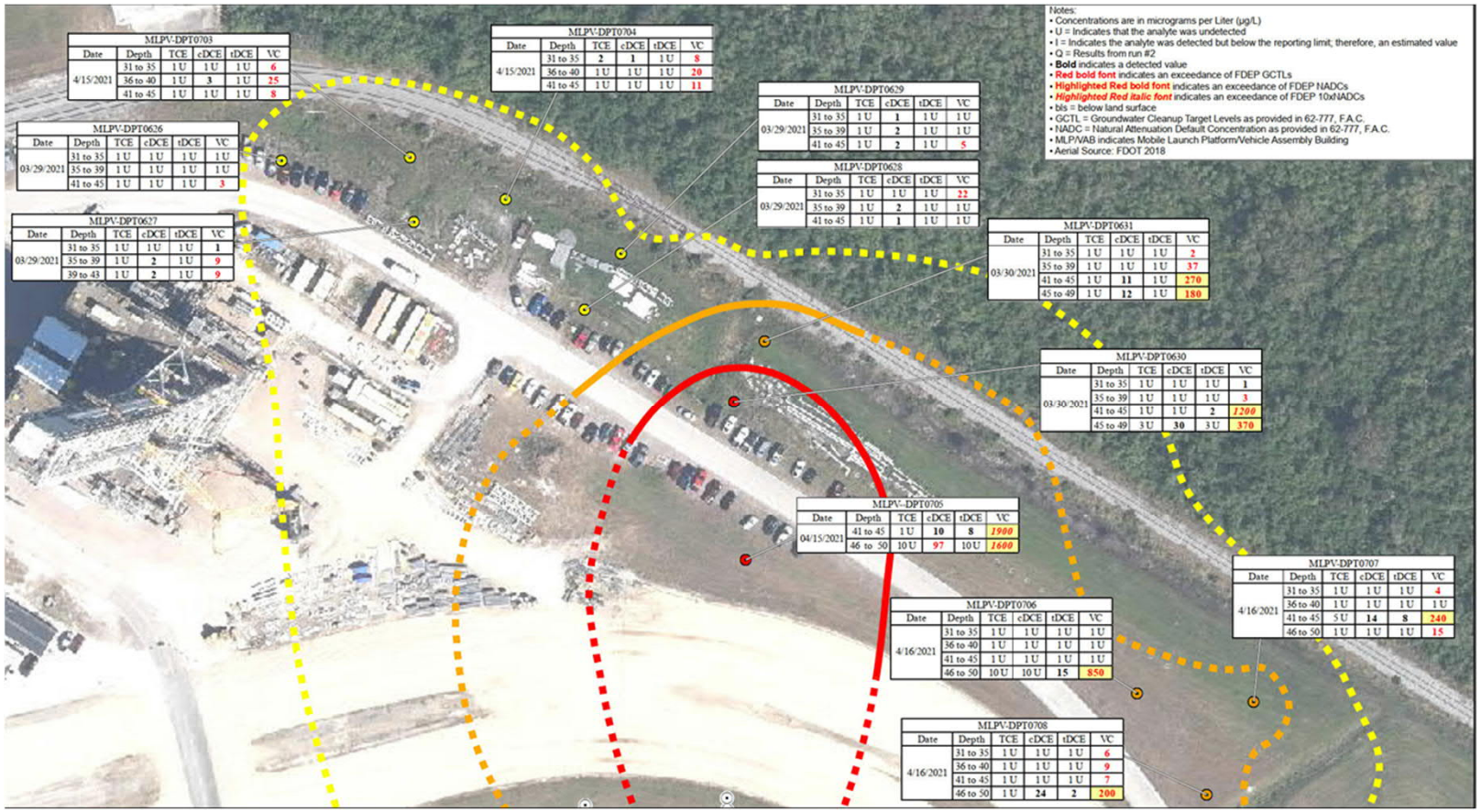
Biosparge Barrier for Mitigating the HCP

DPT Groundwater Sampling March 2021 - Summary

- Vinyl chloride remains the predominant contaminant
- cDCE detected in one location (DPT0705) above GCTLs
- Two areas with the highest concentrations:
    1. Upgradient of the biosparge barrier
    2. Gap between the biosparge barrier segments
- Isocontours are based solely on DPT data and correlate with previous performance monitoring results.

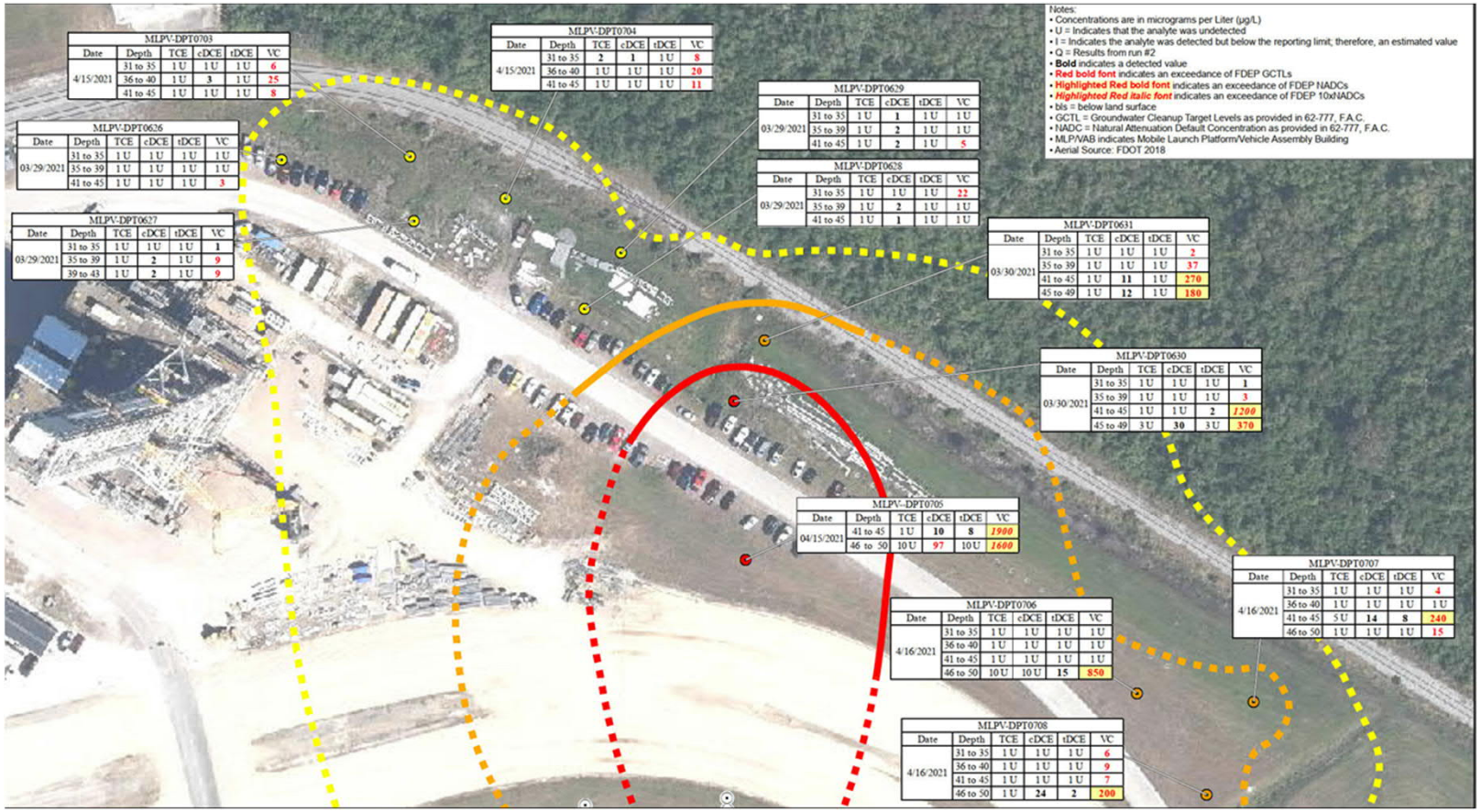


Composite DPT Groundwater Plume

Biosparge Barrier for Mitigating the HCP

DPT Groundwater Sampling March 2021 - Summary

- NADC concentrations at the 40 to 45 foot interval indicate upgradient HCP has breached the treatment barrier since the system has been shut down in December 2020.
- NADC concentrations at the 45 to 50 foot interval indicate vertical migration since 2018 DPT event and the need for a remediation evaluation upgradient to reduce contaminants in this interval.
- 2021 Performance monitoring data helps to monitor trends during active and passive remediation, however additional monitoring wells are needed throughout the biosparge area to evaluate groundwater conditions downgradient of the system and select locations below the current treatment interval.



Composite DPT Groundwater Plume

Biosparge Barrier for Mitigating the HCP

Performance Monitoring 2021

Semi-annual sampling performed March 16 through 18, 2021 (prior to DPT groundwater sampling) and September 13 through 15, 2021

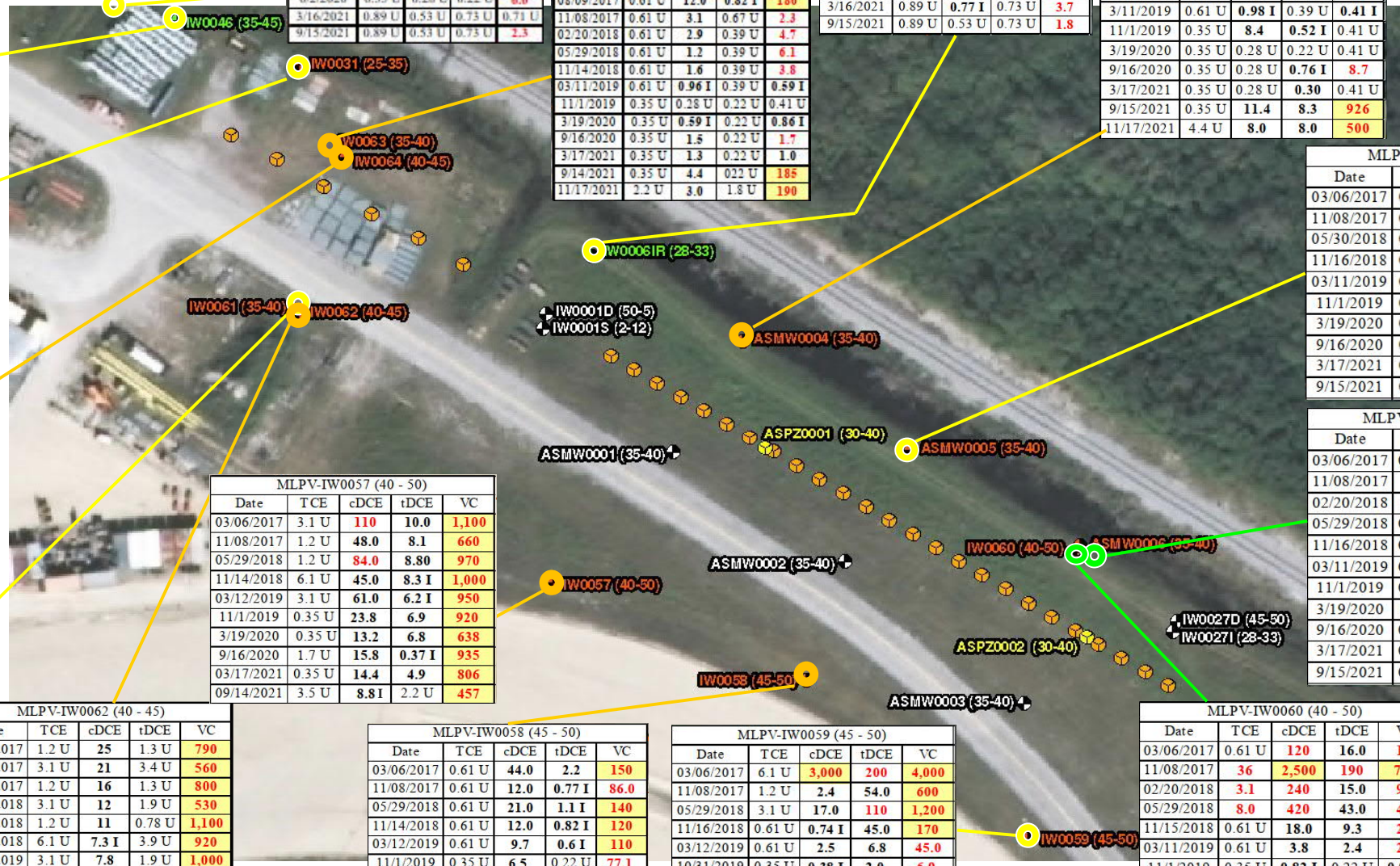
- 15 wells
- Select CVOC analysis: TCE, cDCE, tDCE, and VC
- November 17, 2021: resampled 3 monitoring wells (ASMW0004, IW0063 and IW0064) to verify NADC exceedance for VC following the September 2021 sampling event.

2021 Sampling and Analysis Plan

Area Monitored	Location	Screen interval (ft bls)	Frequency	Analytical Parameters
Biosparge Area	IW0006IR	28 to 33	Semi-Annual March 2021 and September 2021	TCE cDCE tDCE VC
	IW0028I	28 to 33		
	IW0046	34 to 45		
	IW0057	40 to 50		
	IW0058	45 to 50		
	IW0059	45 to 50		
	IW0060	40 to 50		
	ASMW0004	35 to 40		
	ASMW0005	35 to 40		
	ASMW0006	35 to 40		
	IW0031	25 to 35		
	IW0061	35 to 40		
	IW0062	40 to 45		
	IW0063	35 to 40		
	IW0064	40 to 45		

Biosparge Barrier for Mitigating the HCP

Performance Monitoring 2021



MLPV-IW0046 (35 to 45)				
Date	TCE	cDCE	tDCE	VC
10/04/2018	0.61 U	2.1	0.39 U	13.0
06/02/2020	0.35 U	2.4	0.22 U	18.0
03/16/2021	0.89 U	2.3	0.73 U	13.0
09/15/2021	0.89 U	2.7	0.73 U	10.0

MLPV-IW0028I (28 to 33)				
Date	TCE	cDCE	tDCE	VC
10/4/2018	0.61 U	0.32 U	0.39 U	5.2
6/2/2020	0.35 U	0.28 U	0.22 U	6.0
3/16/2021	0.89 U	0.53 U	0.73 U	0.71 U
9/15/2021	0.89 U	0.53 U	0.73 U	2.3

MLPV-IW0063 (35 to 40)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	6.9	0.67 U	150
08/09/2017	0.61 U	12.0	0.82 I	180
11/08/2017	0.61 U	3.1	0.67 U	2.3
02/20/2018	0.61 U	2.9	0.39 U	4.7
05/29/2018	0.61 U	1.2	0.39 U	6.1
11/14/2018	0.61 U	1.6	0.39 U	3.8
03/11/2019	0.61 U	0.96 I	0.39 U	0.59 I
11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
3/19/2020	0.35 U	0.59 I	0.22 U	0.86 I
9/16/2020	0.35 U	1.5	0.22 U	1.7
3/17/2021	0.35 U	1.3	0.22 U	1.0
9/14/2021	0.35 U	4.4	022 U	185
11/17/2021	2.2 U	3.0	1.8 U	190

MLPV-IW0006IR (28 - 33)				
Date	TCE	cDCE	tDCE	VC
9/16/2020	0.35 U	0.28 U	0.22 U	0.41 U
3/16/2021	0.89 U	0.77 I	0.73 U	3.7
9/15/2021	0.89 U	0.53 U	0.73 U	1.8

MLPV-ASMW0004 (35 - 40)				
Date	TCE	cDCE	tDCE	VC
3/6/2017	1.2 U	200	7.8	500
11/8/2017	0.61 U	53	3.2	1.7
5/30/2018	0.61 U	16	0.76 I	1.7
11/15/2018	0.61 U	9.3	0.39 U	1.9
3/11/2019	0.61 U	0.98 I	0.39 U	0.41 I
11/1/2019	0.35 U	8.4	0.52 I	0.41 U
3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
9/16/2020	0.35 U	0.28 U	0.76 I	8.7
3/17/2021	0.35 U	0.28 U	0.30	0.41 U
9/15/2021	0.35 U	11.4	8.3	926
11/17/2021	4.4 U	8.0	8.0	500

MLPV-IW0031 (25 - 35)				
Date	TCE	cDCE	tDCE	VC
3/6/2017	0.61 U	0.65 U	0.67 U	5.8
8/9/2017	0.61 U	0.65 U	0.67 U	7.4
11/8/2017	0.61 U	0.65 U	0.67 U	1.9
2/20/2018	0.61 U	0.32 U	0.39 U	0.26 U
5/29/2018	0.61 U	0.36 I	0.39 U	1.6
11/16/2018	0.61 U	0.32 U	0.39 U	0.26 U
3/12/2019	0.61 U	0.32 U	0.39 U	0.26 U
11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2020	0.35 U	0.28 U	0.22 U	1.9
3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2021	0.35 U	0.28 U	0.22 U	3.4

MLPV-ASMW0005 (35 - 40)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	0.61 U	140	7.9	3.9
11/08/2017	0.61 U	4.1	0.67 U	0.81 I
05/30/2018	0.61 U	1.2	0.39 U	0.26 U
11/16/2018	0.61 U	0.32 U	0.39 U	0.26 U
03/11/2019	0.61 U	0.32 U	0.39 U	0.26 U
11/1/2019	0.35 U	0.28 U	0.22 U	0.41 U
3/19/2020	0.35 U	0.28 U	0.22 U	0.41 U
9/16/2020	0.35 U	0.28 U	0.22 U	0.41 U
3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2021	0.35 U	1.1	0.22 U	3.0

MLPV-IW0064 (40 - 45)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	7.8	0.67 U	70.0
08/09/2017	0.61 U	13.0	0.67 U	93.0
11/08/2017	0.61 U	1.4	0.67 U	2.0
02/20/2018	0.61 U	2.6	0.39 U	7.9
05/29/2018	0.61 U	2.4	0.39 U	12.0
11/14/2018	0.61 U	3.5	0.39 U	8.8
03/11/2019	0.61 U	1.5	0.39 U	0.70 I
11/1/2019	0.35 U	0.93 I	0.22 U	0.41 U
3/19/2020	0.35 U	1.7	0.22 U	7.5
9/16/2020	0.35 U	4.6	0.22 U	1.5
3/17/2021	0.35 U	4.1	0.22 U	5.0
9/14/2021	0.35 U	15.3	0.22 U	235
11/17/2021	4.4 U	14	3.6 U	380

MLPV-IW0057 (40 - 50)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	3.1 U	110	10.0	1,100
11/08/2017	1.2 U	48.0	8.1	660
05/29/2018	1.2 U	84.0	8.80	970
11/14/2018	6.1 U	45.0	8.3 I	1,000
03/12/2019	3.1 U	61.0	6.2 I	950
11/1/2019	0.35 U	23.8	6.9	920
3/19/2020	0.35 U	13.2	6.8	638
9/16/2020	1.7 U	15.8	0.37 I	935
03/17/2021	0.35 U	14.4	4.9	806
09/14/2021	3.5 U	8.8 I	2.2 U	457

MLPV-ASMW0006 (35 - 40)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	0.61 U	180	13.0	120
11/08/2017	18	1,100	64	210
02/20/2018	1.2 U	100	5.5	67.0
05/29/2018	0.61 U	8.7	3.6	28.0
11/16/2018	0.61 U	0.69 I	1.0 I	5.0
03/11/2019	0.61 U	0.59 I	1.6 I	1.9
11/1/2019	0.35 U	0.28 U	0.22 U	0.47 I
3/19/2020	0.35 U	0.28 U	0.22 U	1.5
9/16/2020	0.35 U	0.28 U	0.22 U	1.7
3/17/2021	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2021	0.35 U	0.28 U	0.22 U	0.41 U

MLPV-IW0061 (35 - 40)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	0.65 U	0.67 U	53
08/09/2017	0.61 U	0.65 U	0.67 U	38
11/08/2017	0.61 U	0.65 U	0.67 U	41
02/20/2018	0.61 U	0.35 I	0.39 U	29
05/30/2018	0.61 U	0.52 I	0.39 U	37
11/14/2018	0.61 U	0.32 U	0.39 U	24
03/12/2019	0.61 U	0.57 I	0.39 U	25
10/31/2019	0.35 U	0.28 U	0.22 U	20.6
03/19/2020	0.35 U	0.46 I	0.22 U	16.6
9/16/2020	0.35 U	0.28 U	0.22 U	18.4
3/16/2021	0.35 U	0.50	0.22 U	15.7
9/13/2021	0.35 U	0.28 U	0.22 U	13.0

MLPV-IW0062 (40 - 45)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	1.2 U	25	1.3 U	790
08/09/2017	3.1 U	21	3.4 U	560
11/08/2017	1.2 U	16	1.3 U	800
02/20/2018	3.1 U	12	1.9 U	530
05/30/2018	1.2 U	11	0.78 U	1,100
11/14/2018	6.1 U	7.3 I	3.9 U	920
03/12/2019	3.1 U	7.8	1.9 U	1,000
10/31/2019	0.35 U	5.0	0.57 I	834
3/19/2020	0.35 U	4.2	0.55 I	593
9/16/2020	0.35 U	3.2	0.36 I	543
3/16/2021	0.35 U	4.3	0.48	430
9/13/2021	0.35 U	3.9	0.22 U	240

MLPV-IW0058 (45 - 50)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	0.61 U	44.0	2.2	150
11/08/2017	0.61 U	12.0	0.77 I	86.0
05/29/2018	0.61 U	21.0	1.1 I	140
11/14/2018	0.61 U	12.0	0.82 I	120
03/12/2019	0.61 U	9.7	0.6 I	110
11/1/2019	0.35 U	6.5	0.22 U	77.1
3/19/2020	0.35 U	7.9	0.54 I	65.9
9/16/2020	0.35 U	6.1	0.22 U	70.0
03/17/2021	0.35 U	10.8	0.7	107
09/14/2021	0.69 U	5.5	0.44 U	101

MLPV-IW0059 (45 - 50)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	6.1 U	3,000	200	4,000
11/08/2017	1.2 U	2.4	54.0	600
05/29/2018	3.1 U	17.0	110	1,200
11/16/2018	0.61 U	0.74 I	45.0	170
03/12/2019	0.61 U	2.5	6.8	45.0
10/31/2019	0.35 U	0.38 I	2.0	6.9
3/19/2020	0.35 U	0.76 I	1.5	34.6
9/16/2020	0.35 U	0.28 U	1.2	39.8
3/17/2021	0.35 U	0.73	1.3	46.1
9/14/2021	0.35 U	0.28 U	0.22 U	4.4

MLPV-IW0060 (40 - 50)				
Date	TCE	cDCE	tDCE	VC
03/06/2017	0.61 U	120	16.0	1.6
11/08/2017	36	2,500	190	740
02/20/2018	3.1	240	15.0	9.4
05/29/2018	8.0	420	43.0	4.8
11/15/2018	0.61 U	18.0	9.3	2.8
03/11/2019	0.61 U	3.8	2.4	2.5
11/1/2019	0.35 U	0.82 I	0.22 U	0.90 I
3/19/2020	0.35 U	0.69 I	0.22 U	1.1
9/16/2020	0.35 U	0.28 U	0.22 U	1.0
3/17/2021	0.35 U	0.28 U	0.22 U	1.3
9/15/2021	0.35 U	0.28 U	0.22 U	0.90

97.2 indicates > GCTL
207 Indicates > NADC

<GCTL
>GCTL
>NADC

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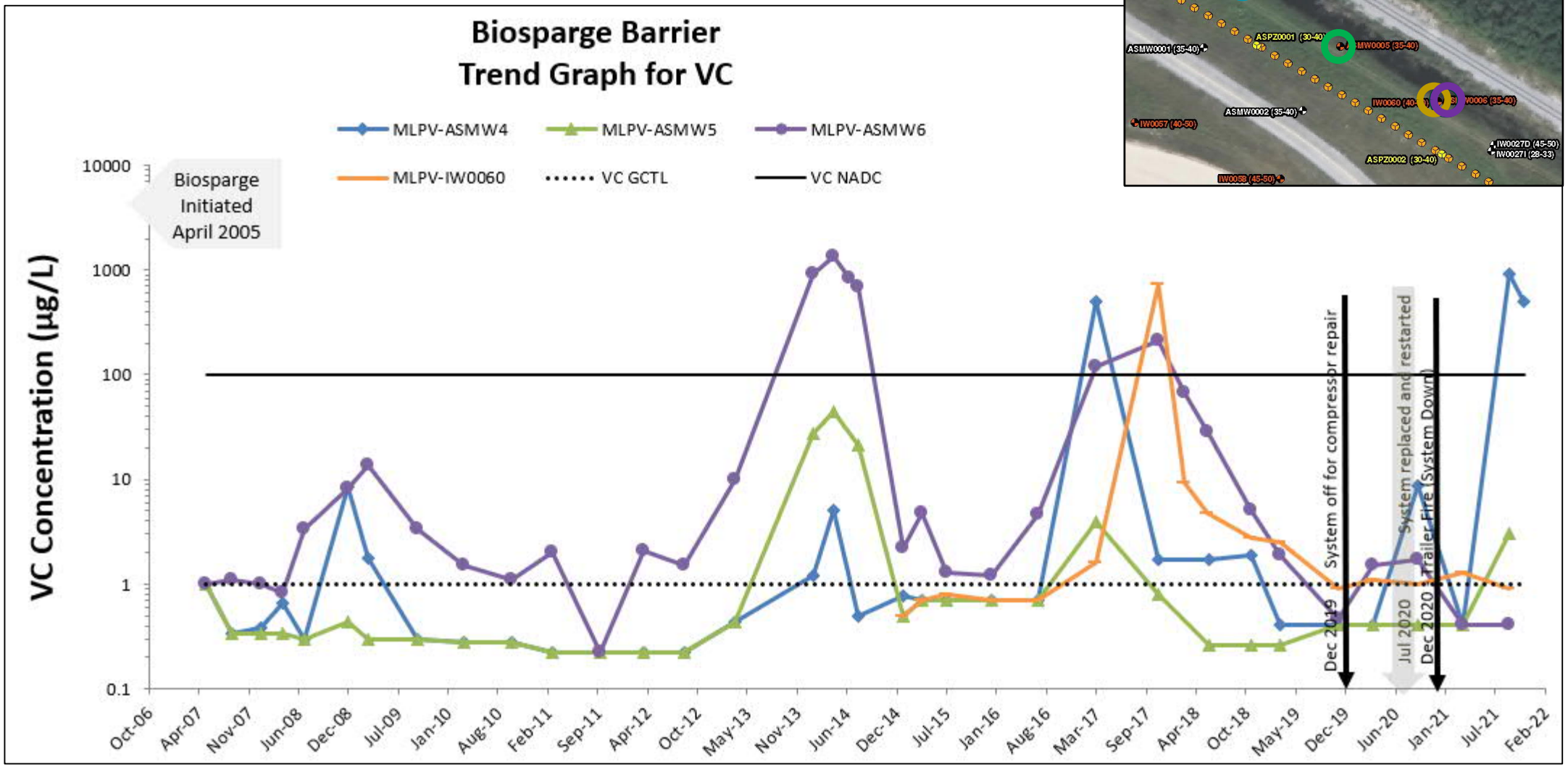
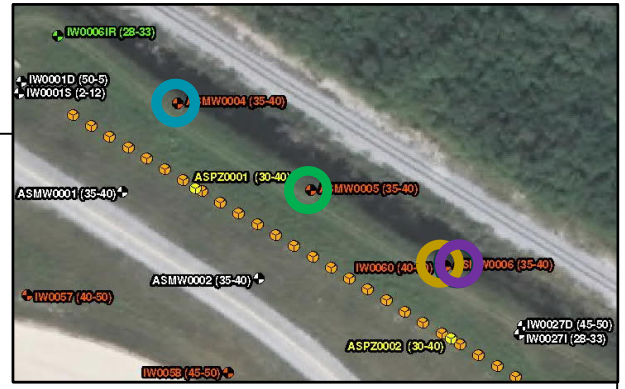
Biosparge Barrier for Mitigating the HCP

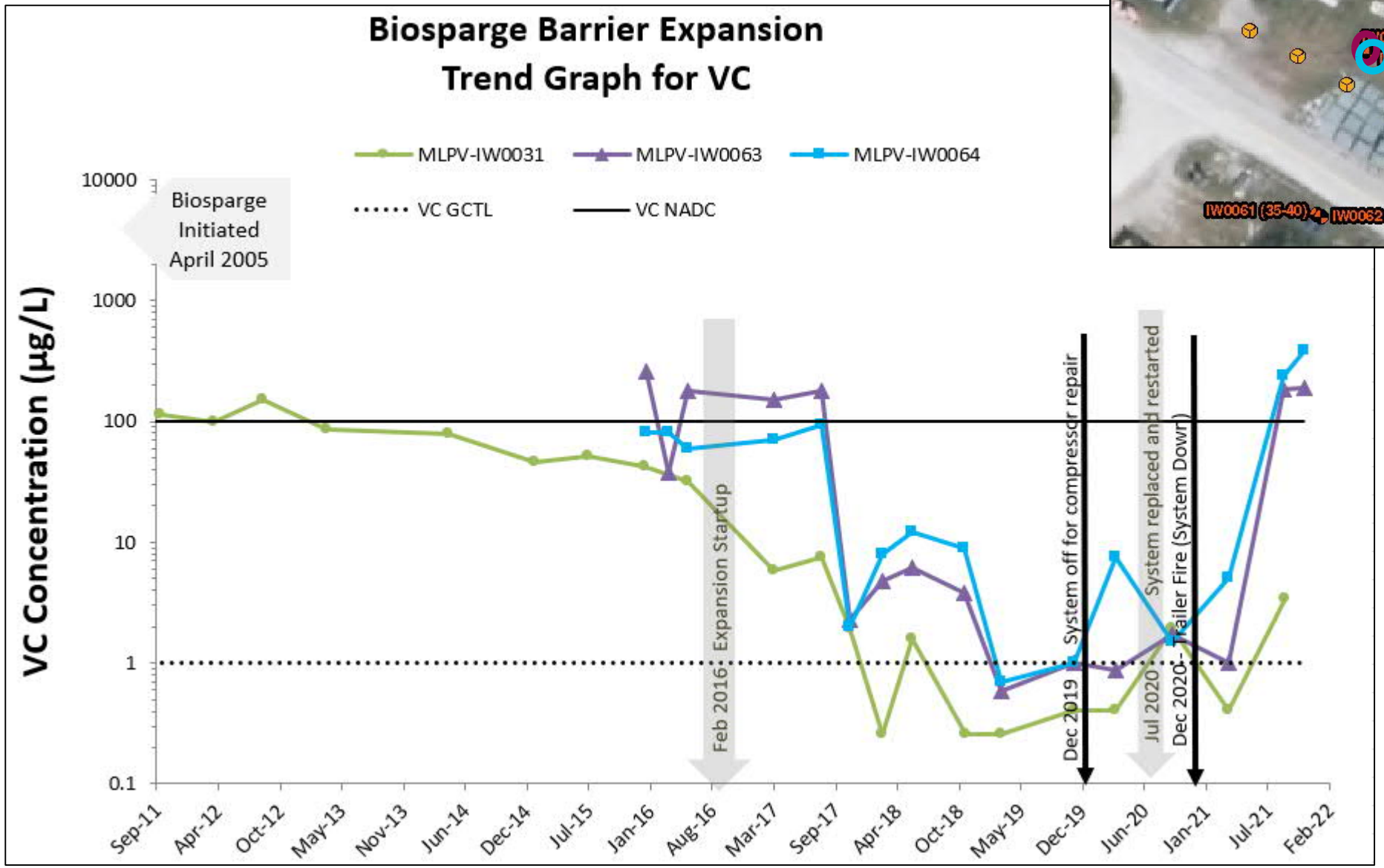
Performance Monitoring 2021





Biosparge Barrier for Mitigating the HCP

Performance Monitoring 2021



Biosparge Barrier for Mitigating the HCP

Performance Monitoring 2021 – Summary Semi-annual Analytical Results

Original Biosparge Area (southernmost barrier) - Sampled IW0006IR, ASMW0004, ASMW0005, ASMW0006, IW0057, IW0058, IW0059, IW0060

- **Previously (September 2020)**
  - VC concentrations less than NADC in performance wells, except one well upgradient of barrier: IW0057 (935 µg/L)
  - VC concentrations exceeded GCTL wells upgradient of barrier: IW0058 (70.0 µg/L) and IW0059 (39.4 µg/L)
  - VC concentrations less than GCTL in performance wells downgradient of barrier, except ASMW0004 (8.7 µg/L) and ASMW0006 (1.7 µg/L)
  - Localized increase follows system being shut down pending compressor installation. System was reinstalled in late July 2020 and operated through mid-December 2020.
  - Remaining contaminant concentrations were less than GCTLs

- **Current (September 2021)**
  - VC concentrations exceed NADC in two performance wells upgradient of barrier: IW0057 (457 µg/L) and IW0058 (101 µg/L);
  - VC concentrations exceed NADC in one performance well down gradient of barrier: ASMW0004 (926 µg/L), previously below GCTLs or non-detect
    - Re-sampled in November 2021 and results remained above NADC (500 µg/L)
  - VC concentrations exceeded GCTL wells upgradient of barrier: IW0059 (4.4 µg/L)
  - VC concentrations less than GCTL in performance wells downgradient of barrier, except ASMW0005 (3.0 µg/L) and IW0006IR (1.8 µg/L)
  - VC increase follows the system being out of commission since December 2020
  - Remaining contaminant concentrations are less than GCTLs

Biosparge Barrier for Mitigating the HCP

Performance Monitoring 2021 – Summary Semi-annual Analytical Results

Expansion Biosparge Area (northernmost barrier) – Sampled IW0028I, IW0031, IW0046, IW0061, IW0062, IW0063, and IW0064

- **Previously (September 2020):**
  - VC concentrations exceeded GCTL in one performance well upgradient of barrier: IW0061 (18.4 µg/L)
  - VC concentrations exceeded GCTL in performance wells downgradient of barrier: IW0031 (1.9 µg/L), IW0063 (1.7 µg/L), and IW0064 (1.5 µg/L)
  - Increase follows system being shut down pending compressor installation. System was reinstalled in late July 2020 and operated until mid-December 2020.
  - Remaining contaminant concentrations were less than GCTLs

- **Current (September 2021)**
  - VC concentrations exceeded GCTL in one performance well upgradient of barrier: IW0061 (13.0 µg/L)
  - VC concentrations exceeded GCTL in three performance wells downgradient of barrier: IW0031 (3.4 µg/L), and IW0028 I (2.3 µg/L), and IW0046 (10.0 µg/L)
  - VC concentrations exceeded NADC in performance wells downgradient of barrier: IW0063 (185 µg/L), and IW0064 (235 µg/L)
    - Re-sampled in November 2021 and results remained above NADC limits (190 µg/L and 380 µg/L, respectively)
  - Upgradient VC concentrations remain above NADCs in IW0062 but show a continued reduction
  - VC increase follows the system being out of commission since December 2020
  - Remaining contaminant concentrations are less than GCTLs

Biosparge Barrier for Mitigating the HCP

Test Consensus

- Upon startup of the biosparge system, continue operation until the HCP in former Hot Spot 2 shows signs of full plume collapse
- Continue IGM on a semi-annual basis (as presented) for selected CVOCs: TCE, cDCE, tDCE, and VC

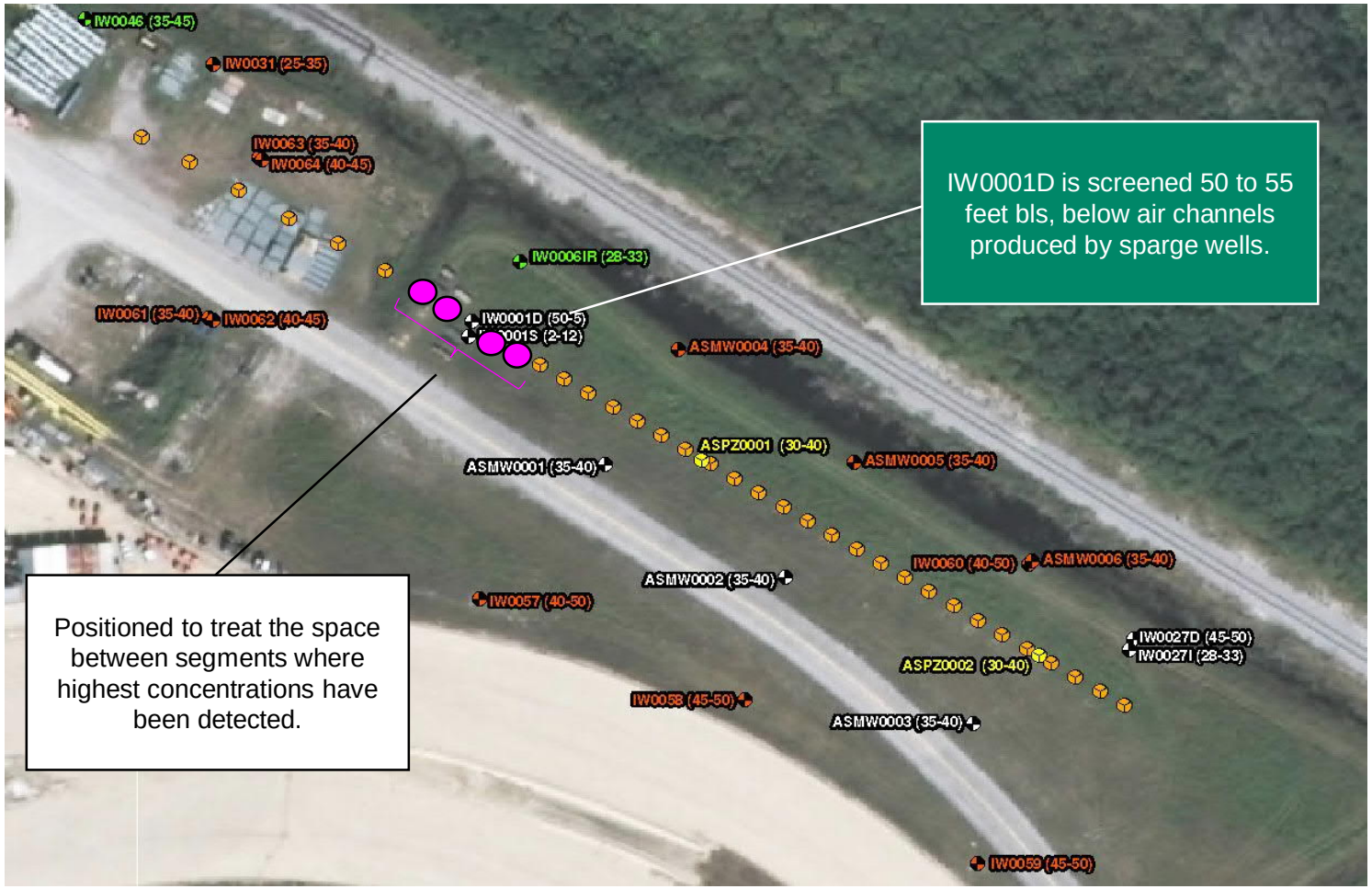
2022 Sampling and Analysis Plan

Area Monitored	Location	Screen interval (ft bls)	Frequency	Analytical Parameters
Biosparge Area	IW0006IR	28 to 33	Semi-Annual March 2022 and September 2022	TCE cDCE tDCE VC
	IW0028I	28 to 33		
	IW0046	34 to 45		
	IW0057	40 to 50		
	IW0058	45 to 50		
	IW0059	45 to 50		
	IW0060	40 to 50		
	ASMW0004	35 to 40		
	ASMW0005	35 to 40		
	ASMW0006	35 to 40		
	IW0031	25 to 35		
	IW0061	35 to 40		
	IW0062	40 to 45		
	IW0063	35 to 40		
	IW0064	40 to 45		

Biosparge Barrier for Mitigating the HCP

Test Consensus Continued

- Based on 2021 DPT groundwater data, optimize the biosparge system
  - Install 4 to 5 additional treatment wells
  - Screened 48 to 50 feet bls in the space between biosparge segments.
  - Same depth as southern barrier (original barrier) treatment wells

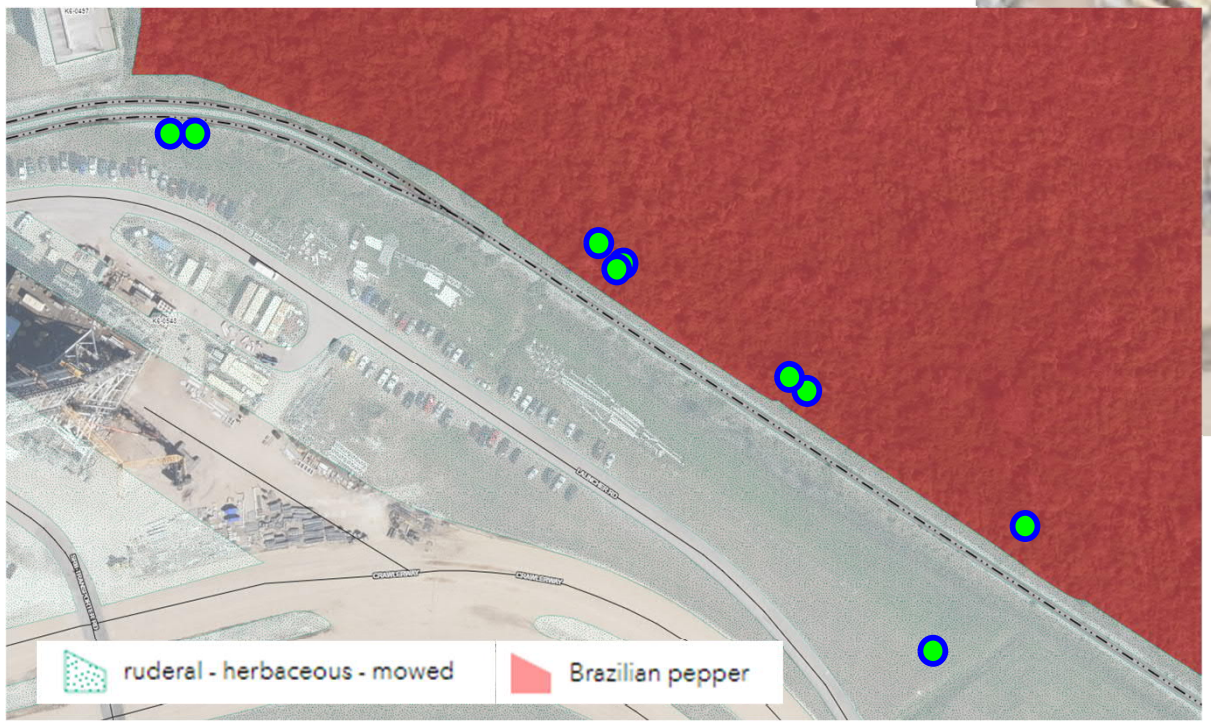


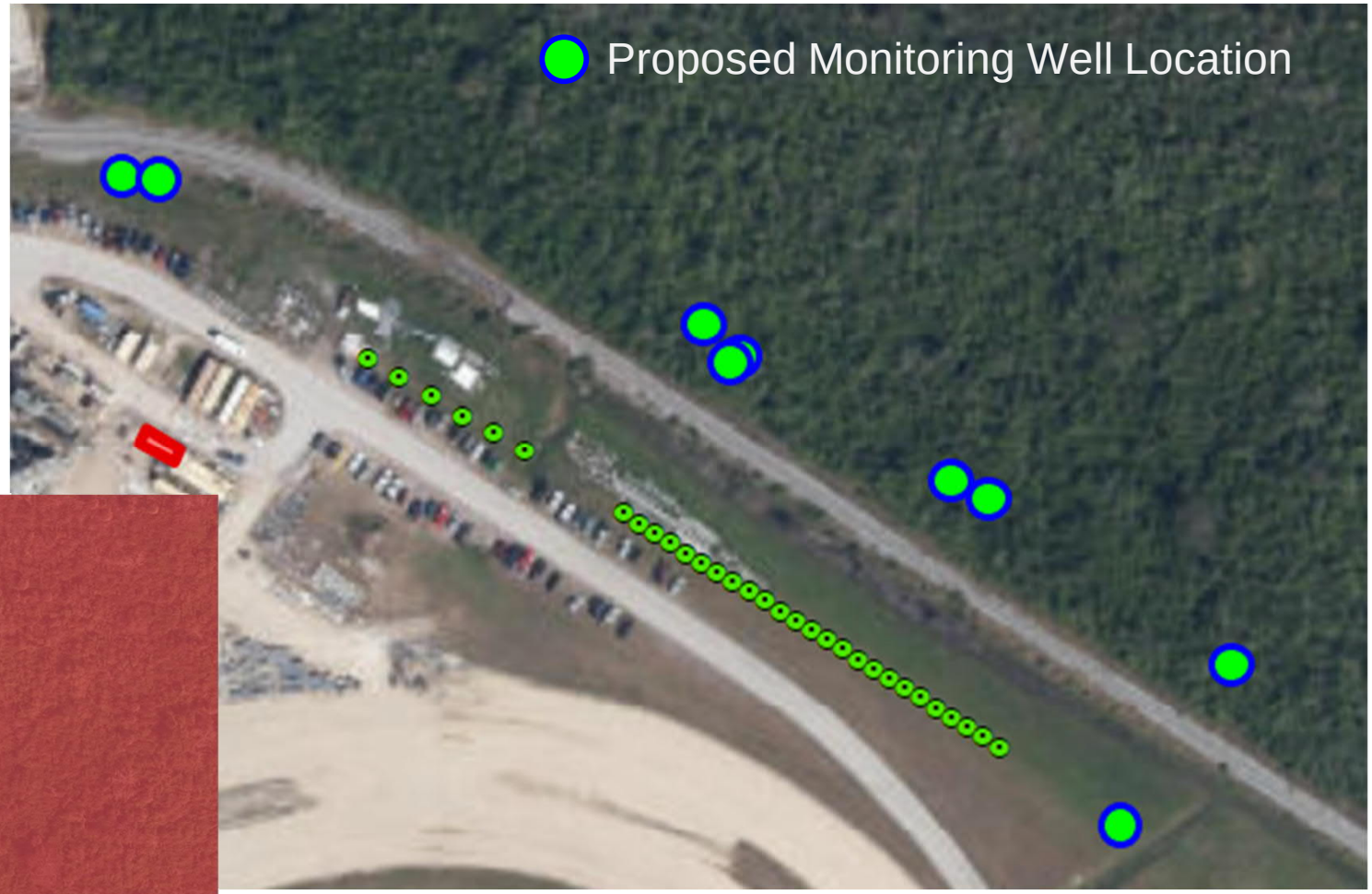
● Proposed Biosparge Well Location (48 to 50 feet bls)

Biosparge Barrier for Mitigating the HCP

Test Consensus Continued

- Install up to 9 additional monitoring wells downgradient and at each end of the biosparge barrier. Wells will serve to monitor performance and plume behavior.
- Evaluate remedial alternatives for upgradient portion of the HCP





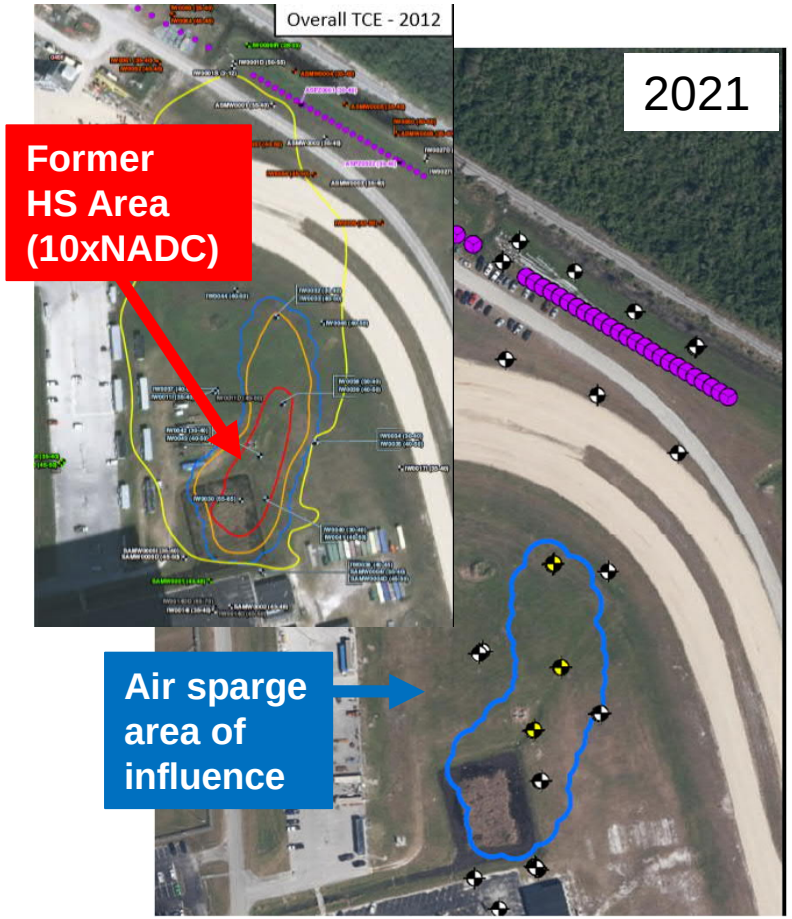
- Monitoring well locations may be subject to change based on wetland conditions. We are considering other mitigations if installation is not be feasible.

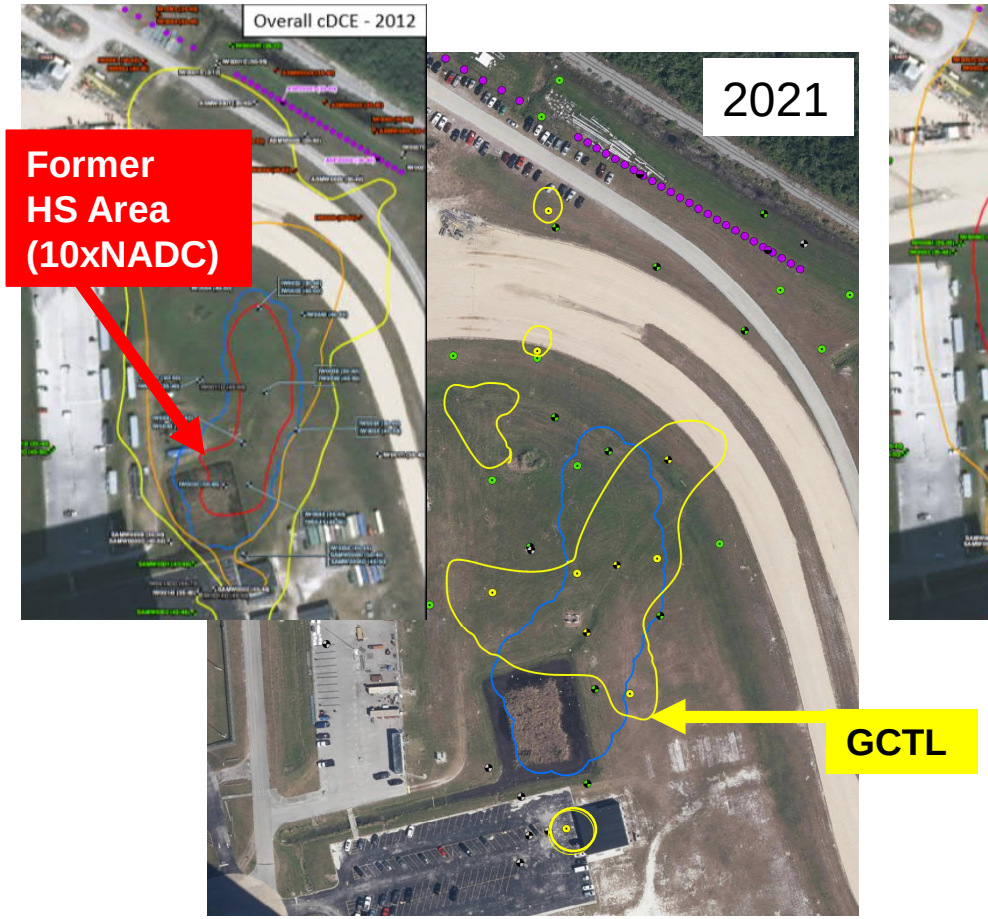
HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

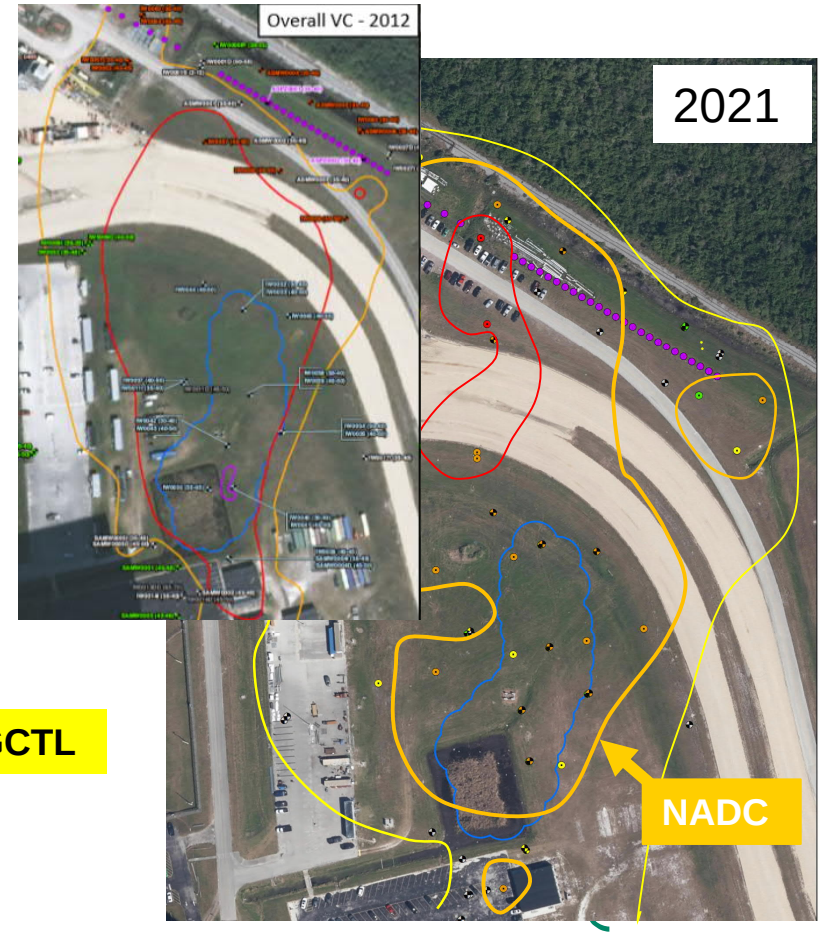
HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Current Site Conditions

- System operated from 2012 to 2018
- Using data from monitoring wells and DPT groundwater samples (2016-2021), a 90% reduction of overall CVOC mass was observed after air sparge treatment. TCE is no longer present.
- IGM conducted since 2018







Historical Figures: Geosyntec Consultants MLP/VAB SWMU 056, June 2019 ADP for 2018 CMI and IM Annual Report

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021

- Performed March 29 through 30 and April 15 and 16, 2021 to better evaluate current site conditions and determine possible Remedial Alternatives Evaluation (RAE) for treatment options in the fine-grained unit
- **25 samples** from **12 locations** collected from 4-foot intervals to depths of 41 to 55 feet bls
- Samples analyzed for CVOCs (TCE, cDCE, tDCE and VC)

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 – Results 41 to 45

- Vinyl chloride greater than **GCTLs** at 12 locations:
  - 3 locations (DPT0634, 636, and 639) exceed only GCTLs
  - Greater than **NADCs** at 9 locations
  - Highest concentration at DPT0642 (880 µg/L) at the northern most end of the site, and north of the treatment area
- cDCE exceeded GCTL at 2 locations: DPT635 (93 µg/L) and DPT640 (170 µg/L)
  - Highest concentration at DPT0640 (170 µg/L) to the south of the treatment area

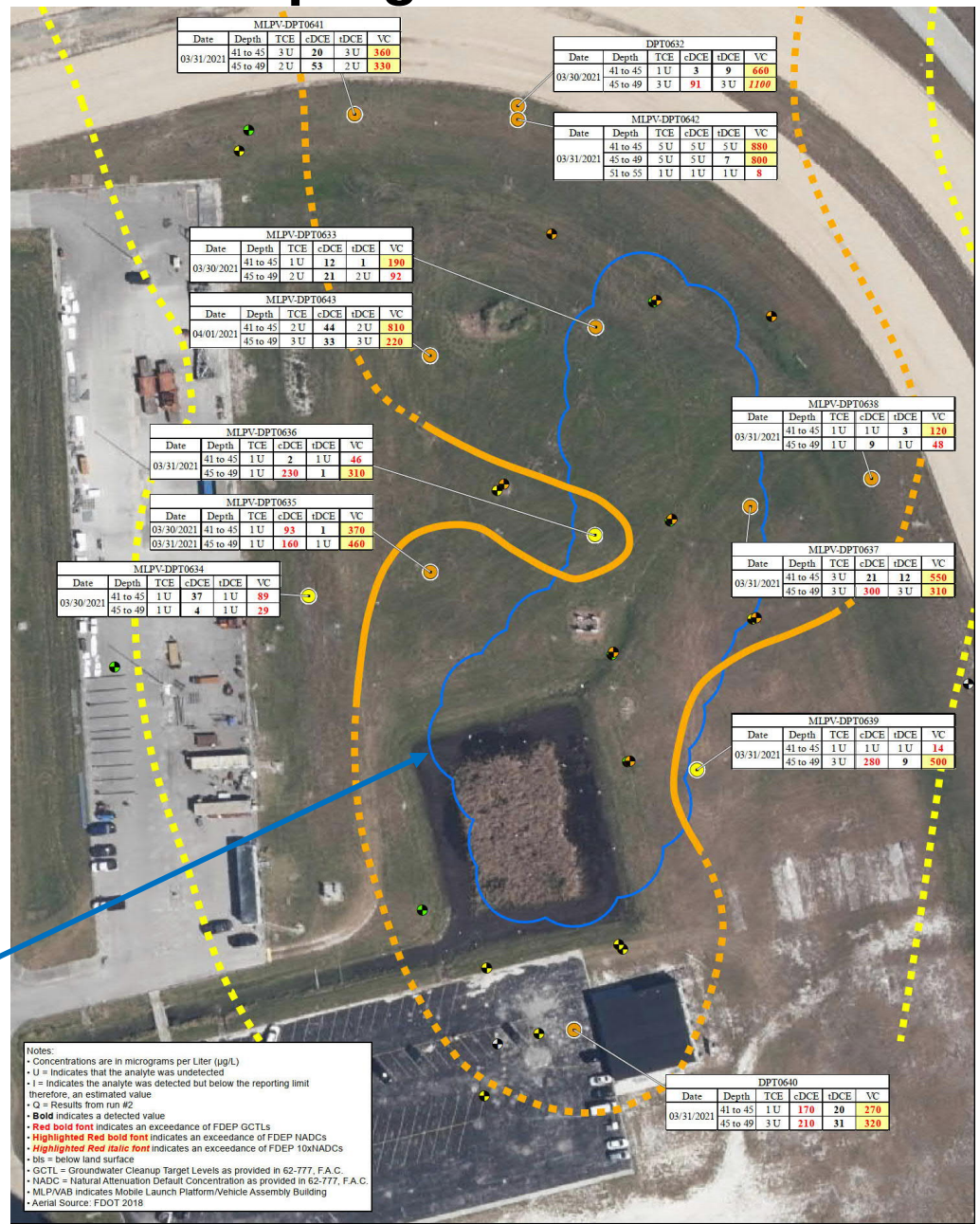
Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Treatment Area Radius of Influence

- Greater than GCTL
- Greater than 1xNADC
- Greater than 10xNADC



HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 – Results 45 to 49

- Vinyl chloride greater than **GCTLs** at 12 locations:
  - 3 locations (DPT0633, 634, and 638) exceed only GCTLs
  - Greater than **1 x NADCs** at remaining 8 locations
  - Greater than **10 x NADC** at 1 location: DPT0632 (1100 µg/L)
  - Highest concentration at DPT0632 (1100 µg/L) at the northern most end of the site, and north of the treatment area
- cDCE exceeded GCTL at 5 locations: DPT0632 (91 µg/L), 635 (160 µg/L), 636 (280 µg/L), 637 (300 µg/L), and DPT640 (210 µg/L)
  - Highest concentration at DPT0637 (170 µg/L) located within the northeast edge of the treatment area

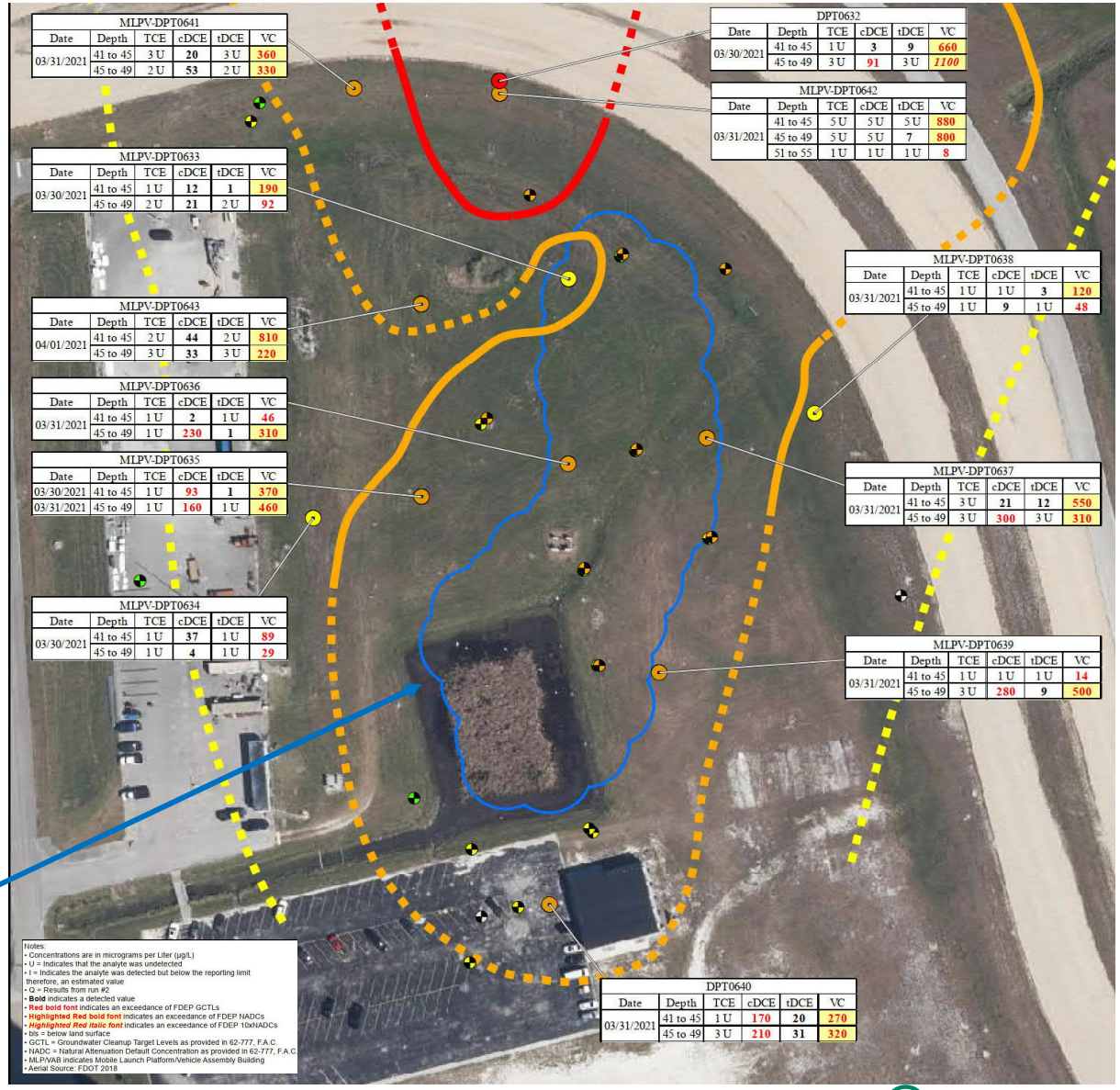
Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs

Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Treatment Area Radius of Influence

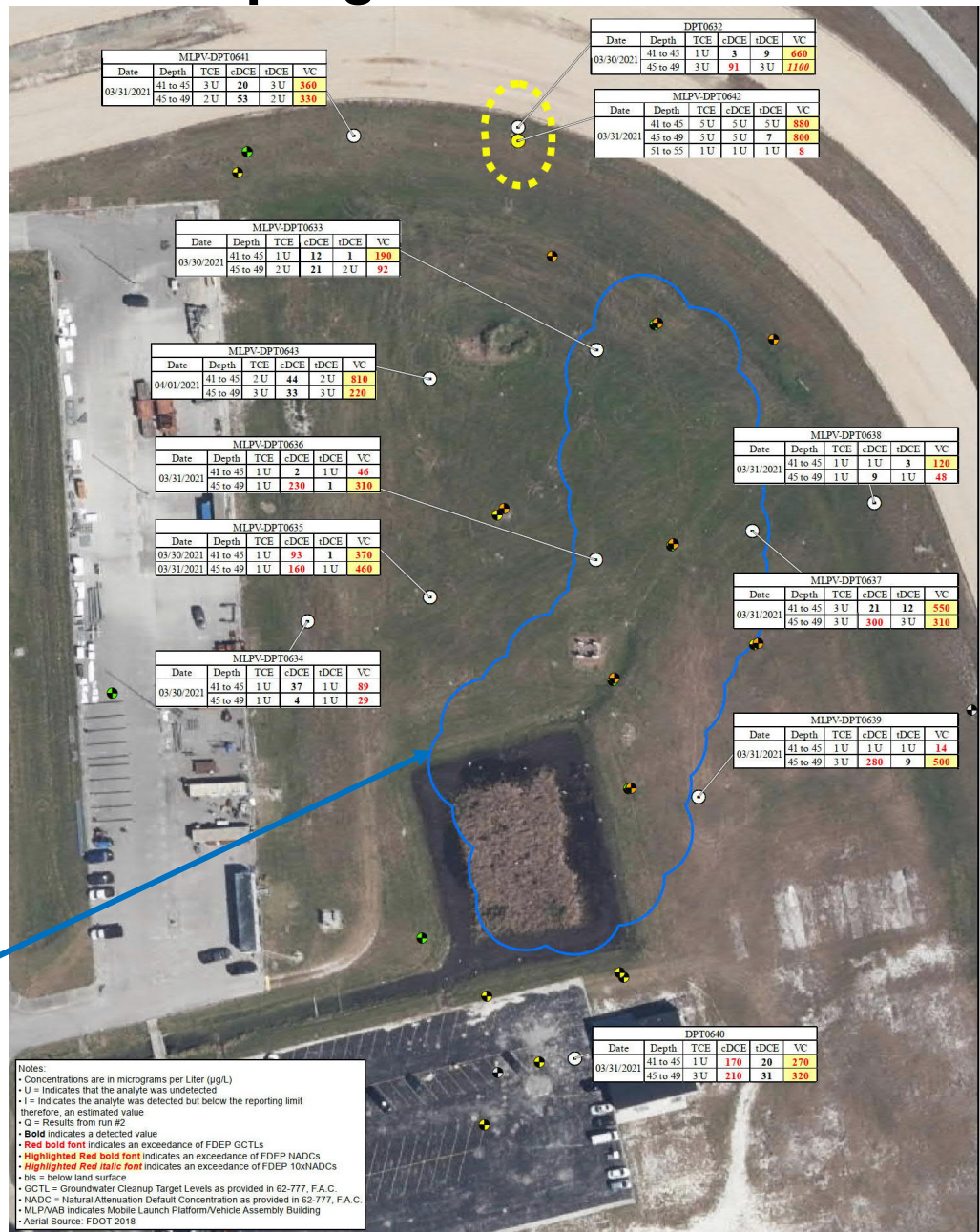
Greater than GCTL
Greater than 1xNADC
Greater than 10xNADC



HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 – Results 51 to 55

- One deep sample collected to verify groundwater quality below treatment interval
- Vinyl chloride greater than **GCTLs** at single deep sampling location DPT0642



Symbology Color Coding

- CVOC concentration less than or equal to GCTLs
- CVOC concentration greater than GCTLs
- CVOC concentration greater than NADCs and less than or equal to 10xNADC
- CVOC concentration greater than 10xNADC
- CVOC concentration greater than 100xNADC
- CVOC detection limit greater than GCTLs

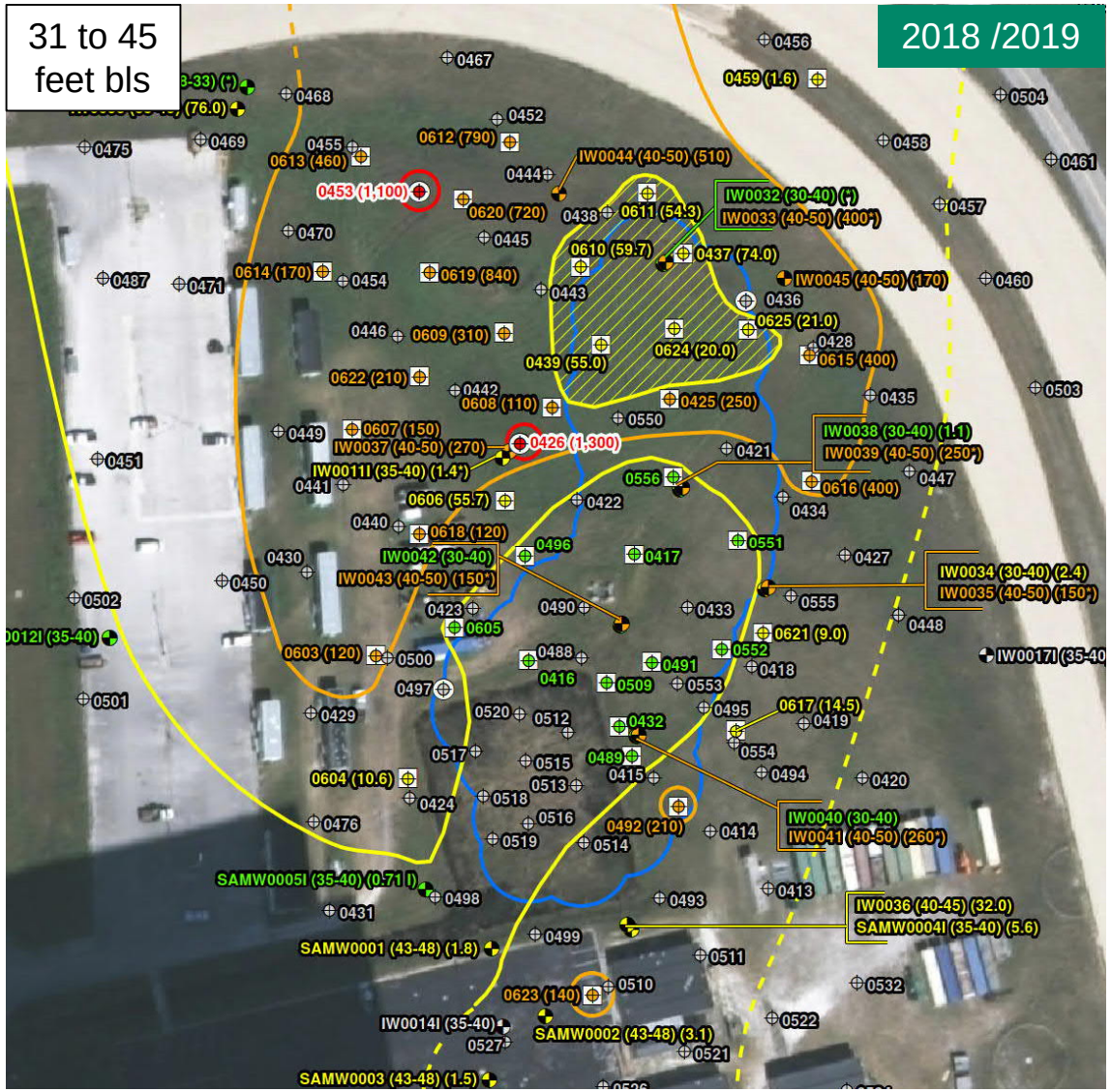
Abbreviation	Analyte	GCTL	NADC
TCE	Trichloroethene	3	300
cDCE	cis-1,2-Dichloroethene	70	700
tDCE	trans--Dichloroethene	100	1000
VC	Vinyl Chloride	1	100

Treatment Area Radius of Influence

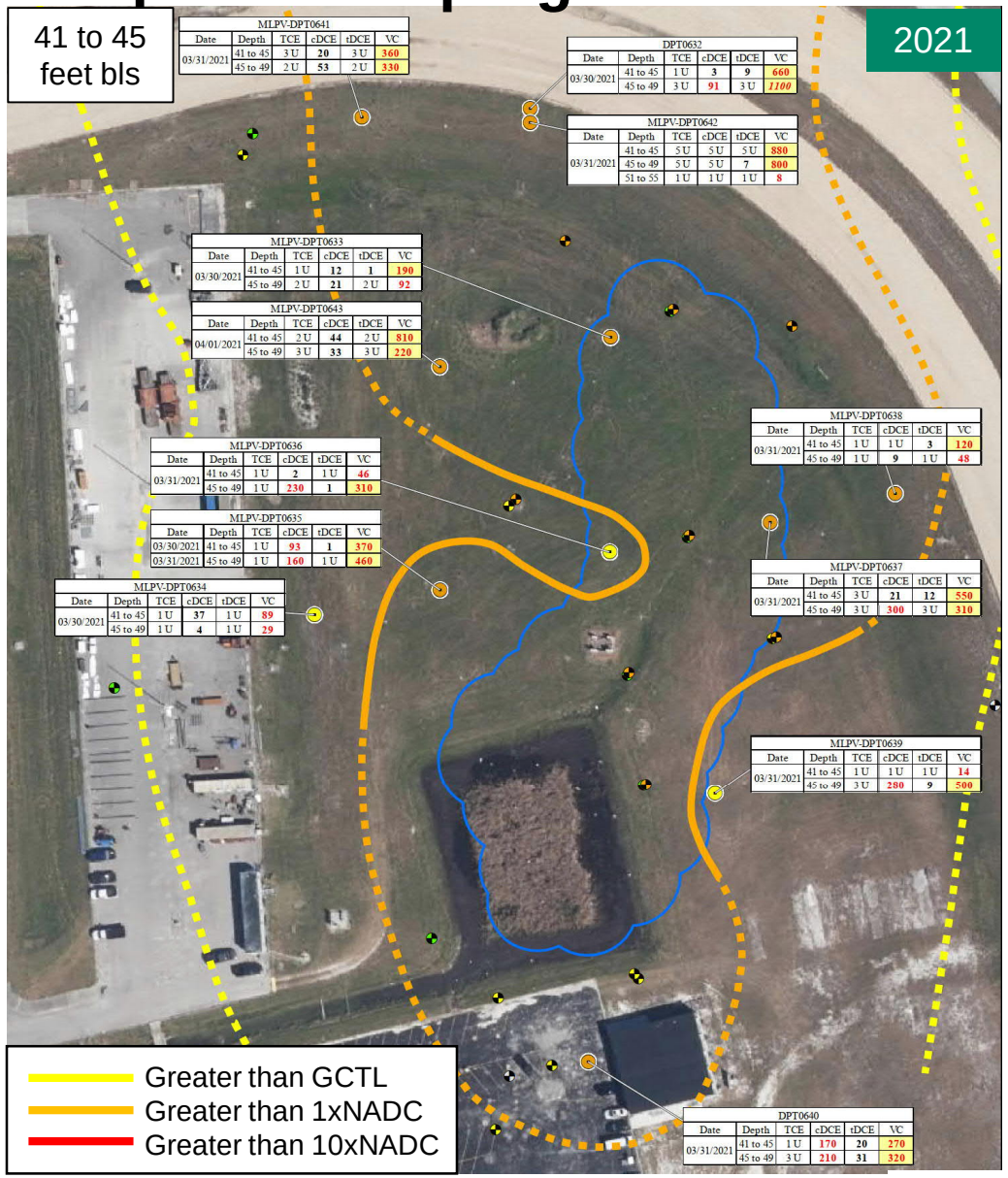
- Greater than GCTL
- Greater than 1xNADC
- Greater than 10xNADC

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 – Summary



DPT and monitoring well data



DPT data only

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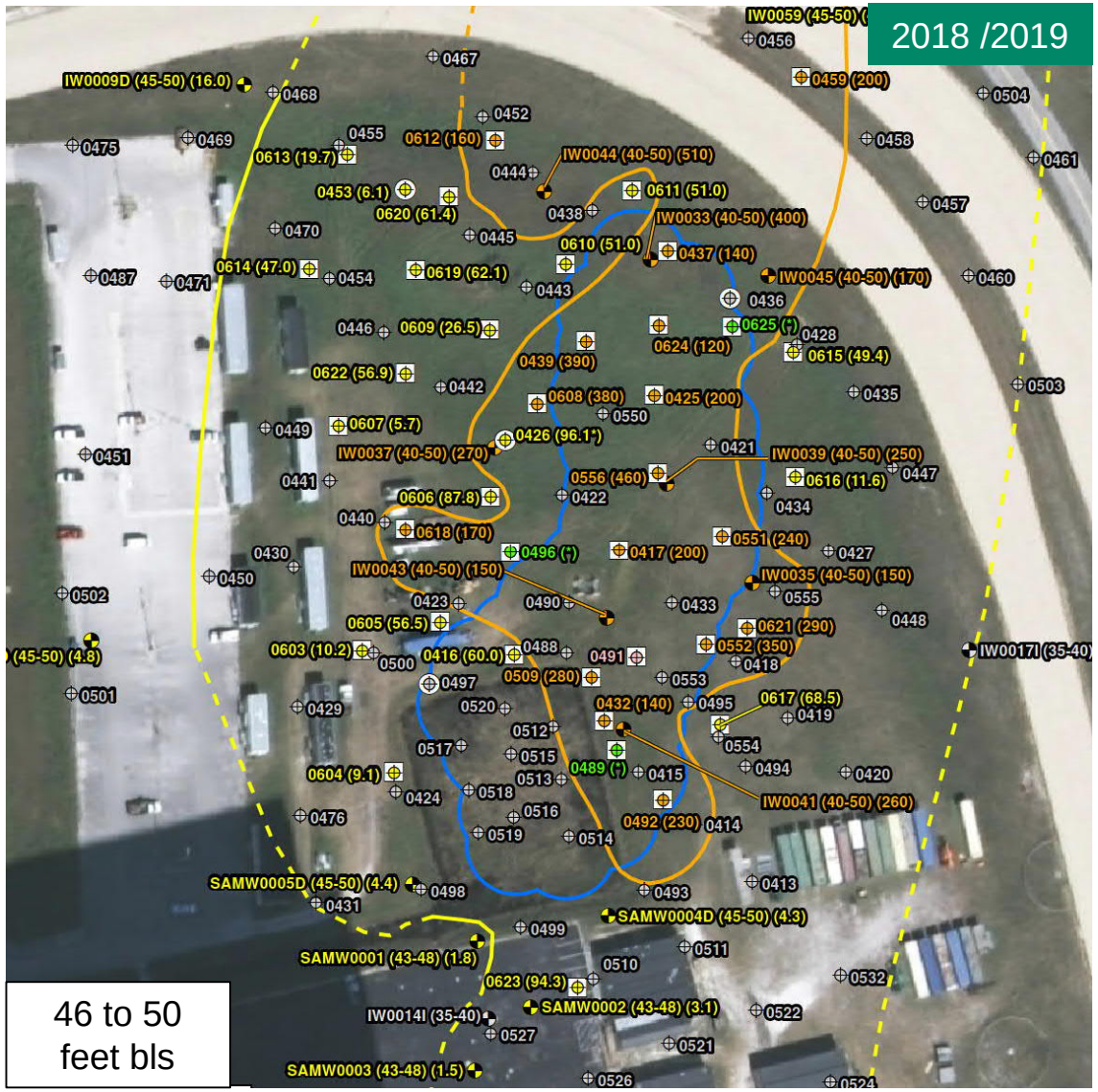
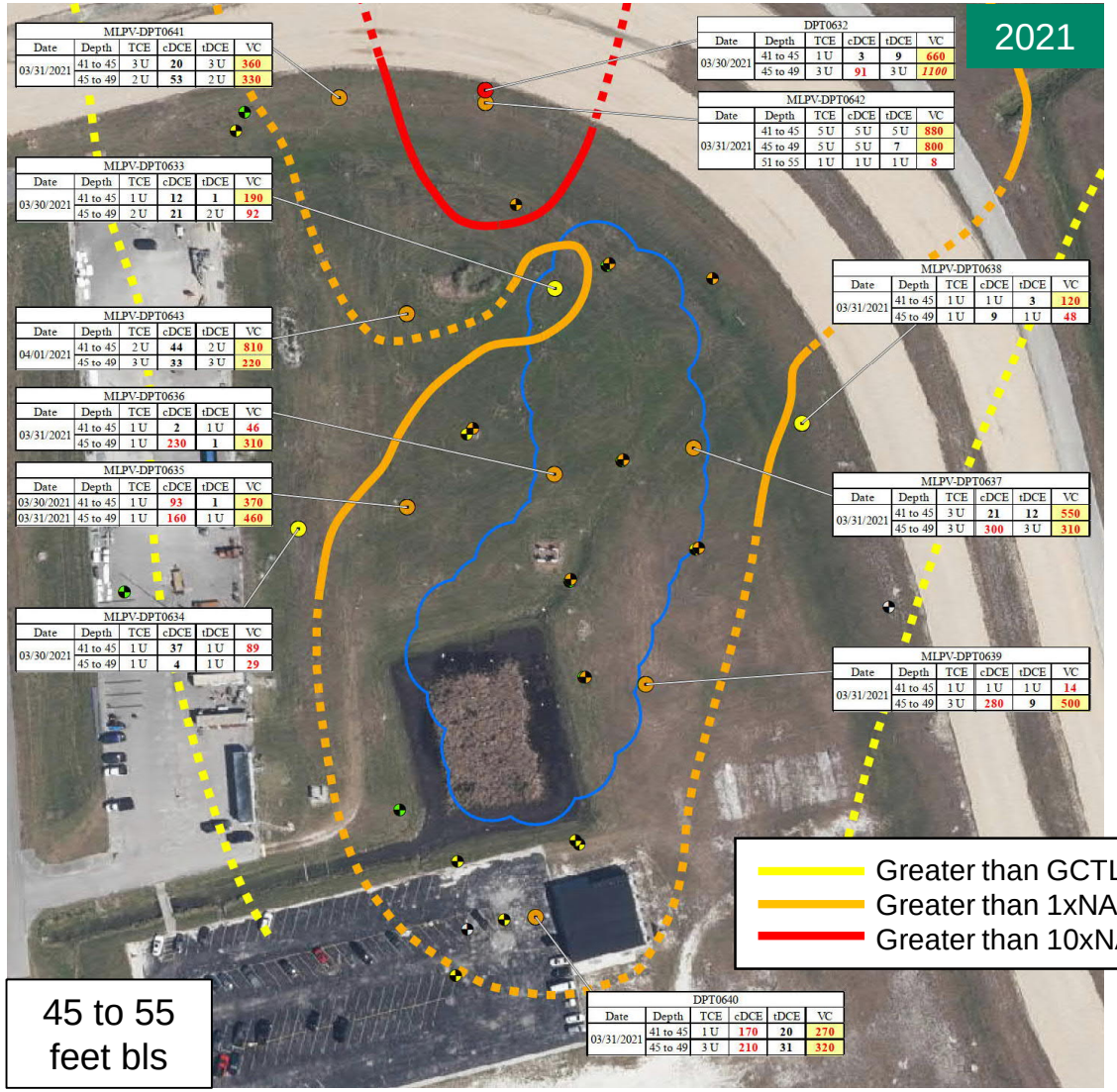
HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 – Summary



46 to 50 feet bls

DPT and monitoring well data



45 to 55 feet bls

DPT data only

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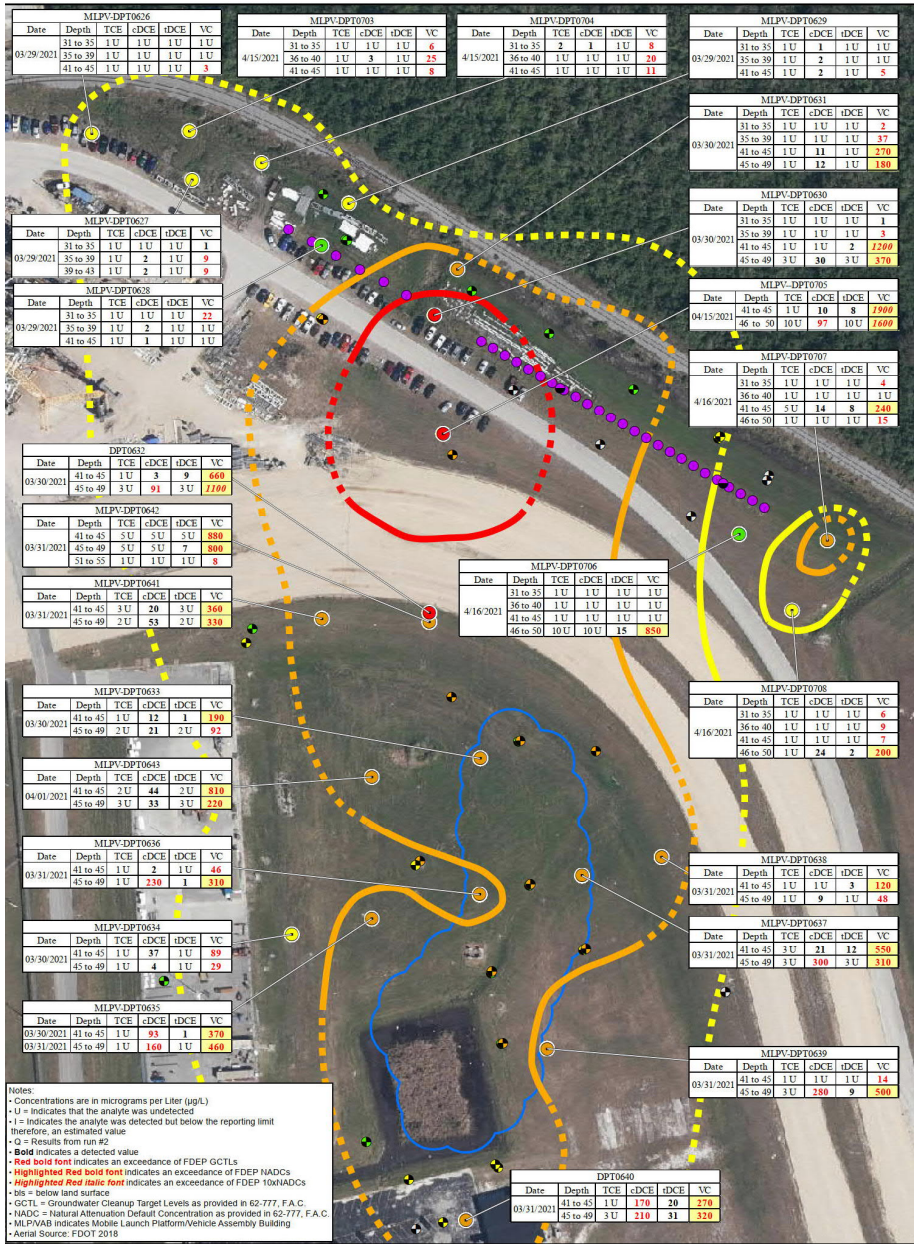
HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 - Summary

- Vinyl chloride remains the predominant contaminant
- cDCE detected in one location (DPT0705) above GCTLs
- Highest concentrations within located north of the treatment area
- Isocontours are based solely on DPT data and correlate with biosparge area DPT results



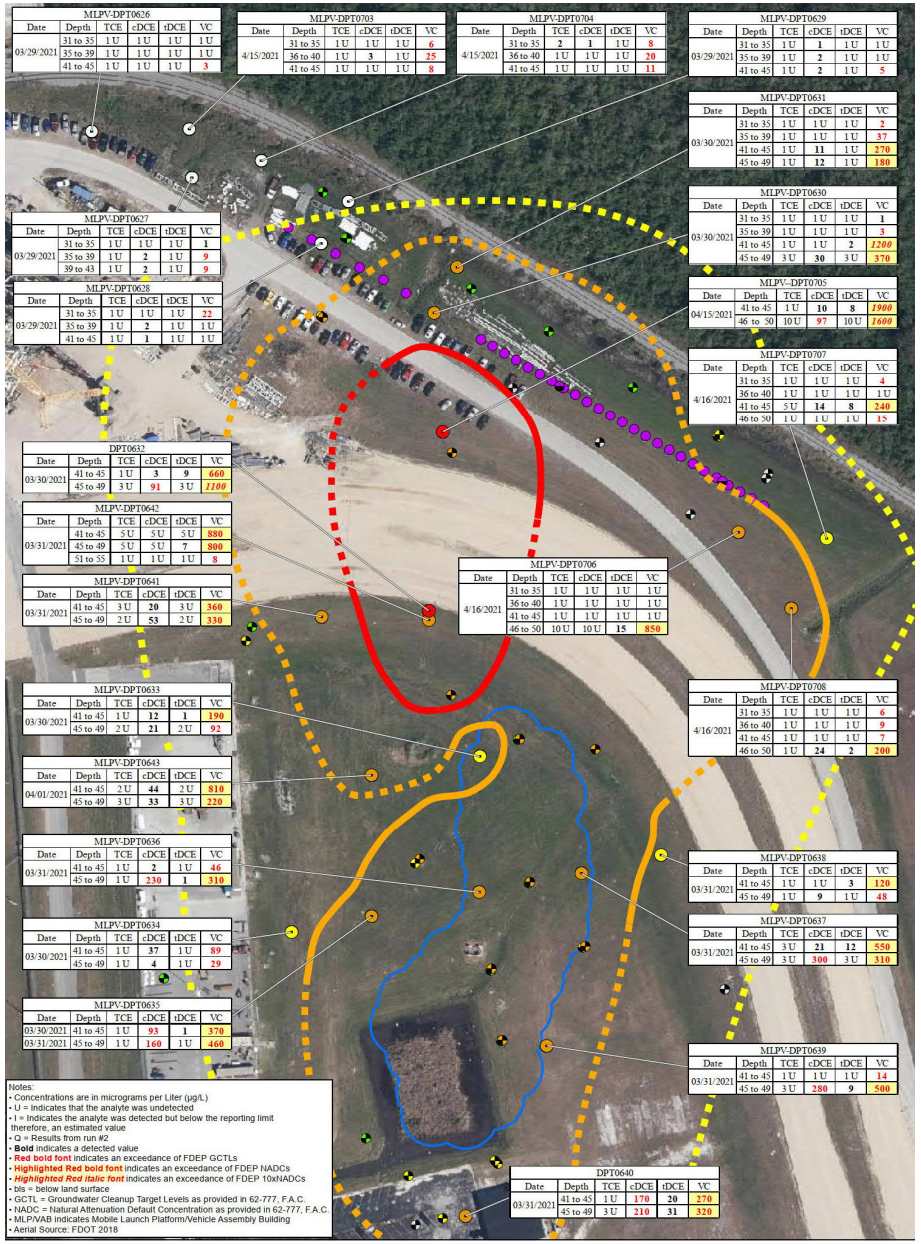
DPT and groundwater data

41 to 45 feet bls

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

DPT Groundwater Sampling 2021 - Summary

- Though the 2020 plume analytics evaluation of performance groundwater monitoring data indicated a stable plume, DPT data indicate the HCP is migrating toward the treatment barrier at higher concentrations and confirms the need for additional remediation efforts
- Performance monitoring will continue to provide valuable data



DPT and groundwater data

45 to 49 feet bls

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HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring 2021

- Annual sampling performed March 13 through 18 (prior to DPT groundwater sampling)
    - Sampled 17 wells
- Semi-annual sampling September 13 and 14, 2021 – Year 3, Quarter 1 (3 years of IGM with the air sparge system off)
    - Sampled 8 wells
    - Due to ongoing construction activities on site, 6 wells could not be located at the time of sampling or water gauging (IW0032, IW0033, IW0035, IW0040, IW0044, and IW0045) but were later resurfaced by the construction contractors.
    - Two wells (IW0042 and IW0043) were submerged at the time of sampling
- Selected CVOC analysis: cDCE, tDCE, and VC

2021 Sampling and Analysis Plan

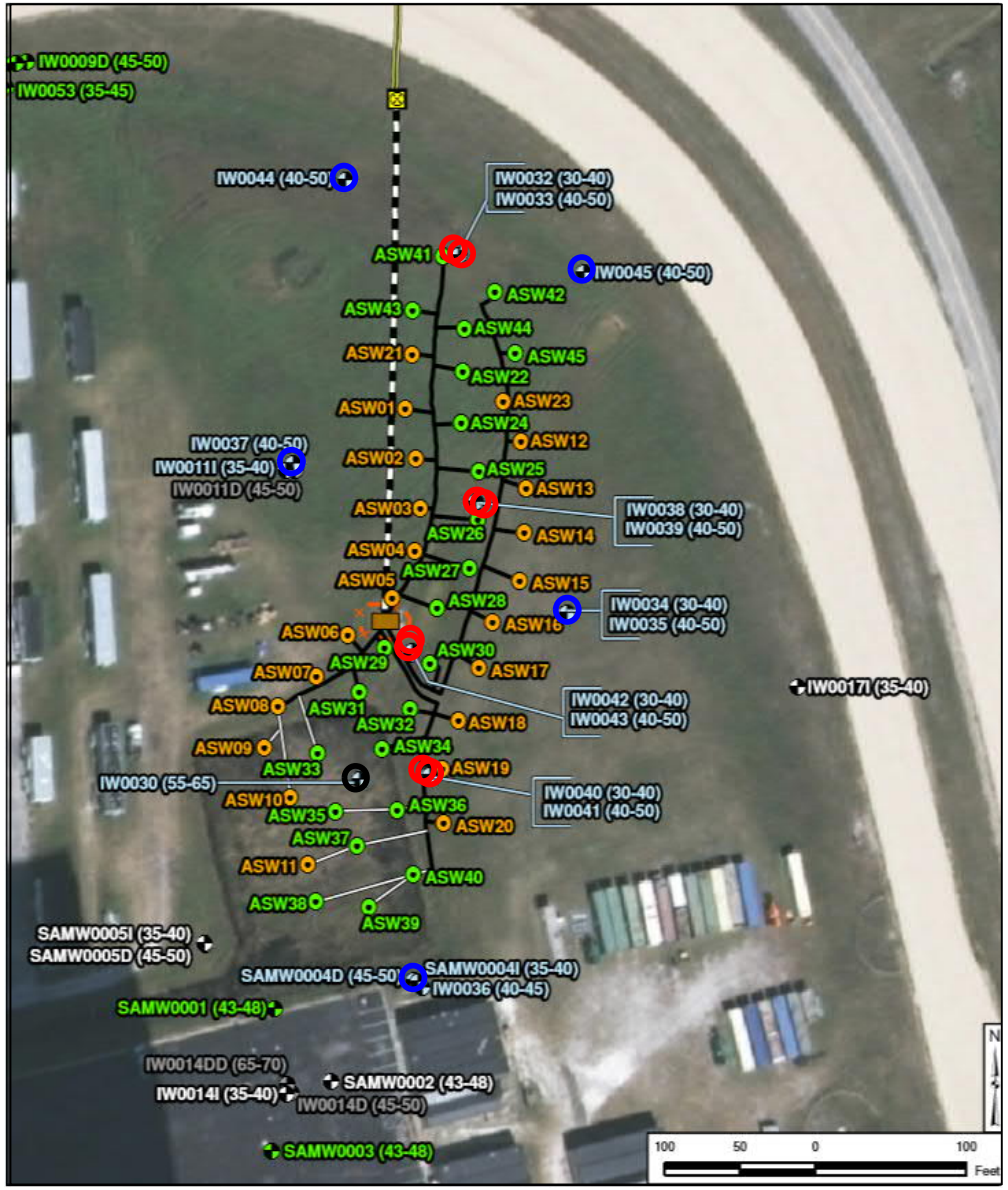
Area Monitored	Location	Screen Interval (ft bls)	Frequency	Analytical Parameters
Air Sparge Area	MLPV-IW0011I	35 – 40	Semi-Annual	cDCE tDCE VC
	MLPV-IW0032	30 – 40	Annual	
	MLPV-IW0033	40 – 50	Semi-Annual	
	MLPV-IW0034	30 – 40	Semi-Annual	
	MLPV-IW0035	40 – 50	Semi-Annual	
	MLPV-IW0036	40 – 45	Semi-Annual	
	MLPV-IW0037	40 – 50	Semi-Annual	
	MLPV-IW0038	30 – 40	Annual	
	MLPV-IW0039	40 – 50	Semi-Annual	
	MLPV-IW0040	30 – 40	Annual	
	MLPV-IW0041	40 – 50	Semi-Annual	
	MLPV-IW0042	30 – 40	Annual	
	MLPV-IW0043	40 – 50	Semi-Annual	
	MLPV-IW0044	40 – 50	Semi-Annual	
	MLPV-IW0045	40 – 50	Semi-Annual	
	MLPV-SAMW0004D	45 – 50	Semi-Annual	
	MLPV-SAMW0004I	35 – 40	Semi-Annual	

Annual: March 2021 / Semi-annual: March 2021 and September 2021

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring Wells

- Centerline -
- Periphery –
- Well IW0030 (screened 55-65 ft bls), located beneath the AS treatment area, was previously removed from sampling schedule since concentrations remained below GCTLs



HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring Wells

MLPV-IW0032 (30 - 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	0.26 U
05/31/2018	0.61 U	**0.36 I**	0.39 U	0.26 U
03/06/2019	0.61 U	**0.74 I**	0.39 U	0.26 U
03/18/2020	0.35 U	**0.35 I**	0.22 U	0.41 U
11/30/2020	NS	**0.68 I**	0.22 U	**0.49 I**
03/16/2021	NS	**0.84**	0.22 U	1.6

MLPV-IW0011I (35 to 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**1.1**	0.67 U	0.26 U
5/31/2018	0.61 U	**0.93 I**	0.39 U	1.9
3/6/2019	0.61 U	**0.72 I**	0.39 U	1.4
10/31/2019	0.35 U	0.28 U	0.22 U	**0.48 I**
3/18/2020	0.35 U	**0.35 I**	0.22 U	**0.92 I**
9/15/2020	NS	0.28 U	0.22 U	0.41 U
3/16/2021	NS	0.28 U	0.22 U	**0.46**
9/13/2021	NS	0.28 U	0.22 U	0.41 U

MLPV-IW0034 (30 to 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	13.0
05/31/2018	0.61 U	**0.4 I**	0.39 U	5.5
03/06/2019	0.61 U	**1.4**	0.39 U	2.4
10/31/2019	0.35 U	0.28 U	0.22 U	0.41 U
3/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
9/15/2020	NS	0.28 U	0.22 U	0.41 U
3/15/2021	NS	**0.41**	0.22 U	0.41 U
9/14/2021	NS	0.28 U	0.22 U	0.41 U

MLPV-IW0042 (30 - 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**0.86 I**	0.67 U	0.26 U
05/30/2018	0.61 U	**0.32 I**	0.39 U	**0.34 I**
03/06/2019	0.61 U	0.32 U	0.39 U	0.26 U
03/18/2020	0.35 U	0.28 U	0.22 U	0.41 U
03/16/2021	NS	**1.2**	0.22 U	**0.42**

MLPV-IW0040 (30 - 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	0.26 U
05/30/2018	0.61 U	**0.58 I**	0.39 U	**0.36 I**
03/05/2019	0.61 U	0.32 U	0.39 U	0.26 U
03/18/2020	0.35 U	**0.39 I**	0.22 U	0.41 U
03/15/2021	NS	**0.50**	0.22 U	0.41 U

MLPV-IW0044 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	6.1 U	**18.0**	**14.0**	1,500
05/30/2018	1.2 U	**7.5**	**6.4**	810
03/05/2019	1.2 U	**3.7**	**2.9 I**	510
10/31/2019	0.35 U	**2.9**	**1.8**	458
3/18/2020	0.35 U	**6.9**	**2.2**	325
11/30/2020	NS	**2.8**	**0.88 I**	307
3/16/2021	NS	**3.4**	**1.0**	249
9/14/2021	CNL			

MLPV-IW0033 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	100	**17.0**	470
11/07/2017	0.61 U	**24.0**	**6.3**	68.0
05/31/2018	0.61 U	**21.0**	**3.0**	120
03/06/2019	1.2 U	**46.0**	**6.0**	400
10/31/2019	1.7 U	**58.4**	1.1 U	365
3/18/2020	**0.44 I**	**55.9**	**9.6**	455
11/30/2020	NS	82.3	**7.7**	497
3/16/2021	NS	**49.6**	**6.3**	471
9/14/2021	CNL			

MLPV-IW0045 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**7.7**	**7.9**	200
05/30/2018	0.61 U	**2.4**	**10.0**	270
03/06/2019	0.61 U	**3.2**	**6.8**	170
10/31/2019	0.35 U	**4.8**	**3.6**	97.2
03/18/2020	0.35 U	**20**	**5.7**	207
09/15/2020	NS	**6.4**	**4.2**	205
03/16/2021	NS	75.8	**7.8**	295
09/14/2021	CNL			

MLPV-IW0037 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	150	**1.2**	280
05/31/2018	0.61 U	94.0	**1.2 I**	360
03/06/2019	0.61 U	160	**0.89 I**	270
10/31/2019	0.69 U	135	0.44 U	178
3/18/2020	0.86 U	132	**0.67 I**	245
9/15/2020	NS	**55.4**	**0.52 I**	208
03/16/2021	NS	138	**0.71**	269
09/13/2021	NS	**25.1**	**0.47**	99.3

MLPV-IW0038 (30 - 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**0.78 I**	0.67 U	0.26 U
5/31/2018	0.61 U	**0.48 I**	0.39 U	0.26 U
03/06/2019	0.61 U	**0.94 I**	0.39 U	**1.1**
03/18/2020	0.35 U	**0.54 I**	0.22 U	0.41 U
03/15/2021	NS	**1.2**	0.22 U	2.3

MLPV-IW0039 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	**2.6**	200	**11.0**	250
11/07/2017	**1.5**	92.0	**5.1**	55.0
05/31/2018	**1.3 I**	**45.0**	**3.2**	55.0
03/06/2019	**0.83 I**	160	**7.1**	250
10/31/2019	0.86 U	198	**4.6**	241
3/18/2020	0.86 U	128	**4.4**	228
9/15/2020	NS	92.1	**3.9**	276
3/15/2021	NS	161	**6.5**	236
9/14/2021	NS	76.9	**3.3**	191

MLPV-IW0035 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	**1.8**	**5.4**	220
05/31/2018	0.61 U	**1.2**	**6.9**	330
03/06/2019	0.61 U	**2.3**	**3.3**	150
10/31/2019	0.86 U	0.69 U	0.55 U	152
3/18/2020	0.35 U	**3.2**	**4.0**	192
9/15/2020	NS	0.28 U	**3.0**	205
3/15/2021	NS	**3.2**	**2.5**	124
9/14/2021	CNL			

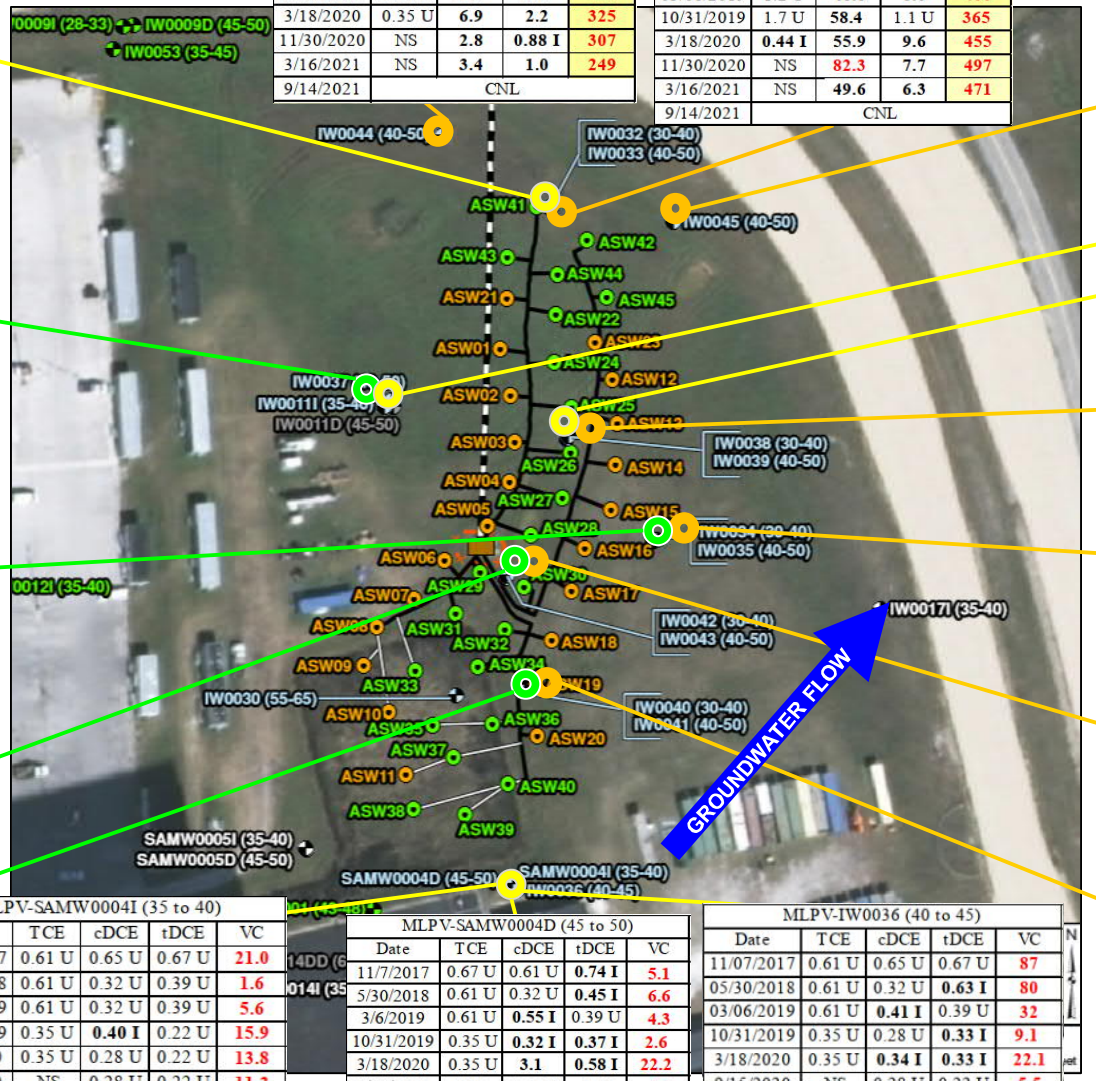
MLPV-IW0043 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	190	**4.9**	330
11/07/2017	0.61 U	**42.0**	**1.9**	120
05/30/2018	0.61 U	**31.0**	**0.96 I**	140
03/06/2019	**0.77 I**	100	**2.7**	150
10/31/2019	0.86 U	149	**2.4 I**	155
3/18/2020	**0.97 I**	193	**3.0**	131
9/15/2020	NS	73.2	**2.4**	146
3/16/2021	NS	249	**3.7**	180
9/14/2021	Well Submerged			

MLPV-IW0041 (40 to 50)				
Date	TCE	cDCE	tDCE	VC
03/07/2017	0.61 U	**63**	**3.8**	330
11/07/2017	0.61 U	140	**5.2**	300
05/30/2018	0.61 U	**9.7**	**3.9**	230
03/05/2019	**0.65 I**	76	**2.6**	260
10/31/2019	**0.39 I**	**14.0**	**2.3**	166
3/18/2020	0.35 U	106	**3.3**	183
9/15/2020	NS	**4**	**1.4**	201
3/16/2021	NS	113	**3.3**	259
9/14/2021	NS	**1.9 I**	**0.92**	146

MLPV-SAMW0004I (35 to 40)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	21.0
05/30/2018	0.61 U	0.32 U	0.39 U	1.6
03/06/2019	0.61 U	0.32 U	0.39 U	5.6
10/31/2019	0.35 U	**0.40 I**	0.22 U	15.9
3/18/2020	0.35 U	0.28 U	0.22 U	13.8
9/15/2020	NS	0.28 U	0.22 U	11.3
3/15/2021	NS	**0.61**	**0.41**	19.4
9/14/2021	NS	0.28 U	0.22 U	15.5

MLPV-SAMW0004D (45 to 50)				
Date	TCE	cDCE	tDCE	VC
11/7/2017	0.67 U	0.61 U	**0.74 I**	5.1
5/30/2018	0.61 U	0.32 U	**0.45 I**	6.6
3/6/2019	0.61 U	**0.55 I**	0.39 U	4.3
10/31/2019	0.35 U	**0.32 I**	**0.37 I**	2.6
3/18/2020	0.35 U	**3.1**	**0.58 I**	22.2
9/15/2020	NS	0.28 U	**0.60**	4.2
3/15/2021	NS	**2.4**	**0.59**	14.6
9/14/2021	NS	**0.65 I**	**0.67**	5.0

MLPV-IW0036 (40 to 45)				
Date	TCE	cDCE	tDCE	VC
11/07/2017	0.61 U	0.65 U	0.67 U	87
05/30/2018	0.61 U	0.32 U	**0.63 I**	80
03/06/2019	0.61 U	**0.41 I**	0.39 U	32
10/31/2019	0.35 U	0.28 U	**0.33 I**	9.1
3/18/2020	0.35 U	**0.34 I**	**0.33 I**	22.1
9/15/2020	NS	0.28 U	0.22 U	5.5
3/15/2021	NS	**0.47**	0.22 U	24.9
9/14/2021	NS	**0.60**	0.22 U	32.3



97.2	indicates > GCTL
207	Indicates > NADC

- <GCTL
- >GCTL
- >NADC

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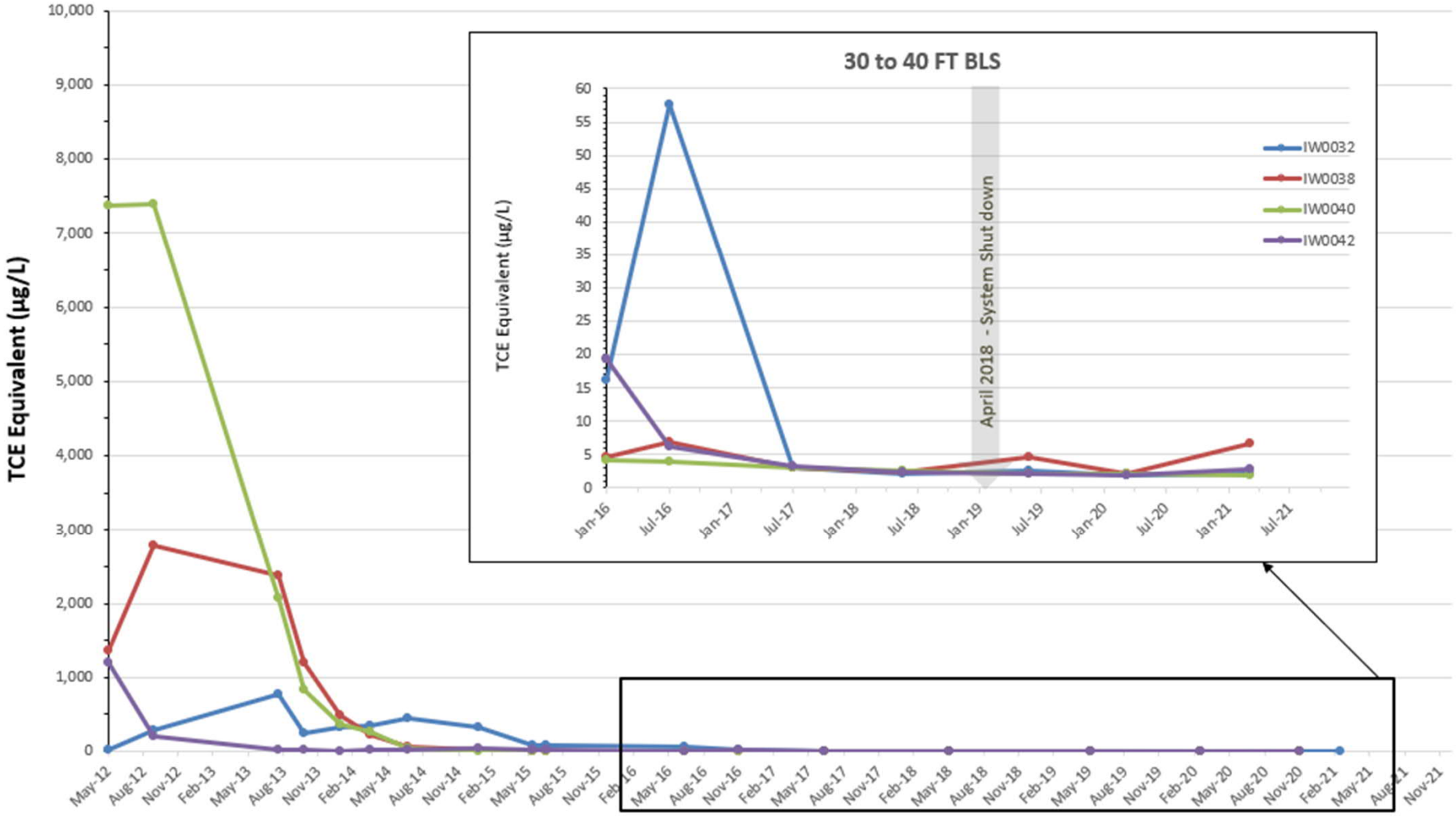
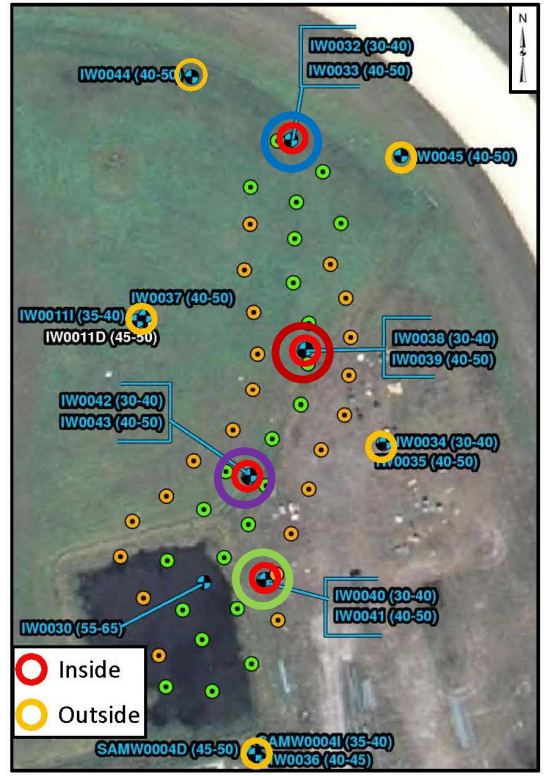
HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring 2021

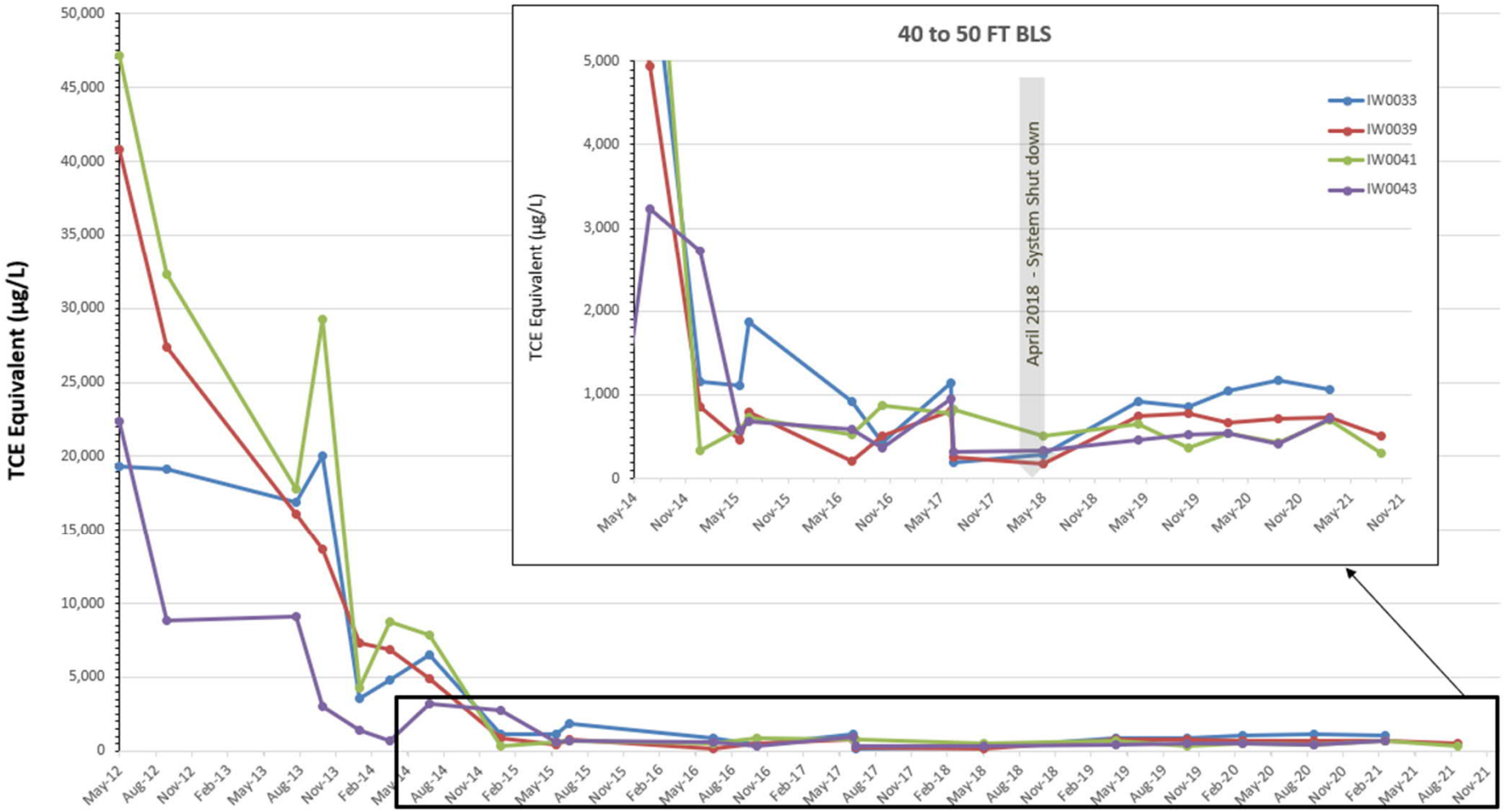


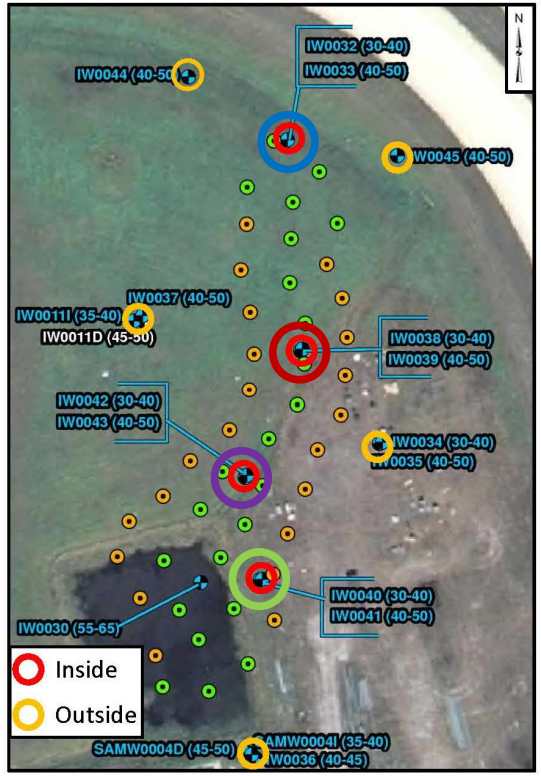


- IW0032, IW0040 and IW0042 not accessible in September 2021
- Steady or increasing concentrations
- IW0038 fluctuates

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring 2021





- IW0033 and IW0043 not accessible in September 2021
- Reduction exhibited in sampled wells during reporting period
- Increasing trend since 2018

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HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Performance Monitoring 2021 - Summary

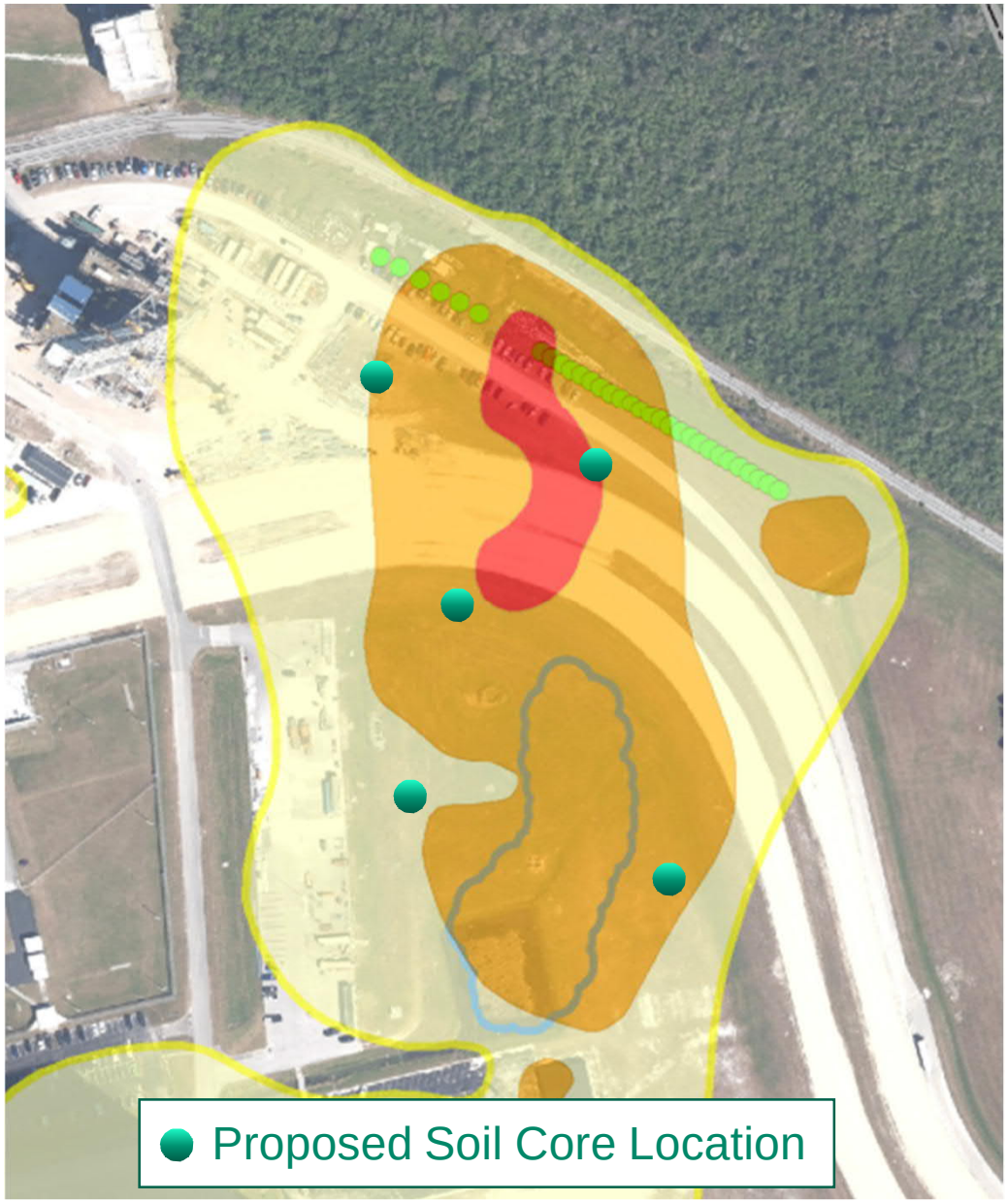
- **30-40 ft bls:**
  - TCE: No longer analyzed beginning in 2020 (less than GCTLs since 2015)
  - cDCE: less than GCTL
  - tDCE: less than GCTL
  - VC: SAMW0004I (15.5 µg/L) exceeded GCTL – relatively unchanged since October 2019 (15.9 to 15.5 µg/L); IW0032 (1.6 µg/L) - first exceedance since 2015. Construction activities prevented subsequent sampling in September to evaluate trend.

- **40-50 ft bls:**
  - TCE: No longer analyzed beginning in 2020 (less than GCTLs since 2015)
  - cDCE: IW0039 (76.9 µg/L), IW0043 (249 µg/L), and IW0045 (75.8 µg/L) exceeded GCTL
  - tDCE: less than GCTL
  - VC: IW0036 (32.3 µg/L), IW0037 (99.3 µg/L), and SAMW0004D (5.0 µg/L) exceeded GCTL – relatively unchanged concentrations. Flux recorded in March correlates with a 1.5 to 2 foot average drop in the water table elevation (seasonal fluctuation)

HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Test Consensus

- Collect soil cores for soil permeability analysis to gain an understanding of current soil characteristics in the low permeability soil layer and to aid in the Remediation Alternatives Evaluation (RAE). RAE approved in April 2021 Kennedy Space Center Remediation Team (KSCRT) meeting.
  - Cores proposed in areas with limited soil classifications



HCP Interim Measures within the Former Hot Spot 2 Air Sparge Area

Test Consensus Continued

- Continue interim groundwater monitoring

2022 Sampling and Analysis Plan

Area Monitored	Location	Screen Interval (ft bls)	Frequency	Analytical Parameters
Air Sparge Area	MLPV-IW0032	30 – 40	Annual	cDCE tDCE VC
	MLPV-IW0038	30 – 40	Annual	
	MLPV-IW0040	30 – 40	Annual	
	MLPV-IW0042	30 – 40	Annual	
	MLPV-IW0011I	35 – 40	Semi-Annual	
	MLPV-IW0033	40 – 50	Semi-Annual	
	MLPV-IW0034	30 – 40	Semi-Annual	
	MLPV-IW0035	40 – 50	Semi-Annual	
	MLPV-IW0036	40 – 45	Semi-Annual	
	MLPV-IW0037	40 – 50	Semi-Annual	
	MLPV-IW0039	40 – 50	Semi-Annual	
	MLPV-IW0041	40 – 50	Semi-Annual	
	MLPV-IW0043	40 – 50	Semi-Annual	
	MLPV-IW0044	40 – 50	Semi-Annual	
	MLPV-IW0045	40 – 50	Semi-Annual	
	MLPV-SAMW0004D	45 – 50	Semi-Annual	
	MLPV-SAMW0004I	35 – 40	Semi-Annual	

Annual: March 2022 / Semi-annual: March 2022 and September 2022

Hot Spot 3 OFW Area

Hot Spot 3 OFW Area

Historical Site Assessment

- **2015 through 2016** Monitoring wells installed to evaluate VC concentrations adjacent to the OFW
- **2016 through 2019** DPT groundwater sampling performed to evaluate the VC impacts adjacent to the OFW
- **2018** started IGM; treatment of source (HS3) expected to reduce VC concentrations to less than GCTL.
  - 2021 Interim measures are underway. DPT groundwater sampling performed in Spring of 2021. Data was presented in September 2021 and can be found in the Hot Spot 3 Performance Monitoring ADP.

2019 MLPV CMI and IM, Geosyntec

Hot Spot 3 OFW Area

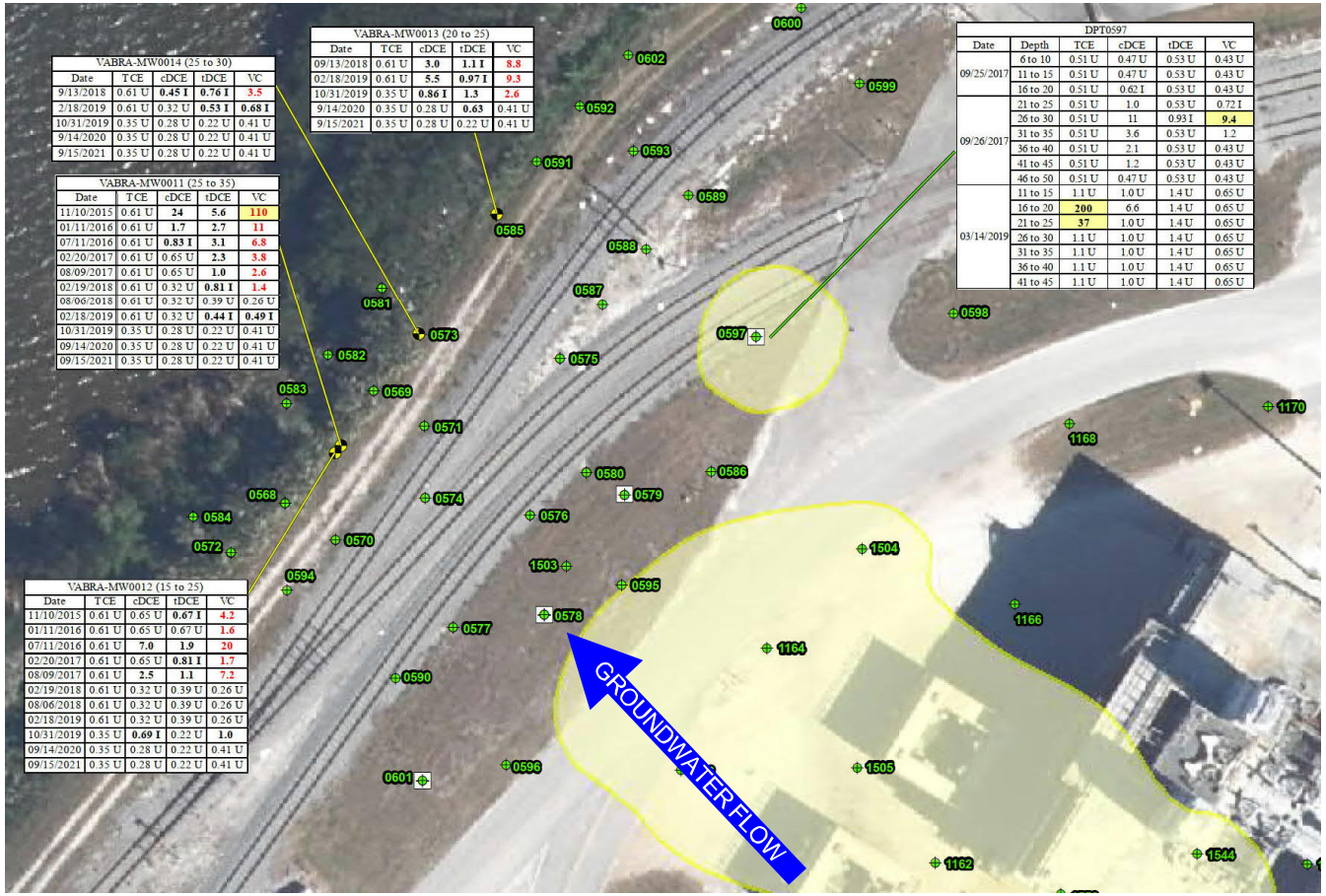
Summary of Annual Analytical Results

- Annual Performance Monitoring Well Sampling
  - September 15, 2021
  - MW0011, MW0012, MW0013, MW0014
  - CVOC analysis: TCE, cDCE, tDCE, VC

2021 Sampling and Analysis Plan

Area Monitored	Location	Screen Interval (ft bls)	Frequency	Analytical Parameters
Hot Spot 3 OFW Area	VABRA-MW0011	25 to 35	Annual (September)	CVOCs (TCE, cDCE, tDCE, VC)
	VABRA-MW0012	15 to 25		
	VABRA-MW0013	20 to 25		
	VABRA-MW0014	25 to 30		

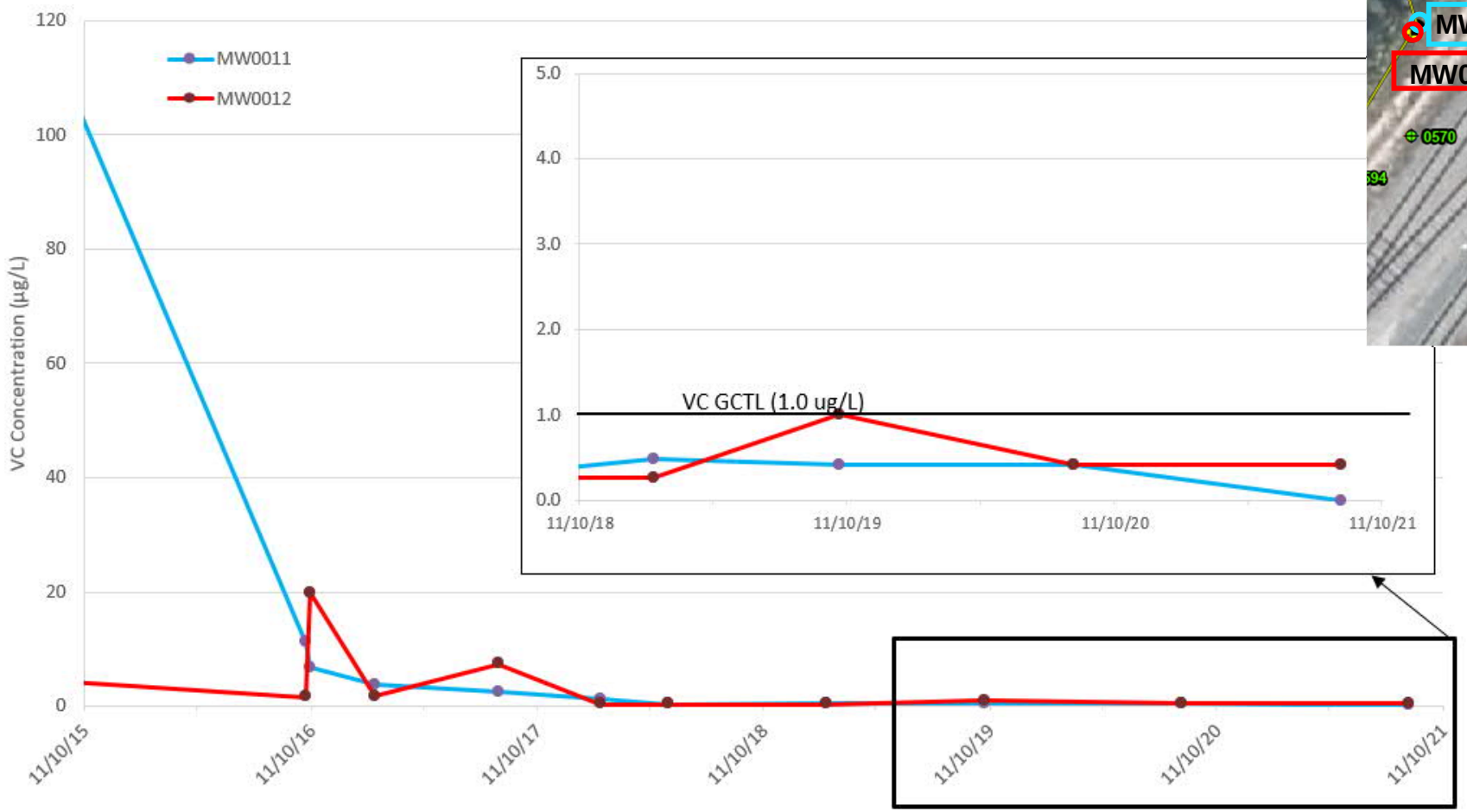
- CVOCs below GCTLs in every well
  - Plume modified with consideration of 2018 DPT groundwater results that had no GCTL exceedances.



Hot Spot 3 OFW Area

VC Trend

- MW0011 (25 to 35 ft bls): CVOCs were below GCTLs
- MW0012 (15 to 25 ft bls): CVOCs were below GCTLs



Hot Spot 3 OFW Area

VC Trend

- MW0012 (20 to 25 ft bls): CVOCs were below GCTLs
- MW0013 (25 to 30 ft bls): CVOCs were below GCTLs

Hot Spot 3 OFW Area

Test Consensus

Based on evaluation of analytical results from 2017 to present, recommend continued annual sampling to monitor groundwater quality downgradient of HS3 treatment area.

Test Consensus: Continue IGM Annually

2022 Sampling and Analysis Plan

System Monitored	Location	Screen Interval (ft bls)	Frequency	Analytical Parameters
Hot Spot 3 OFW Area	VABRA-MW0011	25 to 35	Annual (September)	CVOCs (TCE, cDCE, tDCE, VC)
	VABRA-MW0012	15 to 25		
	VABRA-MW0013	20 to 25		
	VABRA-MW0014	25 to 30		

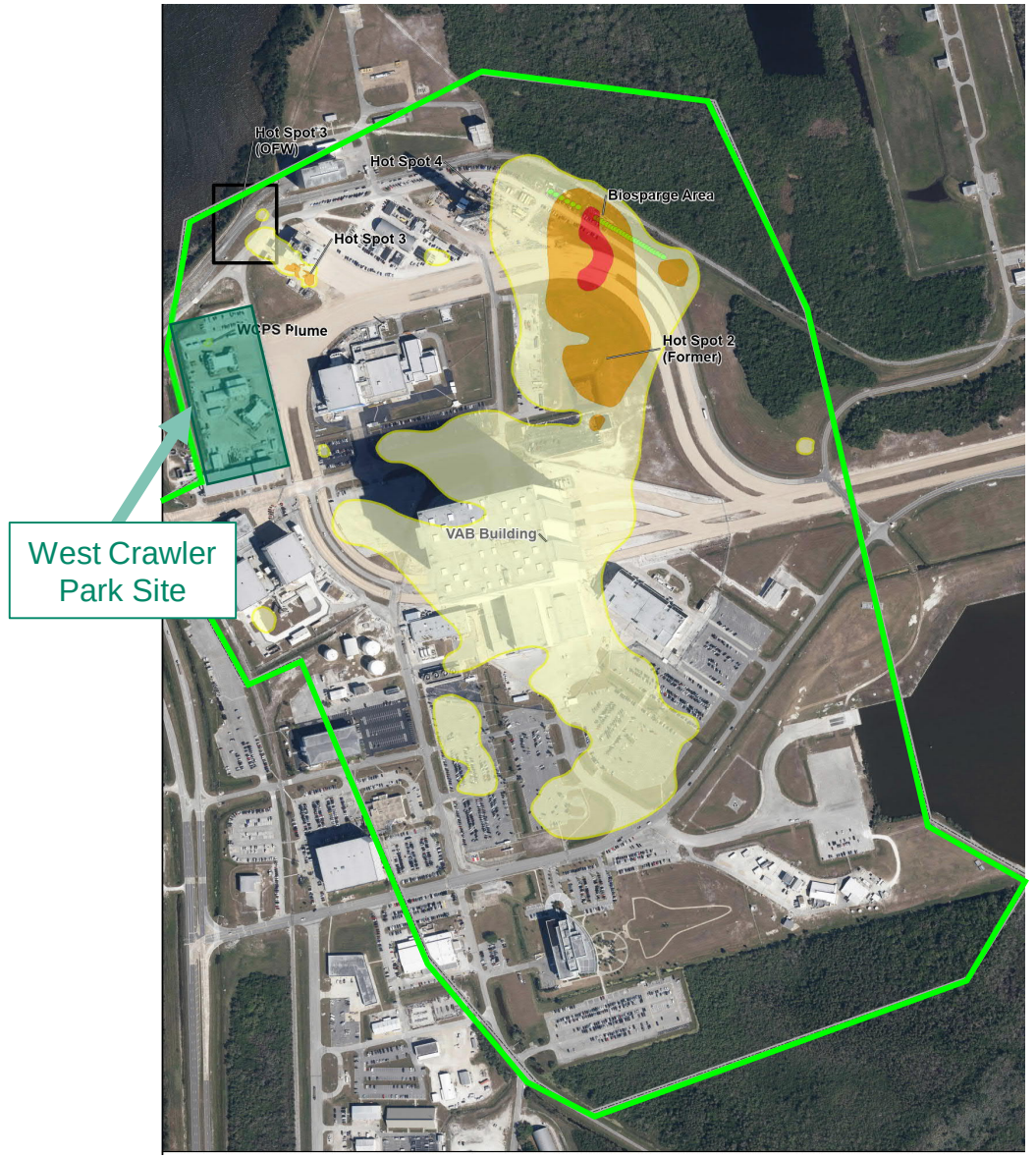
KSC EGIS Aerial

LCP LTM

LCP LTM

Previous Activities

- June 2020 biennial sampling performed
  - Modified with addition of four wells from the West Crawler Park Site (WCPS) area and northeast MLP area to complete data gaps as a follow-up to the 2019 ADP
  - Results indicated limited change in overall plume footprint since 2018
    - 2-15 ft bls:
      - VC in shallow well WCPS-IW0001SR (49.5 µg/L) doubled since 2018. Resampled in September 2020 with three additional wells WCPS-IW002S, WCPS-IW0015S, and WCPS-IW0005S (screened 3 to 13 ft bls). Concentrations remained within the same order of magnitude. Data from periphery wells remained below GCTLs.
    - 15-40 ft bls: Overall decrease since 2018
    - 40-70 ft bls: Overall decrease since March 2019



LCP LTM

Previous Activities

- Based on 2020 results, additional modifications to the previous sampling plan were applied as follows:
  - Remove TCE (below GCTLs for 15 years) and reduce analyte list to cDCE, tDCE, and VC
  - Continue to sample newly added wells MLWPV-IW0002I and MLPV-IW0001D for vertical and horizontal boundary data
  - No additional sampling from WCPS-IW0006S and MLPV-SAMW0002 since no change in groundwater conditions (below GCTL)
  - Transition two wells (MLPV-IW0028 I and MLPV-IW0046) to semi-annual Biosparge Area monitoring schedule, beginning Spring 2021
  - Transition future sampling method from PDB to low flow
- An evaluation of the overall LTM program was initiated in 2021 to determine if additional monitoring wells within the overall GCTL plume are required. Based on the acreage of the plume, additional wells were needed which expanded the sampling plan.

Modified Biennial Sampling Plan for 2022

System Monitored	Location	Screen Interval (ft bls)	Sampling Method	Analytical Parameters
VAB Area	MLPV-IW0009D	45 to 50	Low Flow	cDCE, tDCE, and VC
	MLPV-IW0009I	28 to 33		
	MLPV-IW0012D	45 to 50		
	MLPV-IW0018D	50 to 55		
	MLPV-IW0020D	45 to 50		
	~~MLPV-IW0028I~~ (transition to Biosparge Area IGM)	~~28 to 33~~		
	MLPV-IW0029D	42 to 47		
	~~MLPV-IW0046~~ (transition to Biosparge Area IGM)	~~35 to 45~~		
	MLPV-IW0047	35 to 45		
	MLPV-IW0052	40 to 50		
	MLPV-IW0053	35 to 45		
	MLPV-SAMW0001	43 to 48		
	MLPV-SAMW0003	43 to 48		
	PRES-IW0009	40 to 50		
	SATV-IW0009I	22 to 27		
	VAB-IW0005D	52 to 57		
	VABU-IW0001I	20 to 30		
	WCPS-IW0001SR	2.5 to 12.5		
	WCPS-IW0016	15 to 25		
	~~*WCPS-IW0006S~~	~~3 to 13~~		
	*MLPV-IW0002I (keep)	28 to 33		
	*MLPV-IW0001D (keep)	50 to 55		
	~~*MLPV-SAMW0002~~	~~43 to 48~~		

* = Wells added to sampling plan following analytical assessment of 2018 data.

LCP LTM

Monitoring Well Network Evaluation

- Lithology, groundwater flow direction, historical and present DPT groundwater analytical data, and performance monitoring data were evaluated to determine location, depth, and quantity of new wells.
- Summarized in rational table

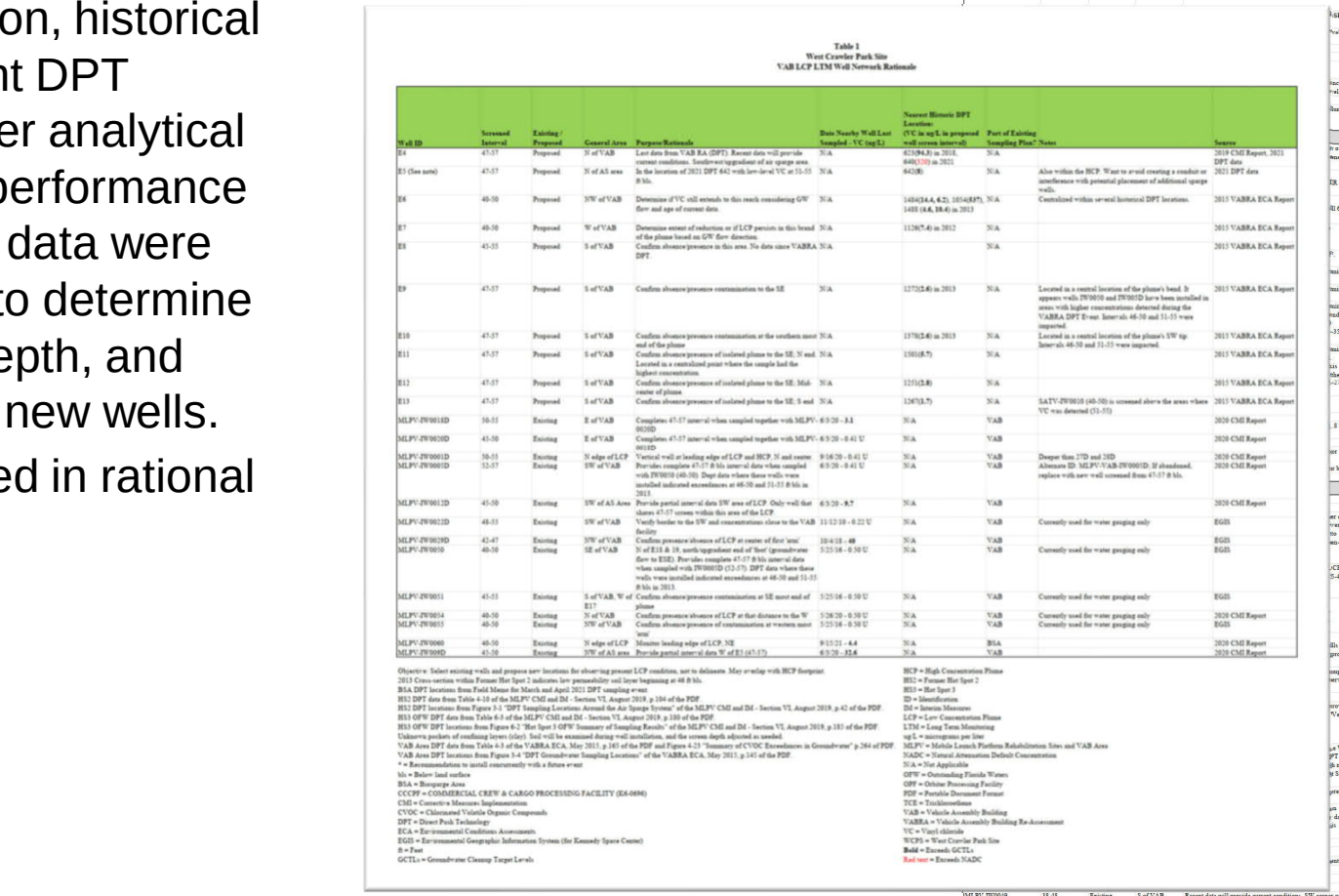


Table 1
West Crawler Park Site
VAB LCP LTM Well Network Rationale

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose/Rationale	Date Nearby Well Last Sampled - VC (ug/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
E4	47-57	Proposed	N of VAB	Last data from VAB RA (DPT). Recent data will provide current conditions. Southwest upgradient of air sparge area.	N/A	6250(94.J) in 2018, 640(320) in 2021	N/A		2019 CMI Report, 2021 DPT data
E5 (See note)	47-57	Proposed	N of AS area	In the location of 2021 DPT 642 with low-level VC at 51-55 ft bls.	N/A	642(8)	N/A	Also within the HCP. Want to avoid creating a conduit or interference with potential placement of additional sparge wells.	2021 DPT data
E6	40-50	Proposed	NW of VAB	Determine if VC still extends to this reach considering GW flow and age of current data.	N/A	1454(14.4, 6.2), 1054(857), 1488 (4.6, 10.4) in 2013	N/A	Centralized within several historical DPT locations.	2015 VABRA ECA Report
E7	40-50	Proposed	W of VAB	Determine extent of reduction or if LCP persists in this bend of the plume based on GW flow direction.	N/A	1126(7.4) in 2012	N/A		2015 VABRA ECA Report
E8	45-55	Proposed	S of VAB	Confirm absence/presence in this area. No data since VABRA DPT.	N/A		N/A		2015 VABRA ECA Report
E9	47-57	Proposed	S of VAB	Confirm absence/presence contamination to the SE	N/A	1272(2.6) in 2013	N/A	Located in a central location of the plume's bend. It appears wells IW9010 and IW905D have been installed in areas with higher concentrations detected during the VABRA DPT E-ser. Intervals 46-50 and 51-55 were impacted.	2015 VABRA ECA Report
E10	47-57	Proposed	S of VAB	Confirm absence/presence contamination at the southern most end of the plume	N/A	1378(2.6) in 2013	N/A	Located in a central location of the plume's SW tip. Intervals 46-50 and 51-55 were impacted.	2015 VABRA ECA Report
E11	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE. N and S Located in a centralized point where the sample had the highest concentration.	N/A	1501(8.7)	N/A		2015 VABRA ECA Report
E12	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE. Mid-center of plume.	N/A	1251(2.8)	N/A		2015 VABRA ECA Report
E13	47-57	Proposed	S of VAB	Confirm absence/presence of isolated plume to the SE. S end	N/A	1267(2.7)	N/A	SATV-IW9010 (40-50) is screened above the areas where VC was detected (51-55)	2015 VABRA ECA Report
MLPV-IW0018D	50-55	Existing	E of VAB	Complete 47-57 interval when sampled together with MLPV-0020D	6/3/20 - 3.1	N/A	VAB		2020 CMI Report
MLPV-IW0020D	45-50	Existing	E of VAB	Complete 47-57 interval when sampled together with MLPV-0018D	6/3/20 - 0.41 U	N/A	VAB		2020 CMI Report
MLPV-IW0001D	50-55	Existing	N edge of LCP	Vertical well at leading edge of LCP and HCP. N and center.	9/16/20 - 0.41 U	N/A	VAB	Deeper than 27D and 28D	2020 CMI Report
MLPV-IW0001D	52-57	Existing	SW of VAB	Provides complete 47-57 ft bls interval data when sampled with IW0001D (40-50). Dept data where these wells were installed indicated exceedances at 46-50 and 51-55 ft bls in 2013.	6/3/20 - 0.41 U	N/A	VAB	Alternate ID: MLPV-VAB-IW0001D. If abandoned, replace with new well screened from 47-57 ft bls.	2020 CMI Report
MLPV-IW0012D	45-50	Existing	SW of AS Area	Provide partial interval data SW area of LCP. Only well that shares 47-57 screen within this area of the LCP.	6/3/20 - 9.7	N/A	VAB		2020 CMI Report
MLPV-IW0022D	48-53	Existing	SW of VAB	Verify border to the SW and concentrations close to the VAB facility	11/12/10 - 0.22 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0029D	42-47	Existing	NW of VAB	Confirm presence absence of LCP at center of first 'arm'	10/4/18 - 40	N/A	VAB		EGIS
MLPV-IW0010	40-50	Existing	SE of VAB	N of E18 & 19, north/upgradient end of 'feet' (groundwater flow to ESE). Provides complete 47-57 ft bls interval data when sampled with IW0001D (52-57). DPT data where these wells were installed indicated exceedances at 46-50 and 51-55 ft bls in 2013.	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0051	45-55	Existing	S of VAB. W of E17	Confirm absence/presence contamination at SE most end of plume	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0054	40-50	Existing	N of VAB	Confirm presence absence of LCP at that distance to the W	5/26/20 - 0.50 U	N/A	VAB	Currently used for water gauging only	2020 CMI Report
MLPV-IW0055	40-50	Existing	NW of VAB	Confirm absence/presence of contamination at western most area	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging only	EGIS
MLPV-IW0060	40-50	Existing	N edge of LCP	Monitor leading edge of LCP. NE	9/15/21 - 4.4	N/A	BSA		2020 CMI Report
MLPV-IW009D	41-50	Existing	NW of AS area	Provide partial interval data W of E1 (47-57)	6/3/20 - 32.6	N/A	VAB		2020 CMI Report

Objective: Select existing wells and propose new locations for observing present LCP condition, not to delineate. May overlap with HCP footprint.
2013 Cross-section within Former Hot Spot 2 indicates low permeability soil layer beginning at 46 ft bls.
BSA DPT locations from Field Memo for March and April 2021 DPT sampling event.
HS2 DPT data from Table 4-10 of the MLPV CMI and IM - Section VI, August 2019, p 104 of the PDF.
HS2 DPT locations from Figure 3-1 "DPT Sampling Locations Around the Air Sparge System" of the MLPV CMI and IM - Section VI, August 2019, p 42 of the PDF.
HS3 OFW DPT data from Table 6-3 of the MLPV CMI and IM - Section VI, August 2019, p 180 of the PDF.
HS3 OFW DPT locations from Figure 6-2 "Hot Spot 3 OFW Summary of Sampling Results" of the MLPV CMI and IM - Section VI, August 2019, p 183 of the PDF.
Unknown pockets of confining layers (clay). Soil will be examined during well installation, and the screen depth adjusted as needed.
VAB Area DPT data from Table 6-3 of the VABRA ECA, May 2013, p 165 of the PDF and Figure 4-23 "Summary of CVOC Exceedances in Groundwater" p 264 of PDF
VAB Area DPT locations from Figure 3-4 "DPT Groundwater Sampling Locations" of the VABRA ECA, May 2013, p 145 of the PDF.
* = Recommendation to install concurrently with a future event
bls = Below land surface
BSA = Biosparge Area
CCCPF = COMMERCIAL CREW & CARGO PROCESSING FACILITY (KSC-0696)
CMI = Corrective Measures Implementation
CVOC = Chlorinated Volatile Organic Compounds
DPT = Direct Push Technology
ECA = Environmental Conditions Assessments
EGIS = Environmental Geographic Information System (for Kennedy Space Center)
ft = Feet
GCTLs = Groundwater Cleanup Target Levels

HCP = High Concentration Plume
HS2 = Former Hot Spot 2
HS3 = Hot Spot 3
ID = Identification
IM = Interim Measures
LCP = Low Concentration Plume
LTM = Long Term Monitoring
ug/L = micrograms per liter
MLPV = Mobile Launch Platform Rehabilitation Sites and VAB Area
NADC = Natural Attenuation Default Concentration
N/A = Not Applicable
OFW = Outstanding Florida Waters
OPF = Orbiter Processing Facility
PDF = Portable Document Format
TCE = Trichloroethene
VAB = Vehicle Assembly Building
VABRA = Vehicle Assembly Building Re-Assessment
VC = Vinyl chloride
WCPS = West Crawler Park Site
Bold = Exceeds GCTLs
Red text = Exceeds NADC

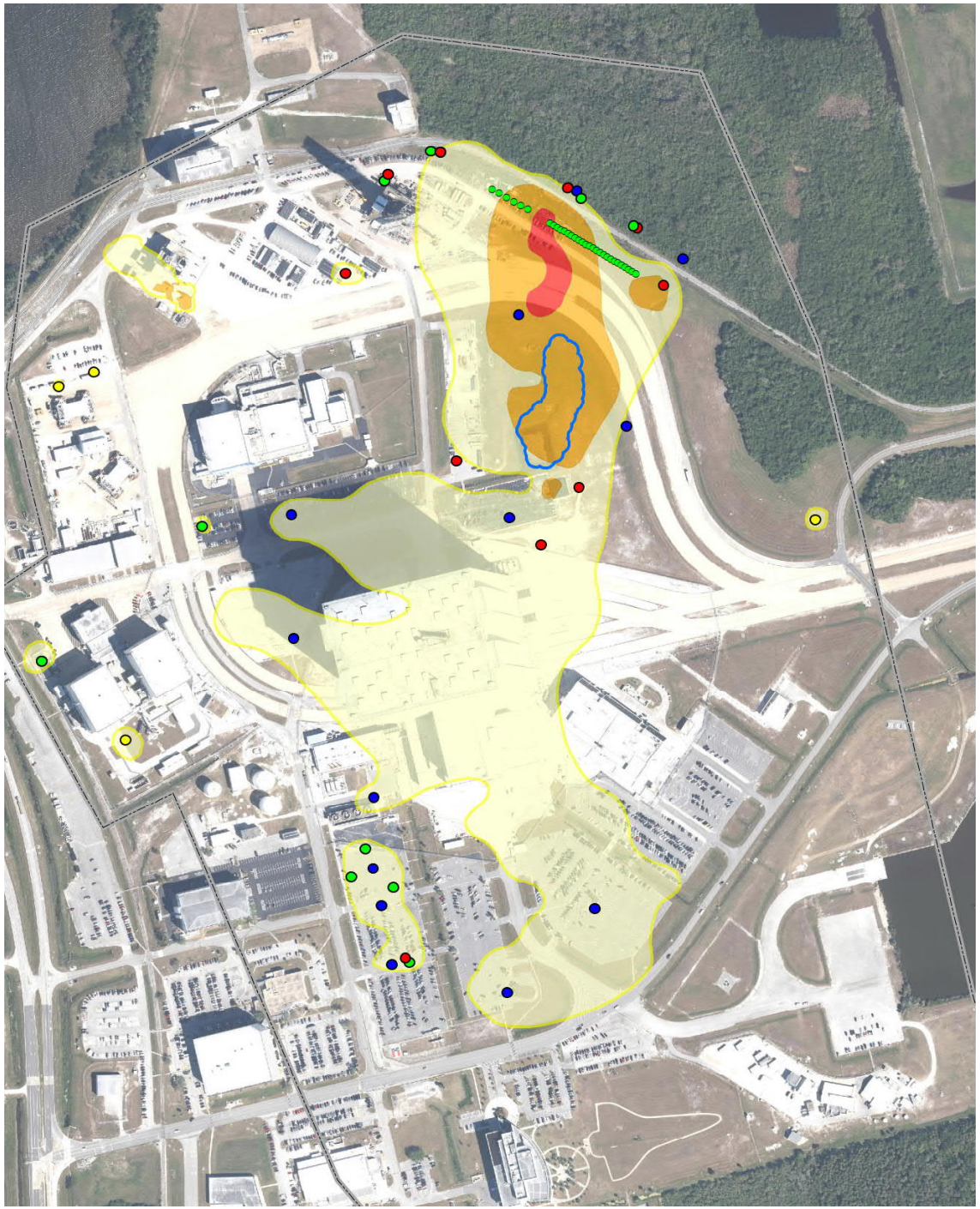
Table 1
West Crawler Park Site
VAB LCP LTM Well Network Rationale

Well ID	Screened Interval	Existing / Proposed	General Area	Purpose/Rationale	Date Nearby Well Last Sampled - VC (ug/L)	Nearest Historic DPT Location: (VC in ug/L in proposed well screen interval)	Part of Existing Sampling Plan?	Notes	Source
WCPS									
B1: (WCPS-IW0002 SRR)	3-13	Proposed	WCPS	Replace IW0002SR, monitor E of 1SR	10/31/05 - 0.5 U (original IW0002SR)	N/A	No	Move rock to locate or confirm destroyed zone before replacing. Observed the location for 2SR is different in EGIS from current report figure. Will verify location in the field before changing figures.	2020 CMI Report, 2015 VABRA ECA Report
B2	8-18	Proposed	WCPS	Tighten distance between downgradient well 1SR and 1SR; may eliminate of 1SR is determined sufficient	N/A	1105	N/A	Eliminated. 1SS is sufficient	2020 CMI Report
B3	15-25	Proposed	WCPS	Deeper interval well, downgradient of original source well IW0016	N/A	N/A	N/A		2020 CMI Report
WCPS-IW0001 SR	2.5-12.5	Existing	WCPS	Highest concentrations	9/14/20 - 84.3	1475	VAB		2020 CMI Report
WCPS-IW0005 S	2-12	Existing	WCPS	Monitor to the W of 1SR	9/14/20 - 0.41U	N/A	No		2020 CMI Report
WCPS-IW0006 S	3-13	Existing	WCPS	Monitor to the NE of 1SR	6/3/20 - 0.41U	N/A	VAB	Eliminated. 5S is sufficient. Can be added later if groundwater flow variation determines necessary.	2020 CMI Report
WCPS-IW0015 S	5-15	Existing	WCPS	Downgradient - Eliminate from main sampling event since installing new well. Sample only if detections in new well.	9/14/20 - 0.41U	N/A	VAB	Currently used for water gauging only	2020 CMI Report
WCPS-IW0016 S	15-25	Existing	WCPS	Vertical evaluation	6/3/20 - 0.50 I	N/A	VAB		2020 CMI Report
1 to 20 Feet Bls									
A1	1-10	Proposed	South side of OPF	Recent data will determine if this isolated LCP is still present	N/A	1127 (2.0 @ 6-10 ft bls)	N/A		2015 VABRA ECA Report
B1: WCPS-IW0002 SRR	3-13	Proposed	WCPS	Replace IW0002SR, monitor E of 1SR	10/31/05 - 0.5 U (original IW0002SR)	N/A	N/A	Move rock to locate or confirm destroyed zone before replacing. Observed the location for 2SR is different in EGIS from current report figure. Will verify location in the field before changing figures.	2020 CMI Report
[illegible]SR;	N/A					1105	N/A	Eliminated. 1SS is sufficient	2020 CMI Report
[illegible]Well	N/A					N/A	N/A		2020 CMI Report
					9/14/20 - 84.3	1475	VAB		2020 CMI Report
					9/14/20 - 0.41U	N/A	No		2020 CMI Report
					6/3/20 - 0.41U	N/A	VAB	Eliminated. 5S is sufficient. Can be added later if groundwater flow variation determines necessary.	2020 CMI Report
[illegible]ance [illegible]Well.					9/14/20 - 0.41U	N/A	VAB	Currently used for water gauging only	2020 CMI Report
					6/3/20 - 0.50 I	N/A	VAB		2020 CMI Report
[illegible]ffume	N/A					1234 (TCE, 3.8) 18-22	N/A		2015 VABRA ECA Report
20 to 35 Feet Bls									
[illegible]n of [illegible]ased 28-	N/A					1207 (2.7), 1205 (1.0)	N/A	Install C1, C2 & C3 concurrently with BSA optimization; no detections in these DPT locations from 26-30 ft bls; however, detections and exceedances from 26-35 ft bls.	2015 VABRA ECA Report
ER	N/A					No DPT data in this area	N/A	Install C1, C2 & C3 concurrently with BSA optimization; Installation will depend on accessibility - clearing and dry conditions.	2021 DPT Data, 2020 CMI Report
ll 6 ft	N/A					No DPT data in this area	N/A	Install C1, C2 & C3 concurrently with BSA optimization; Installation will depend on accessibility - clearing and dry conditions.	2021 DPT Data, 2020 CMI Report
	5/17/2010 - 0.16 U (original +well)					N/A	N/A		EGIS
P:	N/A					1101 (1.5)	N/A		2015 VABRA ECA Report
[illegible]mine if [illegible]ed.	N/A					1257 (TCE 3.8)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
[illegible]mine if [illegible]ed.	N/A					1498 (TCE 3.8)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
[illegible]mine if [illegible]ed. -35 ft	N/A					1523 (TCE 3.6)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
[illegible]mine if [illegible]ed. [illegible]ss [illegible]the [illegible]-23')	N/A					1526 (DCE 90.3), 1251 (DCE 84.8)	N/A	Groundwater flow in this area is SE	2015 VABRA ECA Report
	N/A					1050 (TCE 9.2 @ 20-30 ft bls)	N/A		2015 VABRA ECA Report
.8 VC	9/15/21 - 1.8 11/8/16 - 0.50 U					N/A N/A	BSA VAB	Currently used for water gauging only	2021 Data EGIS
[illegible]ter [illegible]r being	9/15/21 - -2.3 6/3/20 - 0.72 I					N/A 613 (2.1)	BSA VAB	Likely residual	2021 Data EGIS, 2018 CMI Report, 2020 CMI Report
35 to 48 Feet Bls									
	9/15/21 - 926 9/15/21 - 0.41 U					N/A N/A	BSA BSA		2021 Data 2021 Data
[illegible]ter of [illegible]ver, [illegible]no [illegible]ent-	N/A					1210 (1.5, 1.6) 36-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
[illegible]CP 5-45 ft	N/A					1207 (10.0), 1203 (1.6), 705 (35, 8) 31-45 ft bls.	N/A	Highest detection at 36-40 ft bls, no recent data past 41-45 ft bls. Alternate location proposed. Other side of the railroad tracks. Install D2 concurrently with BSA optimization	2015 VABRA ECA Report
	N/A					no DPT data in this area, upgradient 631 (37, 270) 35-45 ft bls	N/A	Install D2, D3, D4 & D5 concurrently with BSA optimization; Installation will depend on accessibility - clearing and dry conditions.	2015 VABRA ECA Report
[illegible]ills - [illegible]provide [illegible]amples [illegible]ional	N/A					no DPT data in this area	N/A	Install D2, D3, D4 & D5 concurrently with BSA optimization; Installation will depend on accessibility - clearing and dry conditions.	2015 VABRA ECA Report
	N/A					707 (240), 708 (9, 7) 36-45 ft bls.	N/A	Install D2, D3, D4 & D5 concurrently with BSA optimization	2015 VABRA ECA Report 2021 Data
[illegible]provide [illegible]Verify	N/A						N/A		2015 VABRA ECA Report
						535 (17.2, 39.9)	N/A	Detections were reported at shallower intervals at 535 (from 2010) however downgradient locations 604, 623, and 617 were sampled in 2018 indicated no exceedances/detections at this interval. Assumed attenuated, therefore focused on 35-45 ft bls interval.	2015 VABRA ECA Report
[illegible]ge W; [illegible]PT [illegible]th no [illegible]d S of	N/A					1058 (29.6) 41-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
[illegible]present	N/A					1480 (1.9), 1220 (TCE 5.7) 41-45 ft bls	N/A	Non-detect below 45 ft bls	2015 VABRA ECA Report
[illegible]un [illegible] data [illegible]ais	N/A					1247 (TCE) 6, 4.6) 36-45 ft bls.	N/A		2015 VABRA ECA Report
	9/13/21 - 0.41 U					N/A	HS2		2021 Data
	5/26/16 - 0.50 U					N/A	VAB		EGIS
[illegible]ast of	8/19/14 - 3.2					N/A	VAB	Currently used for water gauging only	EGIS
	10/28/05 - 0.50 U					N/A	VAB	Currently used for water gauging only	EGIS
	9/15/21 - 10					N/A	BSA		2021 Data
	6/2/20 - 0.56 I					N/A	VAB	Currently used for water gauging only	
MLPV-IW0049	38-48	Existing	S of VAB	Recent data will provide current conditions. SW corner of VAB. May help tighten LCP boundary.	5/26/16 - 0.50 U	N/A	VAB	Currently used for water gauging. Sample if D7 (new+ well to the NE) returns noteworthy exceedances.	EGIS
MLPV-IW0056	30-40	Existing	S of VAB	Recent data will provide current conditions. SE corner of VAB. May help tighten LCP boundary.	5/25/16 - 0.50 U	N/A	VAB	Currently used for water gauging. Sample if D7 (new+ well to the N) returns noteworthy exceedances.	EGIS
SAMW0003	43-48	Existing	NE of VAB	Adjacent to IW0014(35-40). SAMW0003 provides data from 43-48. Together, they provide data from 35-45. Eliminates need for a new well in this location	6/3/20 - 3.3	N/A	VAB		2020 CMI and IM Report
47 to 57 Feet Bls									
E1*	47-57	Proposed	N edge of LCP	Leading edge of LCP, downgradient HCP, N and center. Screen 47-57 based on 2013 cross-section. Up-gradient detections at 45-50 in IW0009D and 50-55 in IW0001D (1D resampled in 2020 and not >GCTL). DPT is greater than NADC in 2021 from 41-49 ft bls.	N/A	631 (180) @45-49	N/A		2021 DPT data
E2*	47-57	Proposed	NE edge of LCP	Monitor leading edge of LCP, NE, downgradient of 2021 DPT samples	N/A	708(200), 707(18), 706(850)	N/A		2021 DPT data
E3	47-57	Proposed	N of VAB	Confirm presence or absence to the E. 2021 DPT data indicated Low+ VC below 47 ft bls.	N/A	638(48)@45-49	N/A		2021 DPT data

LCP LTM

Monitoring Well Network Evaluation

- An evaluation of the GCTL plume indicated 39 new wells are needed for determining the current condition of the GCTL plume site-wide.
- Installed planned for the fall of 2022
- Ten-foot well screens will monitor the following intervals:
  - 1 to 25
  - 20 to 35
  - 35 to 45
  - 40 to 57
- The site layout has changed from recent construction activities. Additional stormwater systems have been constructed and ground elevation modified. A number of wells will be repaired, and wells impacted by limited access will be relocated.



- 1 to 25 feet bls: 1 to 10, 3 to 13, and 15 to 25 feet bls
- 20 to 35 feet bls : 20 to 30, 28 to 33, and 25 to 35 feet bls
- 35 to 45 feet bls
- 40 to 57 feet bls : 40 to 50, 45 to 55, and 47 to 57 feet bls

LCP LTM

Proposed Wells in the WCPS Area
2 to 25 feet bls

- 2 proposed wells: B1 and B3
- Add two wells to the LTM plan: WCPS-IW0015S and WCPS-IW0005S
- Sample two existing wells

Legend

- Shallow Monitoring Well Location {screen interval}
- Groundwater Flow Direction
- Composite GCTL Isocontour (2012-2019 Data)
- Proposed LCP LTM Well Location
- Eliminated Proposed LCP LTM Well Location
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan

	TCE	cDCE	tDCE	VC
	TRICHLOROETHENE	CIS-1,2-DICHLOROETHENE	TRANS-1,2-DICHLOROETHENE	VINYL CHLORIDE
GCTL	3	70	100	1
NADC	300	700	1000	100

LCP LTM

Proposed Wells - 1 to 25 feet bls

- Four proposed wells: A1, B1, B3, Z1
- Add two wells to the LTM plan: WCPS-IW0015S and WCPS-IW0005S
- Sample two existing wells
- Existing wells not present near A1 and Z1

Legend

- Shallow Monitoring Well Location {screen interval}
- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Proposed LCP LTM Monitoring Well Location
- Eliminated Proposed LCP LTM Monitoring
- Biosparge Well Location
- Equipment Building
- Groundwater Flow Direction
- Composite GCTL Isocontour (2012-2021 Data)

LCP LTM

Proposed Wells - 20 to 35 feet bls

- Ten proposed wells: C1 through C10
- Add one well to the LTM plan: MLPV-IW0027I
- Sample five existing wells

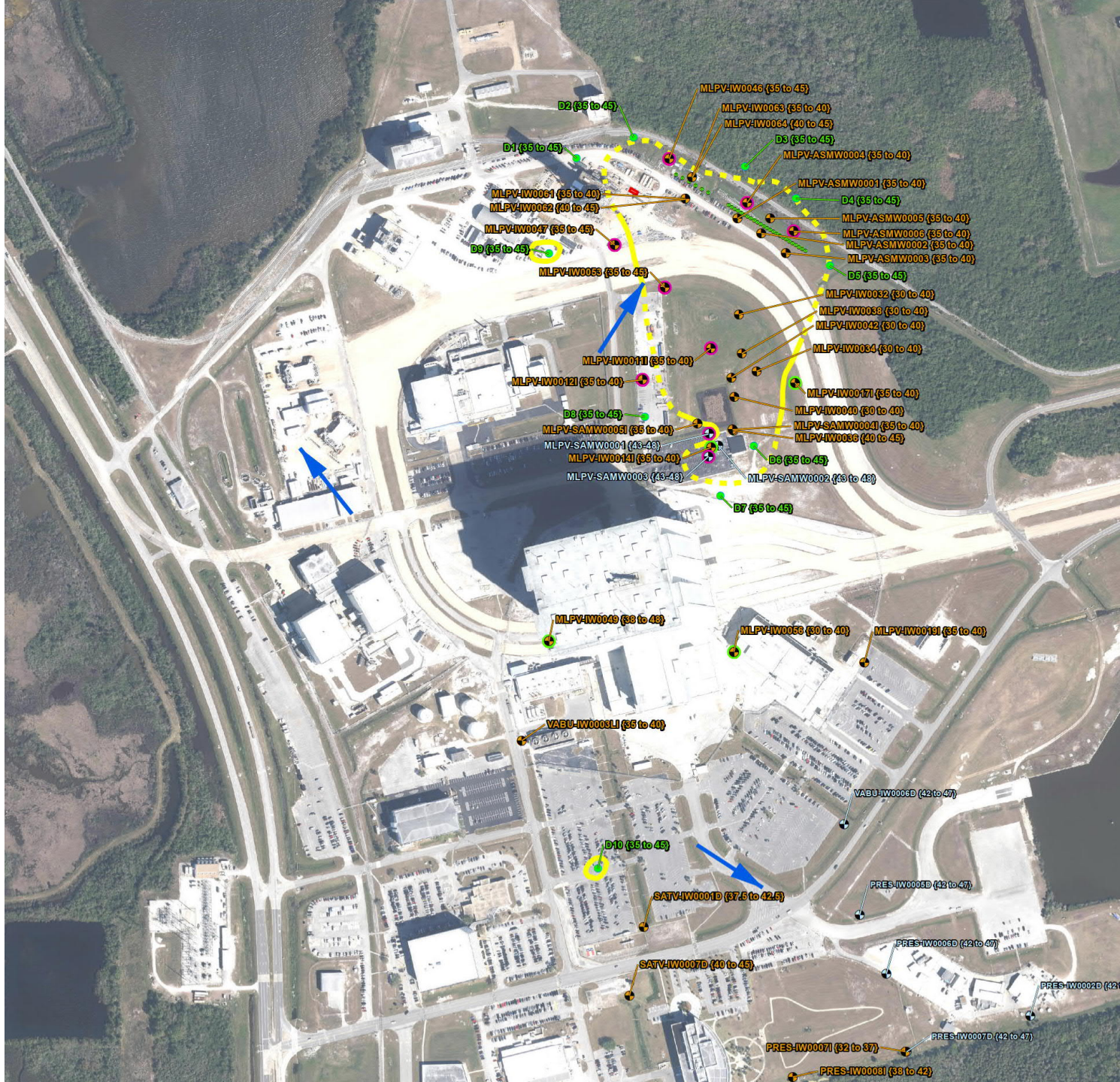
Legend

- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Proposed LCP LTM Monitoring Well Location
- Groundwater Flow Direction
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)

LCP LTM

Proposed Wells - 35 to 45 feet bls

- Ten proposed wells: D1 through D10
- Add four wells to the LTM plan: MLPV-IW0014I, MLPV-IW0017I, MLPV-IW0049, MLPV-IW0056
- Sample nine existing wells



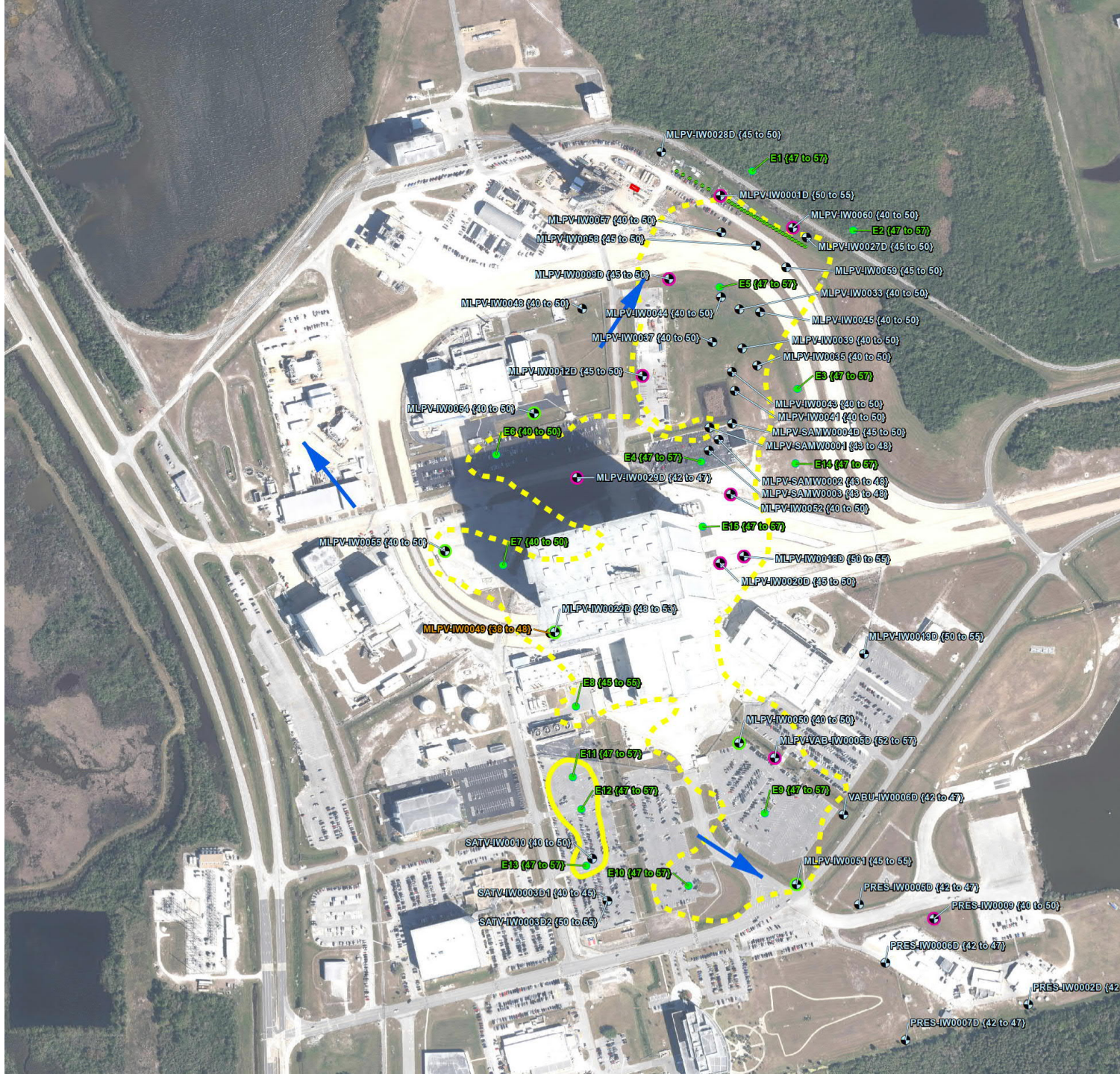
Legend

- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Deep Monitoring Well Location {screen interval}
- Proposed LCP LTM Monitoring Well Location
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)
- Groundwater Flow Direction

LCP LTM

Proposed Wells - 40 to 57 feet bls

- Fifteen proposed wells: E1 through E15
- Add five wells to the LTM plan: MLPV-IW0022D, MLPV-IW0050, MLPV-IW0051, MLPV-IW0054, MLPV-IW0055
- Sample ten existing wells



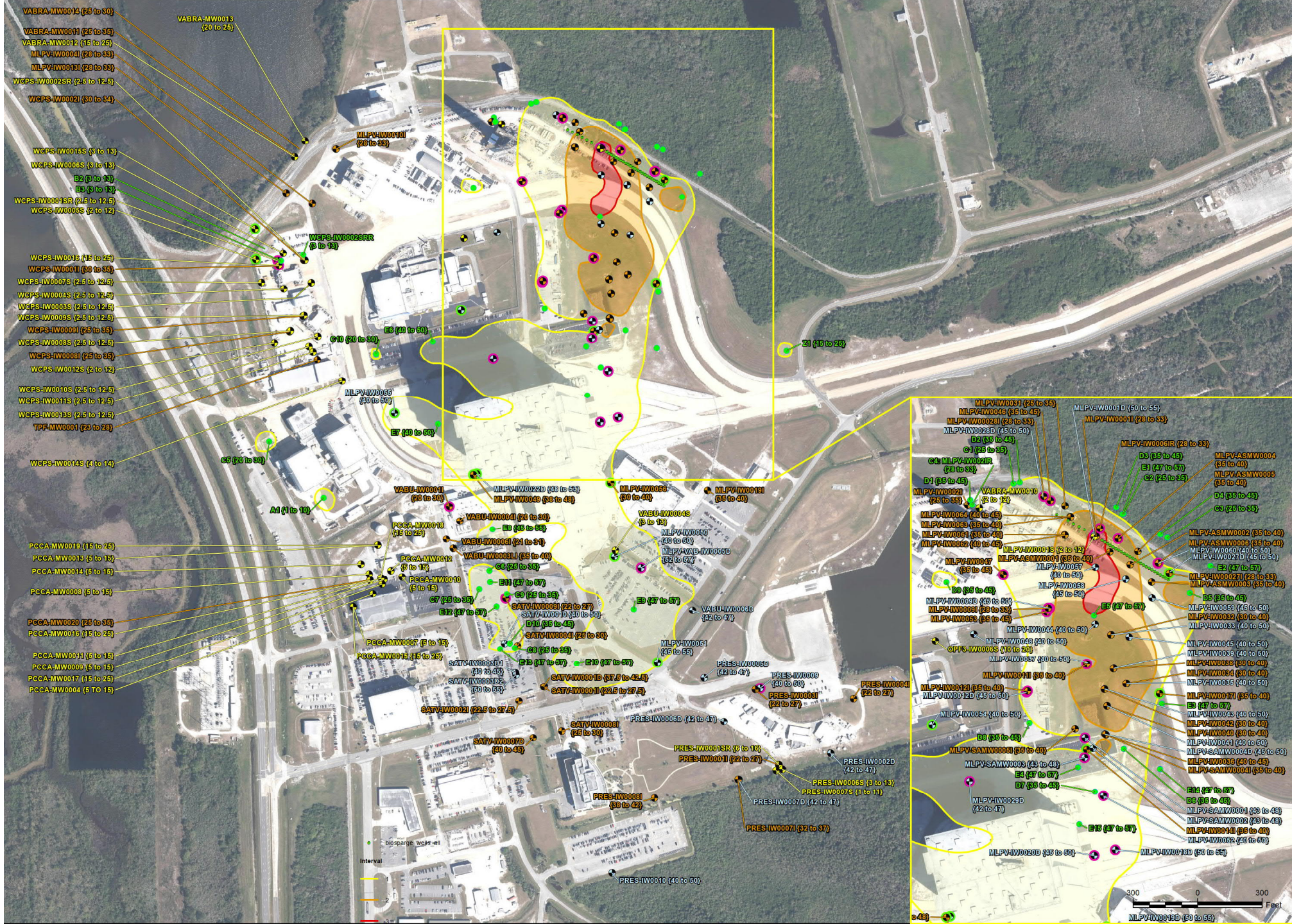
Legend

- Intermediate Monitoring Well Location {screen interval}
- Existing Well Scheduled for Sampling
- Existing Well to be Added to the Sampling Plan
- Deep Monitoring Well Location {screen interval}
- Proposed LCP LTM Monitoring Well Location
- Biosparge Well Location
- Equipment Building
- GCTL Isocontour (2012-2021 Data) (Dashed Where Inferred)
- Groundwater Flow Direction

LCP LTM

Proposed Wells -

All Intervals



LCP LTM

Test Consensus

- Continue LTM on a biennial basis and include additional existing and proposed monitoring wells. The updated network of monitoring wells will provide sufficient data for monitoring the GCTL plume behavior.
  - Based on the LTM evaluation, install 39 proposed monitoring wells in accordance with the rationale table
  - Add 12 existing monitoring wells that are usually used for water gauging only
  - Additional data will be evaluated from wells sampled during Biosparge Area and former Hot Spot 2 Area performance monitoring
  - Installation is scheduled for the Fall of 2022 and will be sampled following installation
  - Construction activities within the Former Hot Spot 2 area may limit where installation will be possible

12 Existing Wells Added to the LTM Plan

Locations	Screen Interval (ft bls)
WCPS-IW0005 S	2-12
WCPS-IW0015 S	3-13
MLPV-IW00027 I	28-33
MLPV-IW0014 I	35-40
MLPV-IW0017 I	35-40
MLPV-IW0049	38-48
MLPV-IW0056	30-40
MLPV-IW0022D	48-55
MLPV-IW0050	40-50
MLPV-IW0051	45-55
MLPV-IW0054	40-50
MLPV-IW0055	40-50

LCP LTM

Test Consensus

Biennial Sampling and Analysis Plan

	Existing/ Proposed	Location	Screen Interval (ft bls)	Sampling method	Analytical Parameters
1	Existing Sampled (19)	MLPV-IW0009D	45 to 50	Low Flow	cDCE tDCE VC
2		MLPV-IW0009I	28 to 33		
3		MLPV-IW0012D	45 to 50		
4		MLPV-IW0018D	50 to 55		
5		MLPV-IW0020D	45 to 50		
6		MLPV-IW0029D	42 to 47		
7		MLPV-IW0047	35 to 45		
8		MLPV-IW0052	40 to 50		
9		MLPV-IW0053	35 to 45		
10		PRES-IW0009	40 to 50		
11		SATV-IW0009I	22 to 27		
12		VAB-IW0005D	52 to 57		
13		VABU-IW0001I	20 to 30		
14		WCPS-IW0001SR	2.5 to 12.5		
15		WCPS-IW0016	15 to 25		
16		MLPV-SAMW0001	43 to 48		
17		MLPV-SAMW0003	43 to 48		
18		MLPV-IW0002I	28 to 33		
19		MLPV-IW0001D	50 to 55		
20	Existing Added (12)	WCPS-IW0005 S	2 to 12		
21		WCPS-IW0015 S	3 to 13		
22		MLPV-IW00027 I	28 to 33		
23		MLPV-IW0014 I	35 to 40		
24		MLPV-IW0017 I	35 to 40		
25		MLPV-IW0049	38 to 48		
26		MLPV-IW0056	30 to 40		
27		MLPV-IW0022D	48 to 55		
28		MLPV-IW0050	40 to 50		
29		MLPV-IW0051	45 to 55		
30		MLPV-IW0054	40 to 50		
31		MLPV-IW0055	40 to 50		

	Existing/ Proposed	Location	Screen Interval (ft bls)	Sampling method	Analytical Parameters
32	Proposed (39)	A1	1 to 10	Low Flow	cDCE tDCE VC
33		B1: WCPS-IW0002 SRR	3 to 13		
34		B3	15 to 25		
35		Z1	15 to 25		
36		C1	25 to 35		
37		C2	25 to 35		
38		C3	25 to 35		
39		C4: MLPV-IW0002 IR	28 to 33		
40		C5	20 to 30		
41		C6	25 to 35		
42		C7	25 to 35		
43		C8	25 to 35		
44		C9	25 to 35		
45		C10	20 to 30		
46		D1	35 to 45		
47		D2	35 to 45		
48		D3	35 to 45		
49		D4	35 to 45		
50		D5	35 to 45		
51		D6	35 to 45		
52		D7	35 to 45		
53		D8	35 to 45		
54		D9	35 to 45		
55		D10	35 to 45		
56		E1	47 to 57		
57		E2	47 to 57		
58		E3	47 to 57		
59		E4	47 to 57		
60		E5	47 to 57		
61		E6	40 to 50		
62		E7	40 to 50		
63		E8	45 to 55		
64		E9	47 to 57		
65		E10	47 to 57		
66		E11	47 to 57		
67		E12	47 to 57		
68		E13	47 to 57		
69		E14	47 to 57		
70		E15	47 to 57		

Thank You

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Background

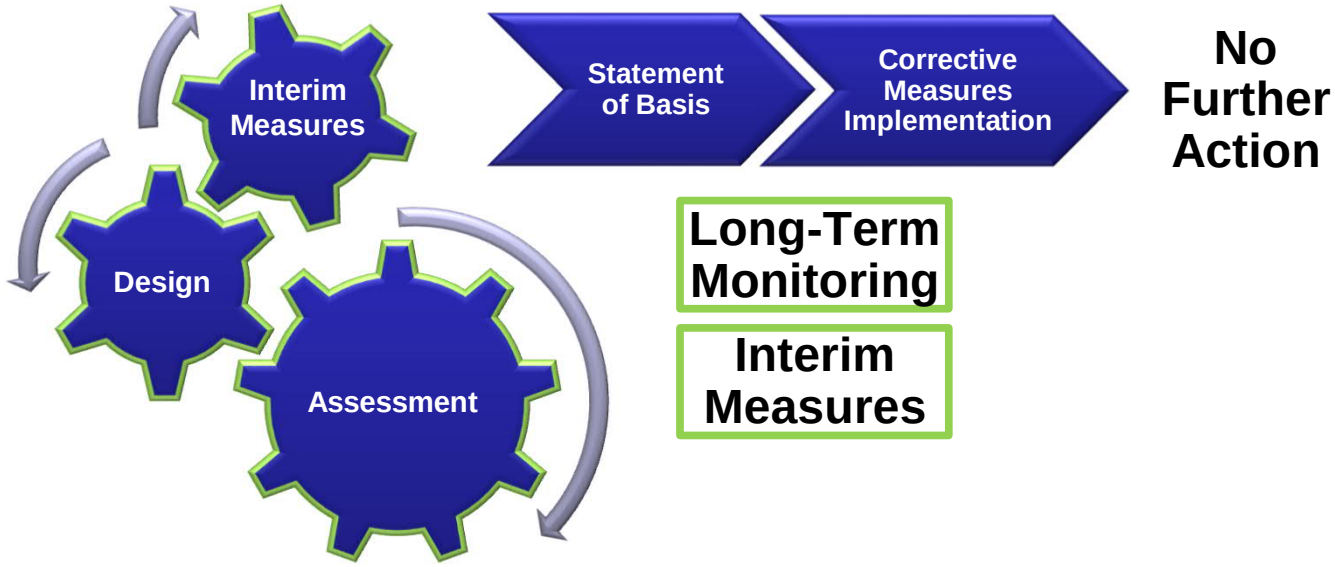
MLP/VAB, SWMU 056 Overview

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

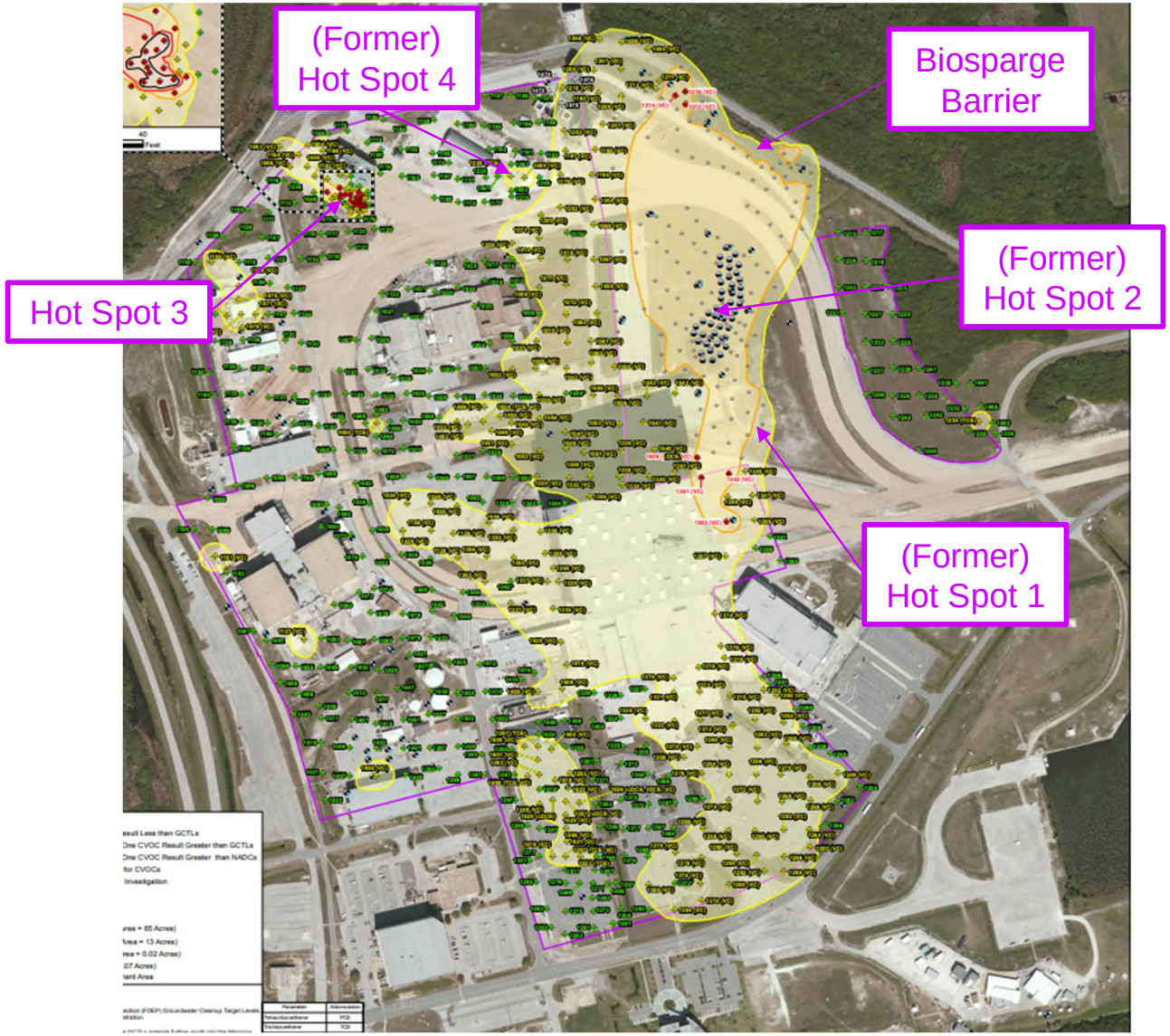


Source: KSC Remediation Program

MLP/VAB, SWMU 056 Overview

Historical Site Assessment

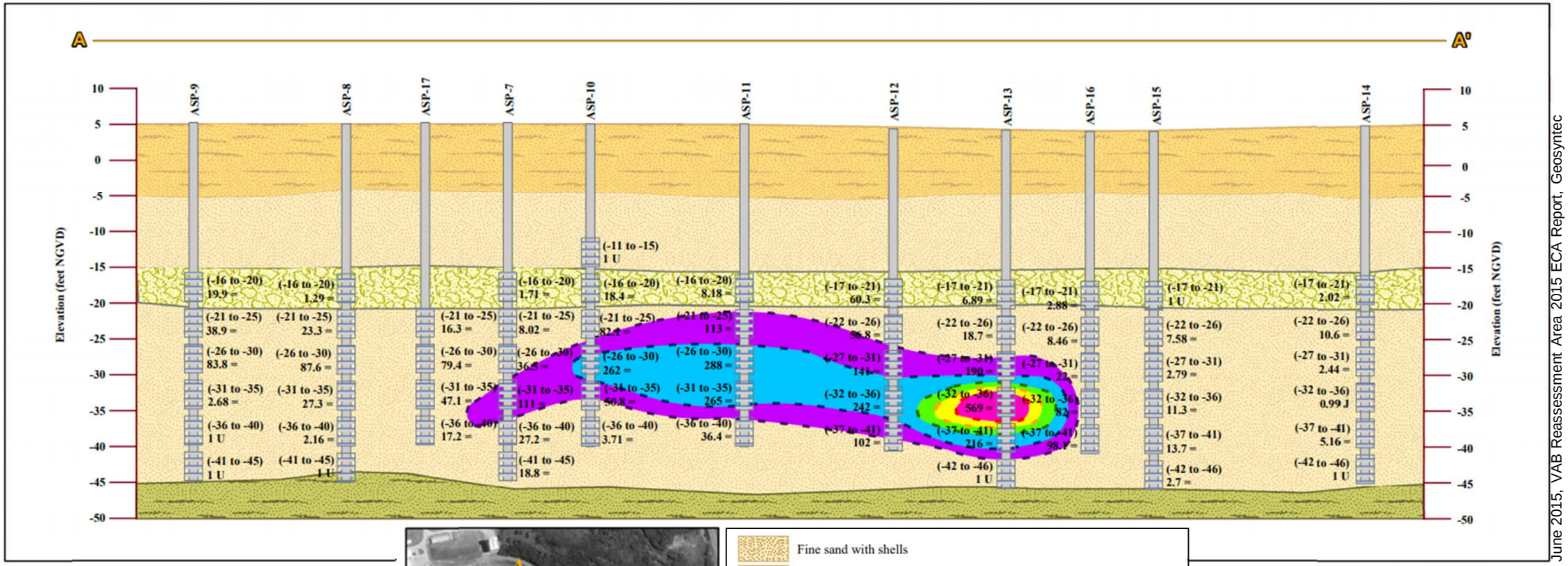
- **1993** Preliminary investigations began focusing on MLP sites
- **1997 through 2014** Multiple actions and phases of assessment and post-RFI/Pre-design activities were performed to include VAB area
  - Delineated soil impacts near East MLP
  - Delineated groundwater plume over 115 acres with expanded footprint of direct push technology (DPT) groundwater sampling in VAB and surrounding area
  - As part of the 2011- 2013 VAB reassessment project
    - 4,922 groundwater samples were collected from 556 locations (100’ matrix)
    - 240 soil samples were collected from 175 locations
  - Soil coring and microcosm studies indicated groundwater amenable to active dechlorination and bioremediation
  - Designated four hot spots (where concentrations are greater than 10x Natural Attenuation Default Concentration [NADC] listed in Chapter 62-777 FAC)



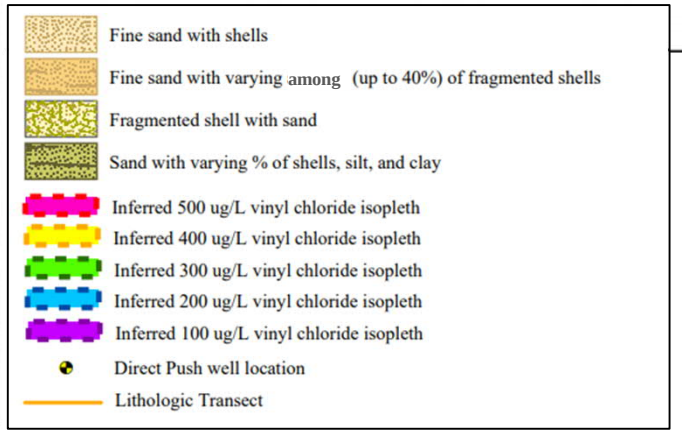
Isopleths based on 2012 & 2013 groundwater data

MLP/VAB, SWMU 056 Overview

Biosparge Barrier Lithology



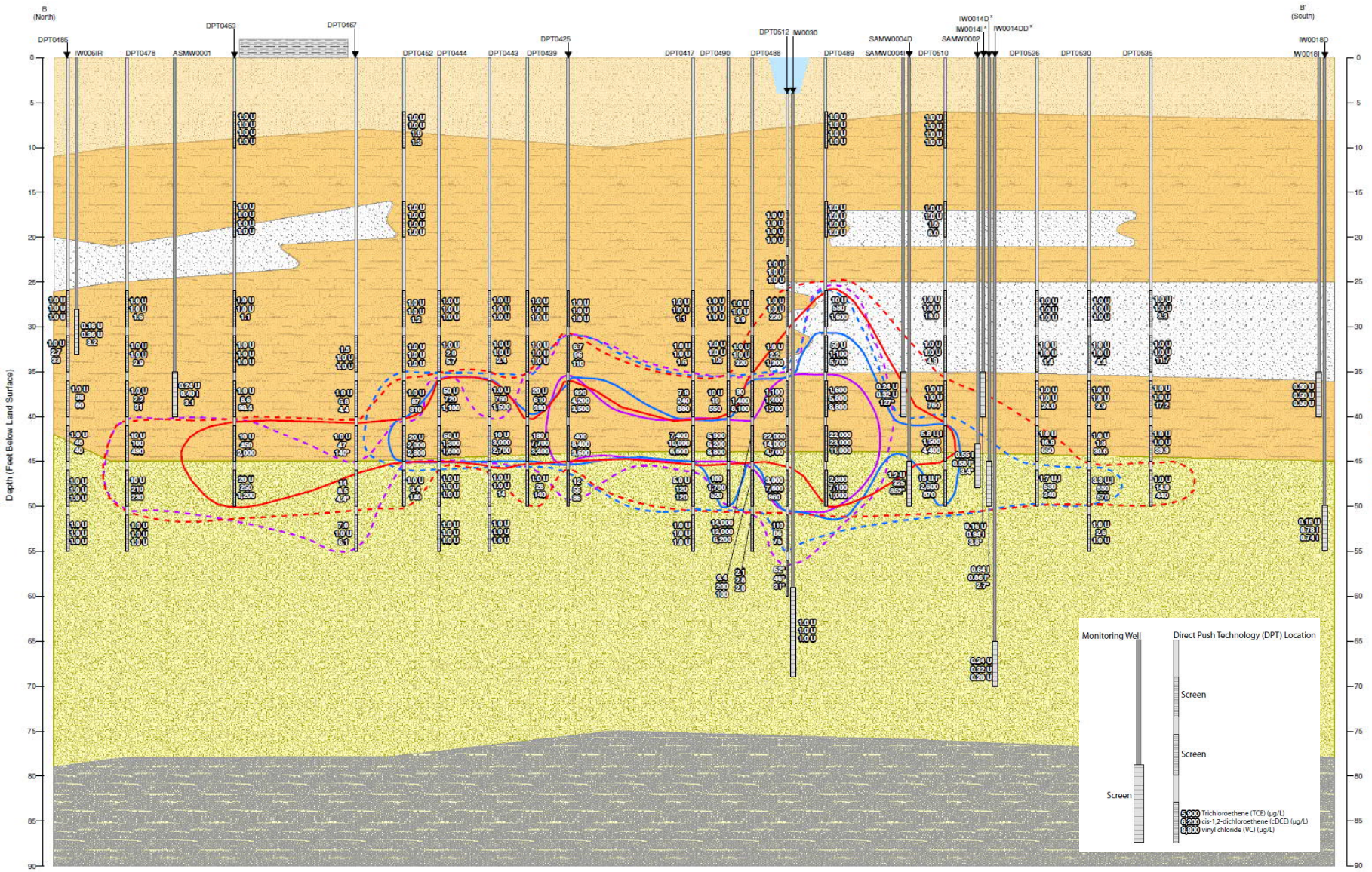
June 2015, VAB Reassessment Area 2015 ECA Report, Geosyntec



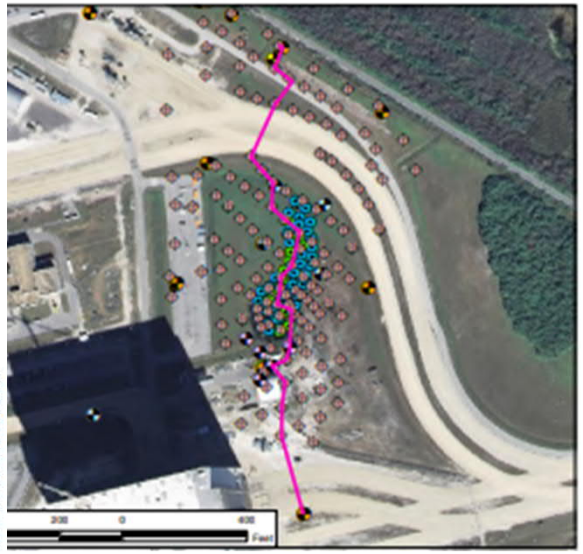
- Delineation Results from VAB Reassessment (2012)
- Vinyl chloride was not detected below the 51 to 55 ft bls direct push drilling sampling interval

MLP/VAB, SWMU 056 Overview

Former Hot Spot 1 Area and Former Hot Spot 2 Area Lithology



Isopleths based upon 2009 and 2010 sampling results



Legend

- Fine SAND with silt
- Fragmented SHELLS wtih sand
- Fine SAND with shell fragments
- SAND with varying % shells, silt with clay
- CLAY with interbedded thin sand lenses
- Retention Pond (approximate location)
- Crawlerway (approximate location)
- 3 µg/L TCE Isopleth
- 300 µg/L TCE Isopleth
- 70 µg/L cDCE Isopleth
- 700 µg/L cDCE Isopleth
- 100 µg/L VC Isopleth
- 1,000 µg/L VC Isopleth
- 1 µg/L VC Isopleth

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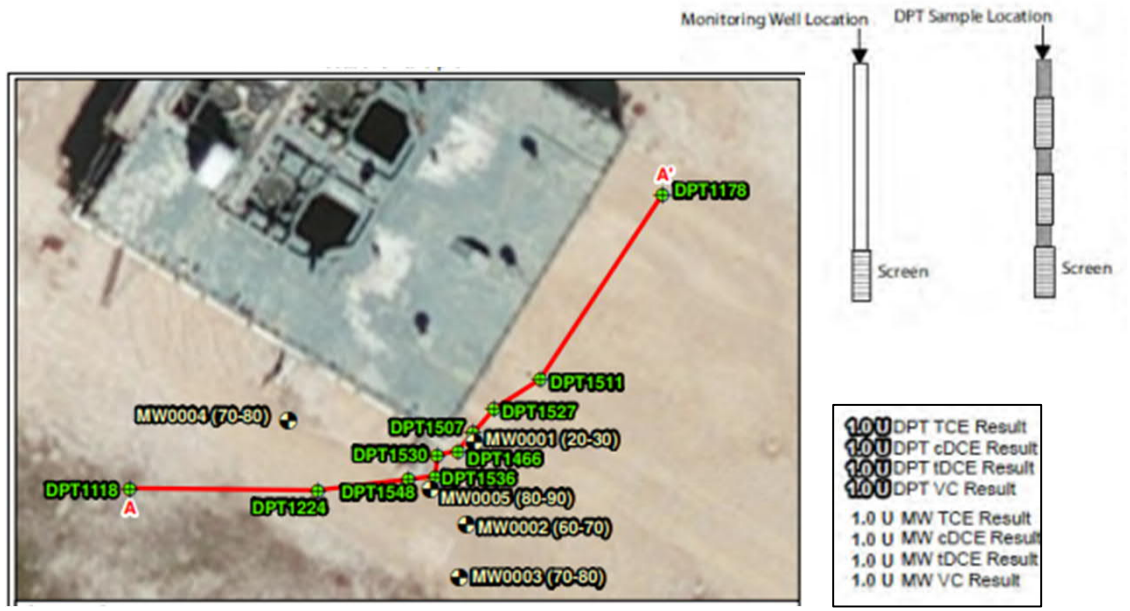
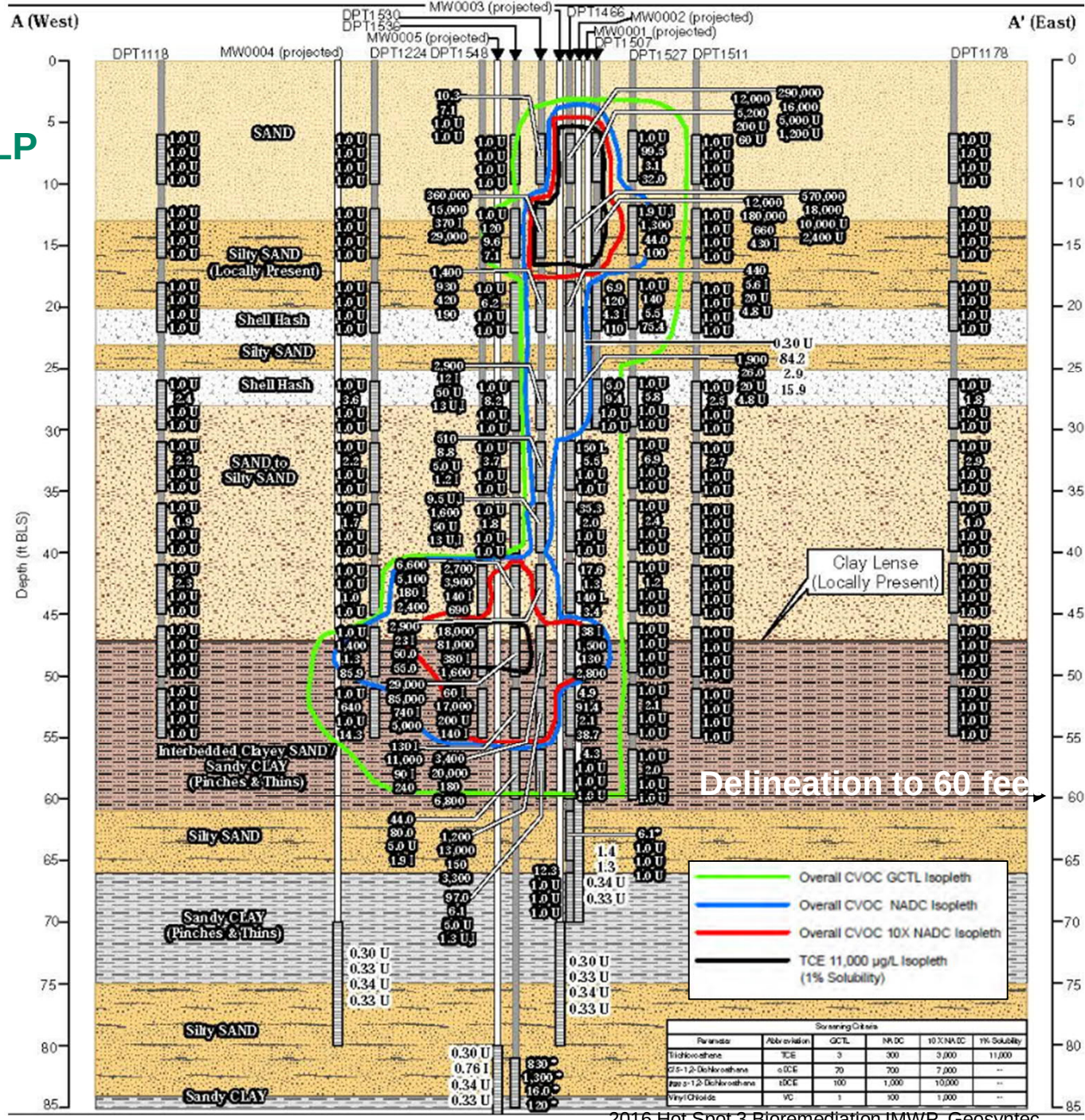
MLP/VAB, SWMU 056 Overview

Hot Spot 3 Area Lithology – SW Corner of West MLP

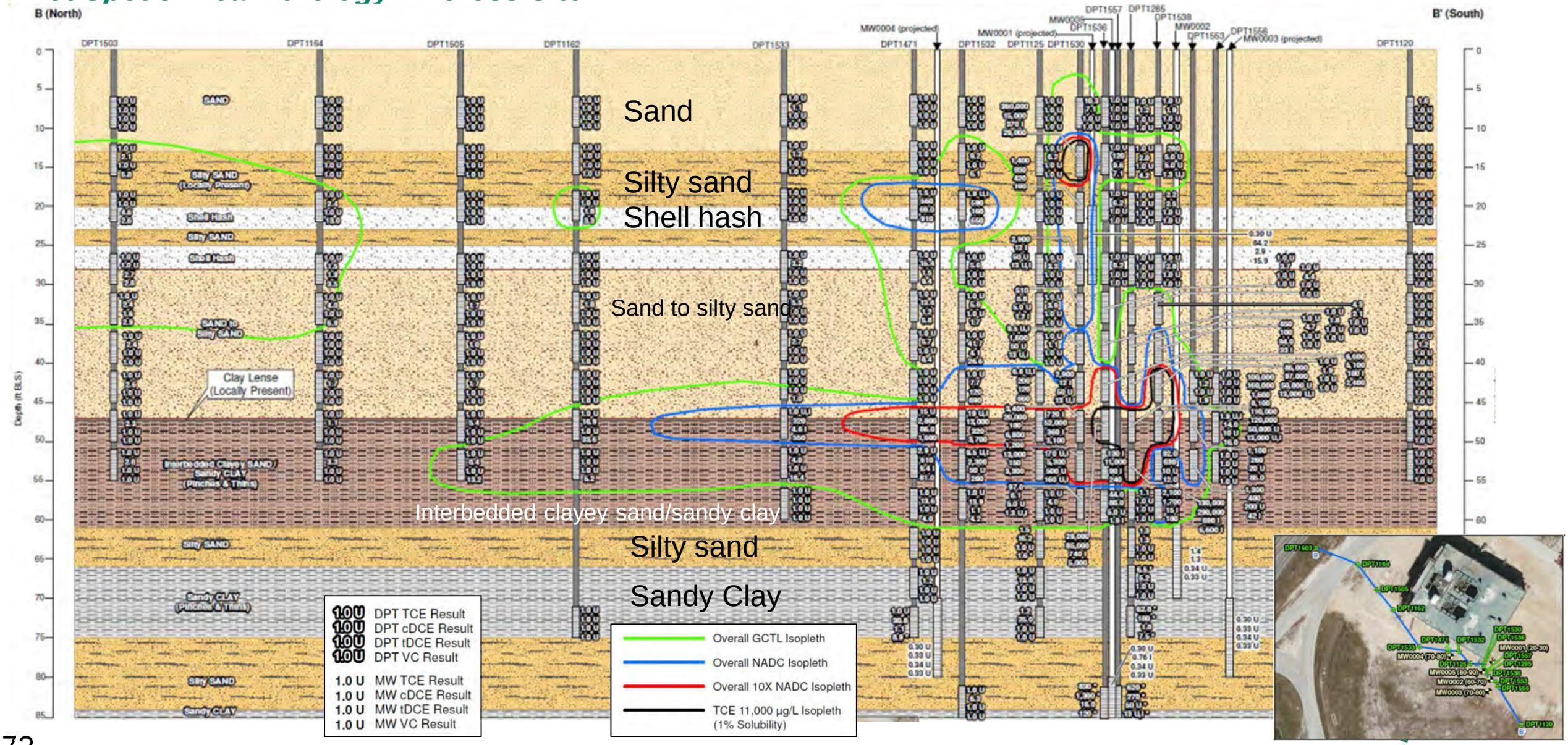
- Overall CVOC delineation following RFI and VAB Reassessment (2012) and Site Characterization (2015)
  - Delineated TCE, cDCE, tDCE, VC both horizontally and vertically
  - GCTLs, NADC, 10xNADC, including TCE Source Zone (SZ) area (1% solubility for TCE [11,000 µg/L])





MLP/VAB, SWMU 056 Overview

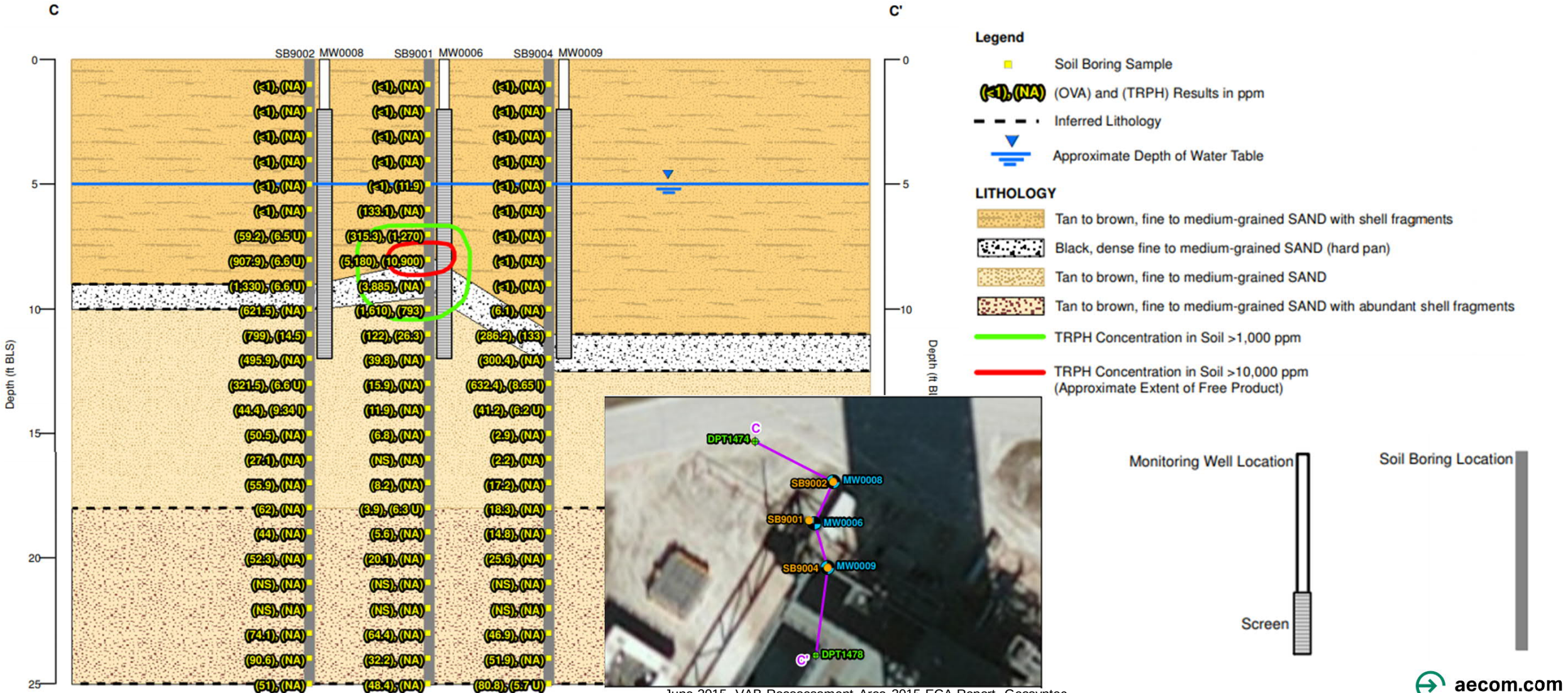
Hot Spot 3 Area Lithology – Across Site



MLP/VAB, SWMU 056 Overview

Hot Spot 4 Lithology

- Delineation Results from VAB Reassessment (2012) – Soil Boring Screening Results



June 2015, VAB Reassessment Area 2015 ECA Report, Geosyntec

MLP/VAB, SWMU 056 Overview

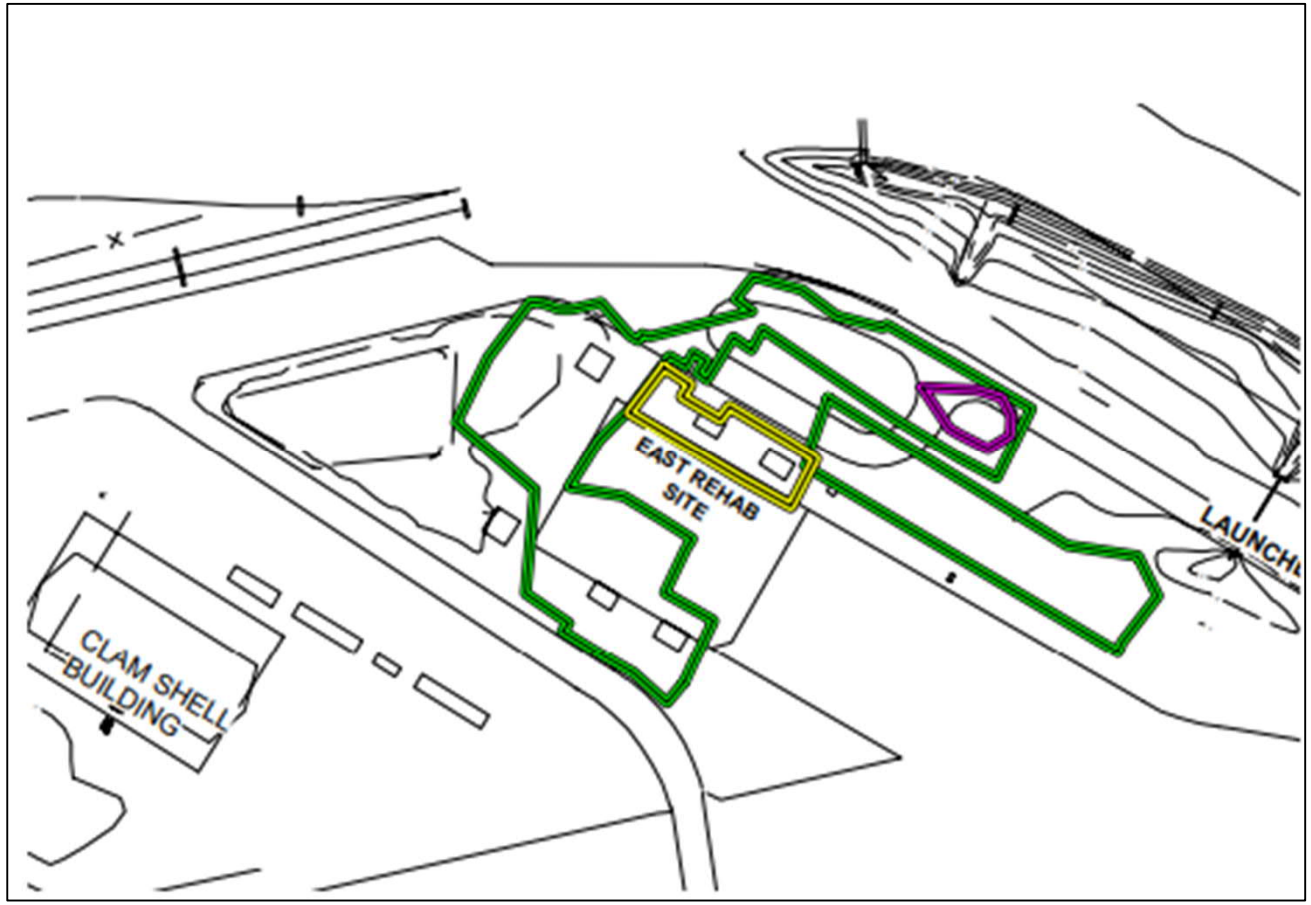
Historical Interim Measures/Remedial Actions

- **1999 and 2000 Interim Measures (IM)** excavated approximately 4,400 cubic yards of PCB and zinc-impacted soils to 1.5 ft bls and to 4.5 ft bls from eastern MLP area (FDEP approved IM Report on December 13, 2000).

PCB 0 to 1.5 ft bls

Zinc 0 to 1.5 ft bls

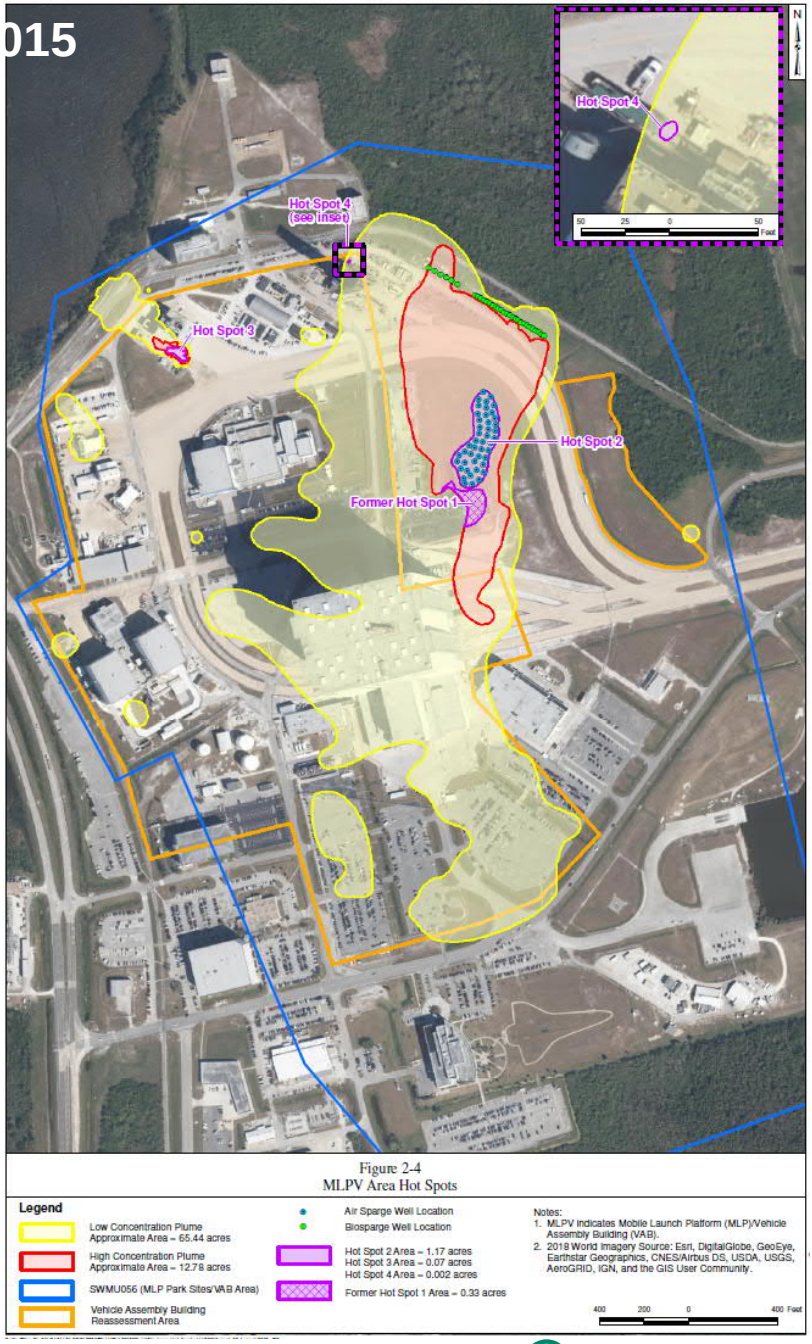
PCB 0 to 4.5 ft bls



MLP/VAB, SWMU 056 Overview

Historical Interim Measures/Remedial Actions

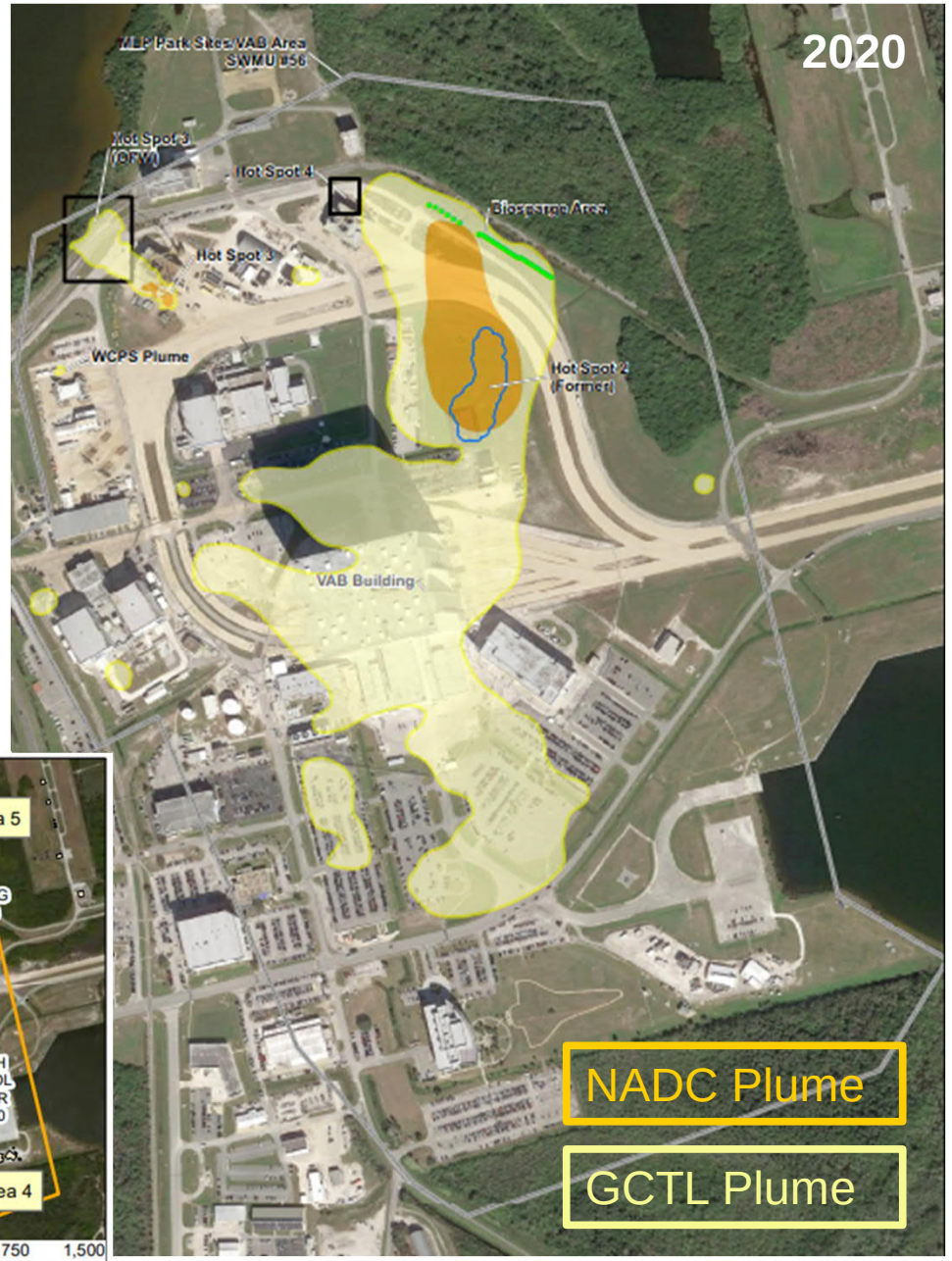
- **2005:** Long-term groundwater monitoring (LTM) of the low concentration dissolved plume was initiated under the VAB LTM Program and data was provided under separate cover than MLP/VAB reports. Sampling and reporting were later combined with MLP/VAB site activities in 2020. The most recent results were submitted in the 2020 CMI and IM Annual Status Report.
- **2006 to 2009:** Implemented enhanced bioremediation of the Hot Spot 1 area
  - Biostimulation using ethyl lactate within the Hot Spot 1 TCE source zone area
  - Corrective action objective was achieved
  - This area is now referred to as former Hot Spot 1 area and continues to be sampled as part of the VAB LTM program
- **2005 – On-going:** Initiated operation of the biosparge barrier system
  - System installed to prevent migration of the NADC vinyl chloride plume
  - Expansion of the biosparge system occurred in February 2016
- **2012 to 2018:** Air sparging implemented within the Hot Spot 2 area
  - Treatment area was the area with TCE greater than 300 µg/L and cDCE greater than 7,000 µg/L
  - Corrective action objectives were achieved
  - This is area now referred to as the former Hot Spot 2 area
  - Semi-annual groundwater sampling is on-going



MLP/VAB, SWMU 056 Overview

Historical Interim Measures/Remedial Actions

- **2015 – 2020:** A passive light non-aqueous phase liquid (LNAPL) skimmer installed at Hot Spot 4.
  - LNAPL detected in MW006 during VAB reassessment in 2014
  - Groundwater impacts have remained below GCTLs since 2015
  - Groundwater monitoring has been discontinued
  - MW0010 to be resampled prior to requesting site closure without controls
- **2017**: Bioremediation implemented in Hot Spot 3.
  - Treatment area was the area where concentrations of CVOCs were greater than their respective FDEP 10XNADC
  - Performance monitoring suspended in 2019 in support of mission operations
  - DPT performance monitoring was performed in 2021
- **2017 - 2018:** Excavated soils from six areas identified during reassessment of the VAB area.



MLP/VAB, SWMU 056 Overview

Current Site Conditions

- **Surface Water or Sediment:** No impacts
- **Soil Land Use Control:** Polychlorinated biphenyl (PCB) impacted soil beneath concrete pads and in proximity to crawlerway. Soil land use control is in place to prevent residential exposure of surface soil in the area of Transformers SS846, SWS708, and SS848.

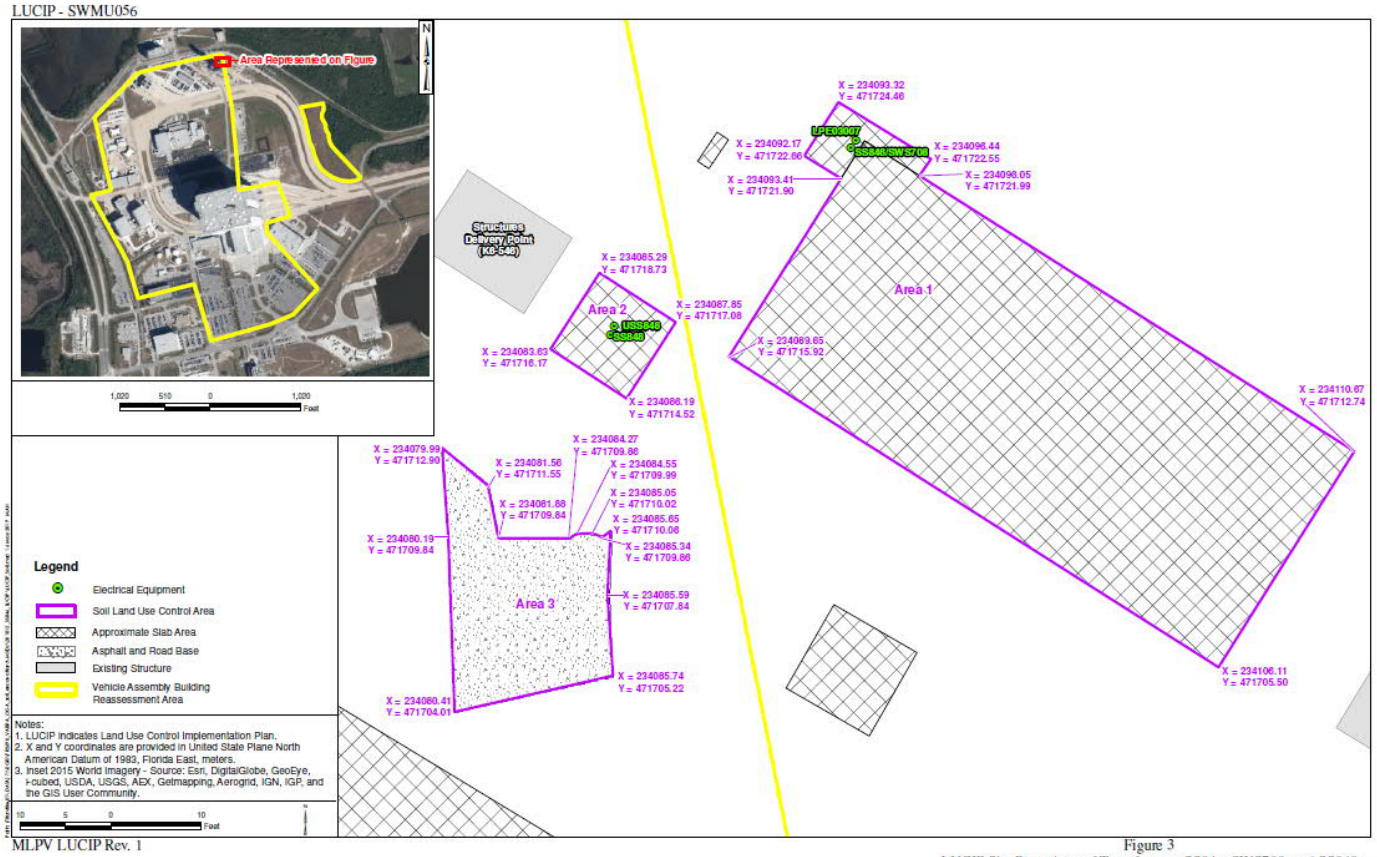


Figure 3
LUCIP Site Plan- Area of Transformers SS846, SWS708, and SS848

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Hot Spot 3 (Background)

Hot Spot 3

Current Site Conditions

- Adjacent and underneath western MLP structure
  - HCP present with CVOC (TCE, cDCE, and VC)
  - Bioremediation implemented as an IM
- South of OFW (this area discussed in next section) where VC LCP is monitored separately from HS3

Figure: Geosyntec Consultants MLP/VAB SWMU 056, June 2019 ADP for 2018 CMI and IM Annual Report

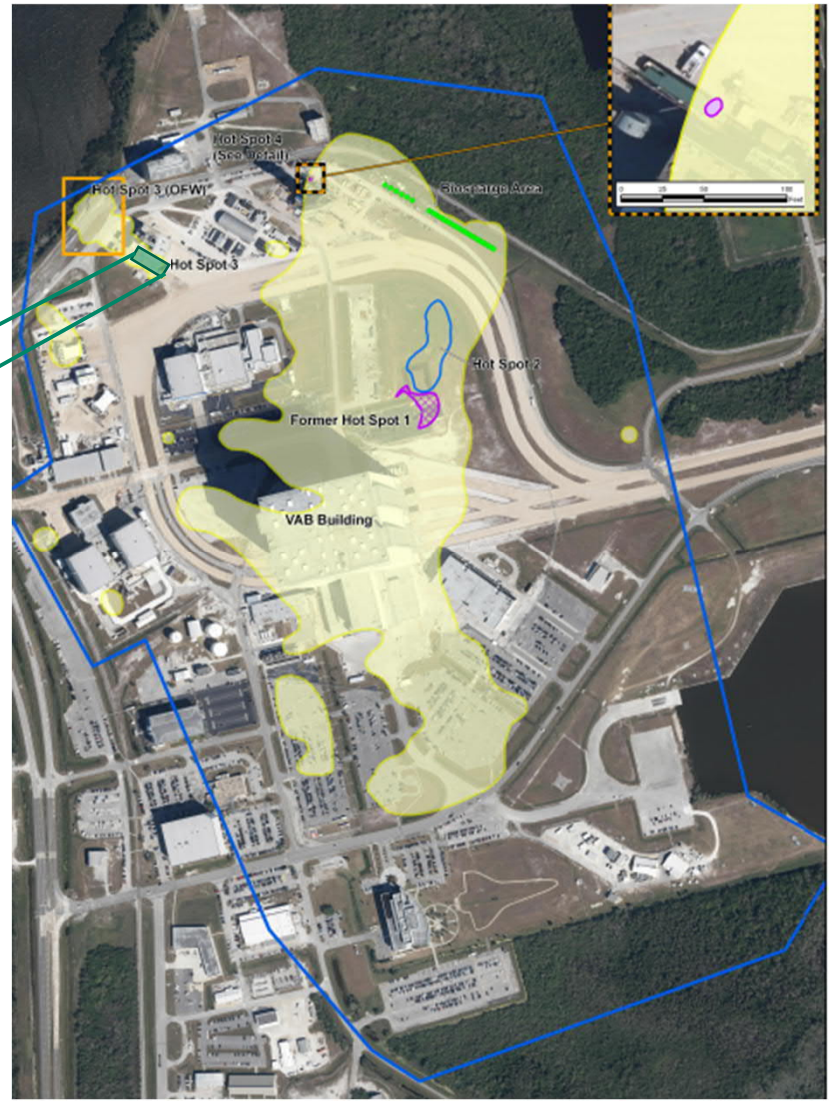
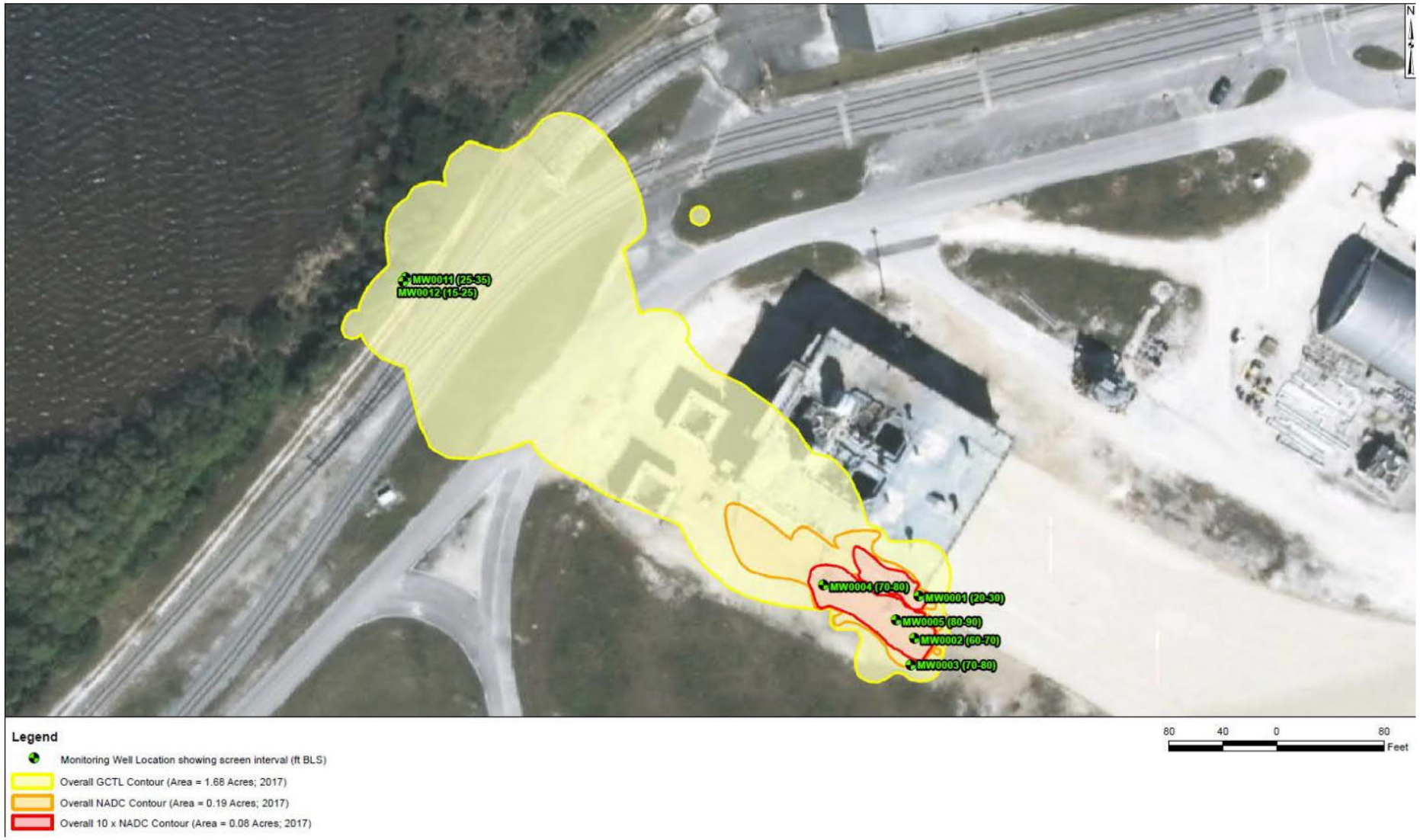


Figure: AECOM MLP/VAB SWMU 056, 2019 CMI and IM Annual Report

Hot Spot 3

Current Site Conditions

- **2017:** Delineated CVOC Plumes

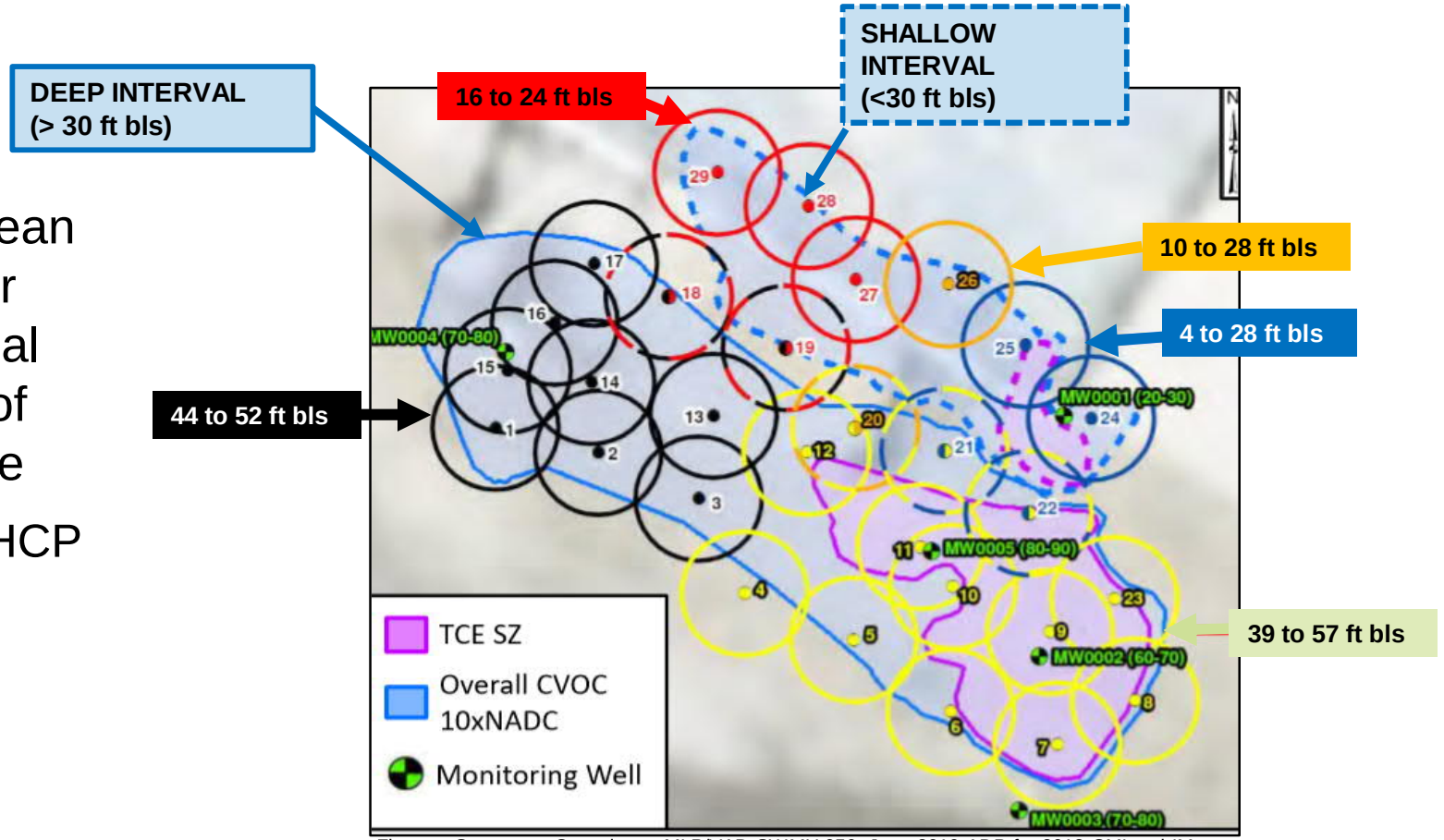


Hot Spot 3

Historical Interim Measures/Remediation

July 17 to August 15, 2017
Bioremediation IM implemented

- Injections using SRS®-SD (a slow release, small droplet, neutral pH, emulsified vegetable oil [EVO, soybean oil]) as an electron donor solution for biostimulation, paired with a microbial culture (KB-1) for bioaugmentation of complete TCE degradation to ethene
- Treatment area: TCE SZ and CVOC HCP
- 29 DPT injection locations
- Followed by performance monitoring



Figures: Geosyntec Consultants MLP/VAB SWMU 056, June 2019 ADP for 2018 CMI and IM Annual Report

Hot Spot 3

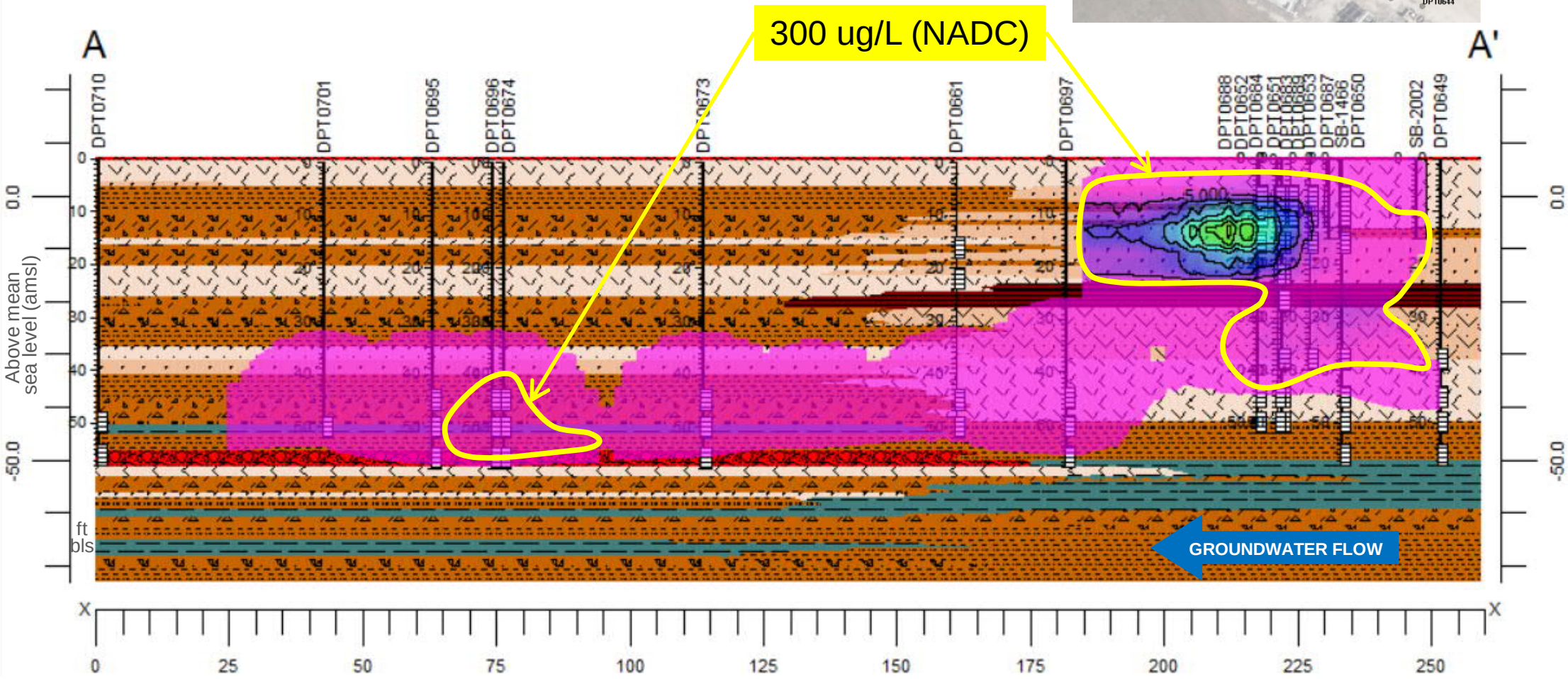
Historical Interim Measures/Remediation

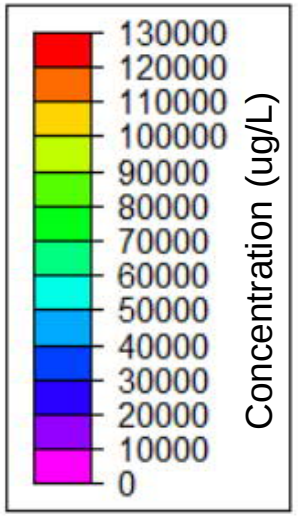
- **2019** DPT groundwater sampling indicated ~80% to ~100% mass reduction for shallow intervals and ~94% mass reduction for deep intervals
- **2020** Lease terminated and site access reinstated
- **2021** DPT groundwater sampling performed to evaluate current site conditions within the previously treated area and need for bioremediation Interim Measures Work Plan (IMWP) Addendum for additional injections
  - Total of 188 samples collected from 62 locations and analyzed for CVOCs
  - 43 samples analyzed for geochemistry parameters: sulfate, sulfide, TOC, ethane, ethene, and methane

2021 DPT Sampling Locations

DPT Assessment Results – TCE (>3 ug/L)

- 11 samples >300 micrograms per liter (ug/L)
- Max=129,000 ug/L at DPT0683 between 9 – 13 ft bls

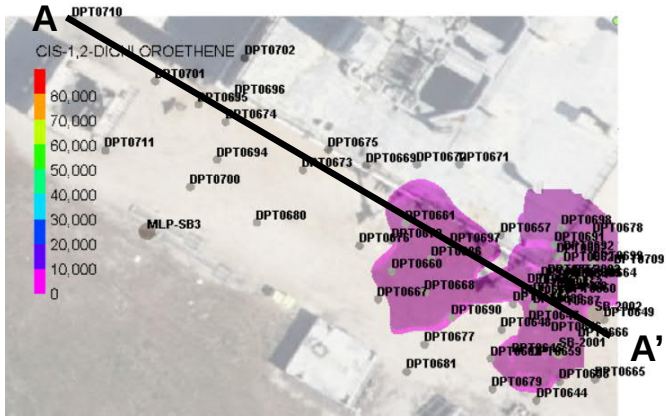


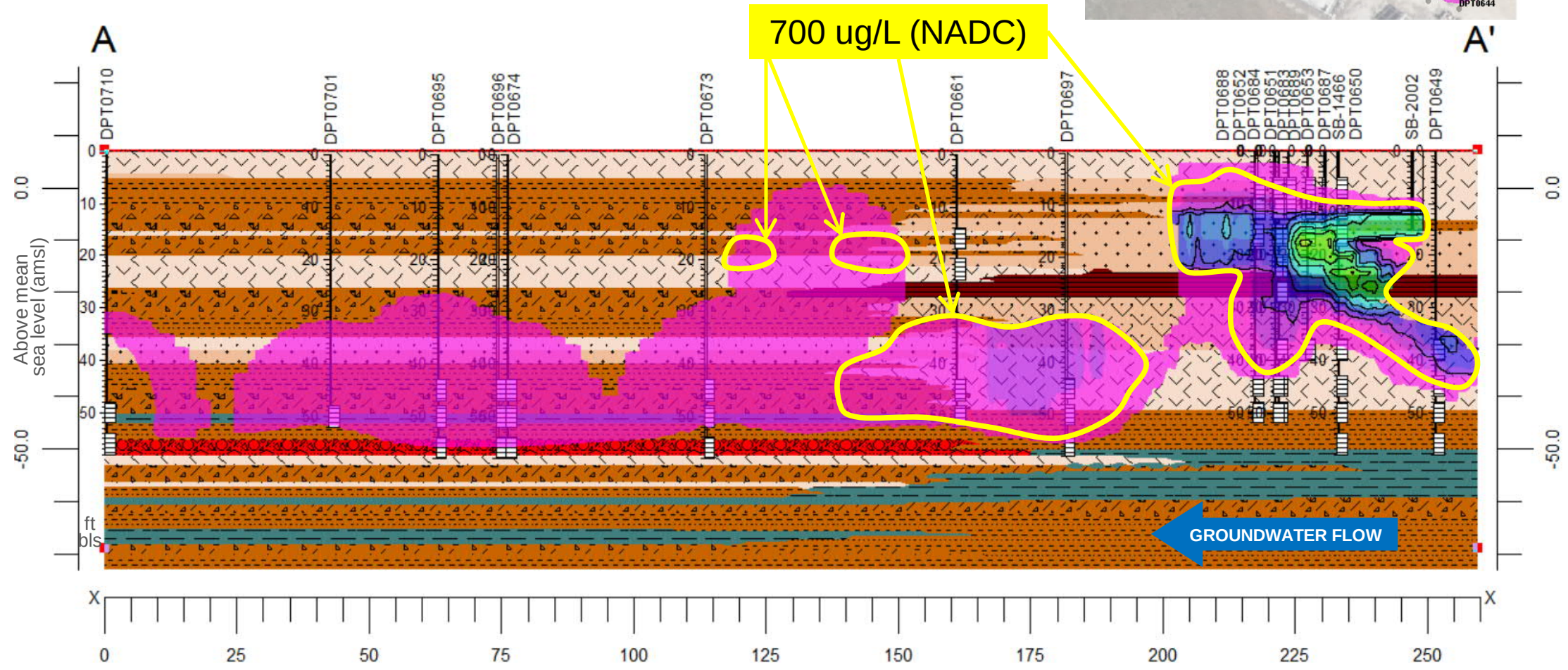


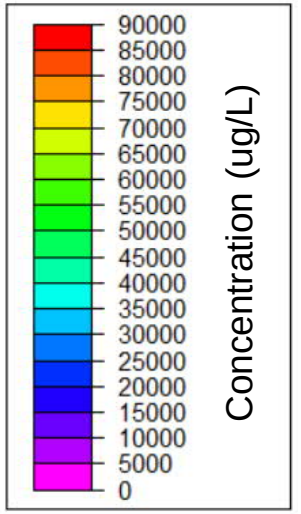
Note: Reporting Limits are included in the interpolated plume extents for all 3D models

DPT Assessment Results – cDCE (>70 ug/L)

- 24 samples >700 ug/L
- Max=88,000 ug/L at DPT0653 between 14-18 ft bls

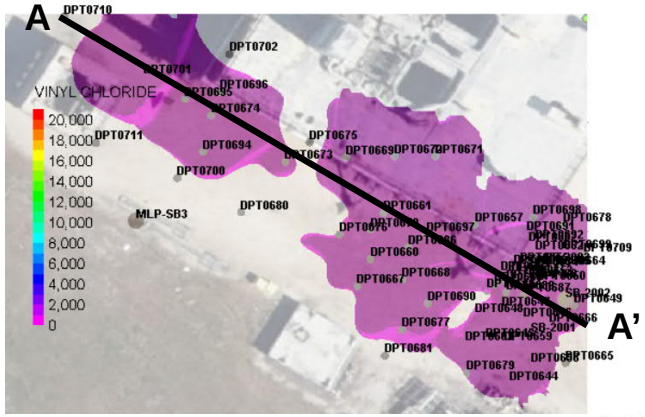


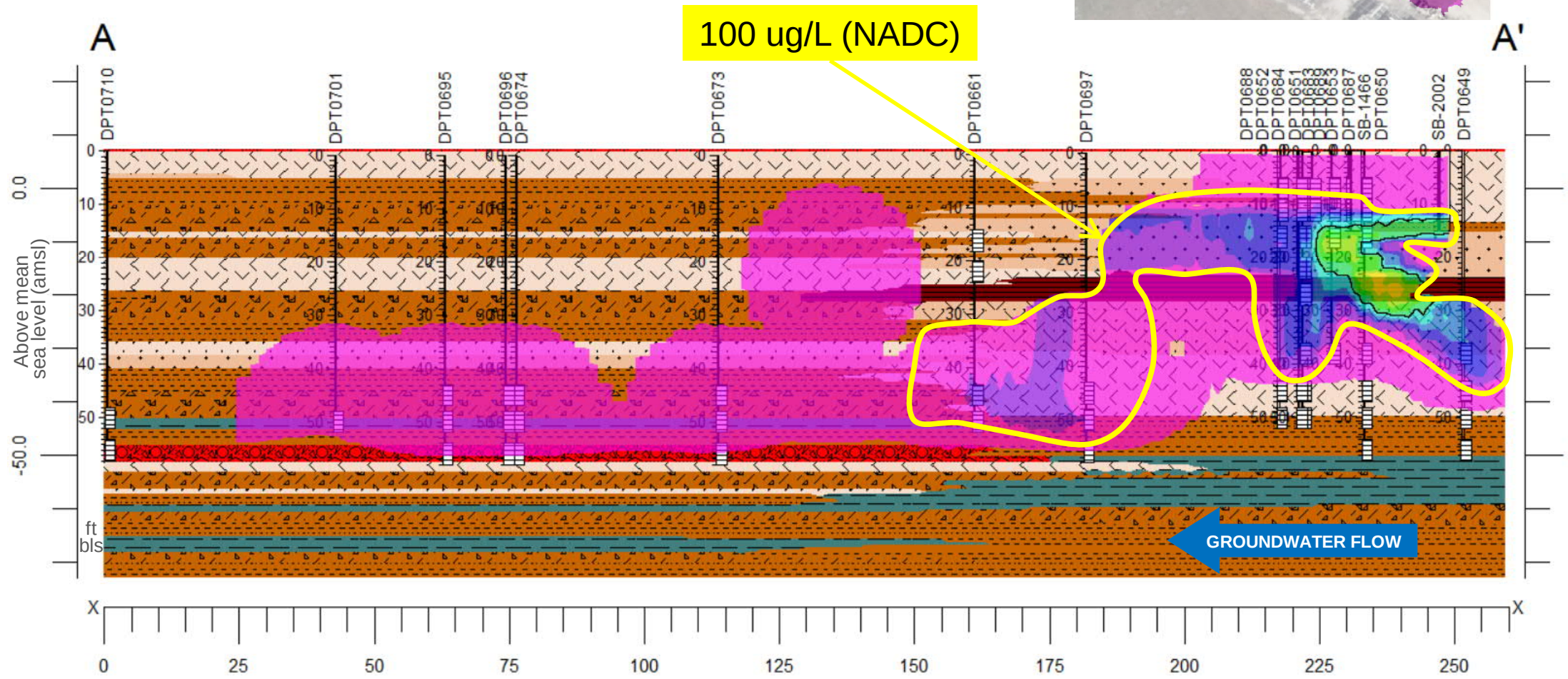


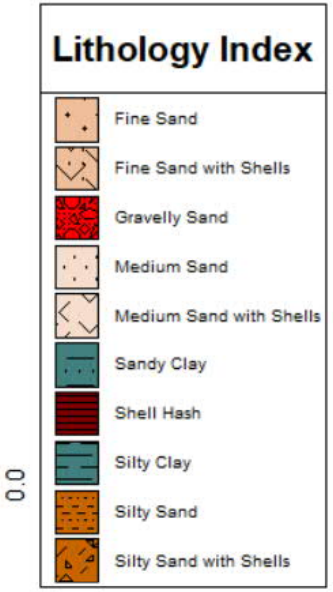


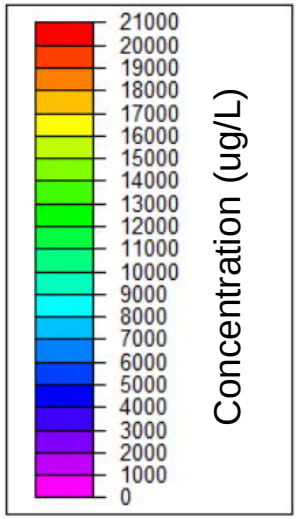
DPT Assessment Results – VC (>1 ug/L)

- 45 samples >100 ug/L
- Max=21,000 ug/L at DPT0653 between 14-18 ft bls









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Hot Spot 3

Historical Interim Measures/Remediation

2021 DPT (continued)

- Dissolved CVOCs plumes were delineated to NADCs (GCTLs at some locations)
- Evaluation of remediation progress indicated:
    - EVO (SRS®-SD) injection decreased CVOC mass and plume footprints (source likely still present)
    - Redox and pH are appropriate for ongoing enhanced reductive dechlorination (ERD) but TOC is depleted and not optimal
    - High sulfate and low natural iron to control sulfide likely limits ERD and optimal use of TOC
    - High methane indicates non-optimal use of TOC by methanogens that limit ERD
- Recommendation to create optimal conditions for long-term CVOCs degradation that treats plumes and mass flux from the source
- Proposed remediation strategy that promotes in situ chemical reduction (ISCR) by emplacing a product that:
    - Enhances biotic and abiotic reduction of CVOCs for a long period (5 or more years)
    - Maintains optimal conditions by limiting methanogenesis and managing sulfate reduction and sulfide accumulation
- Hot Spot 3 results presented to KSCRT in September 2021. Team consensus was reached to proceed with IMWP for ISCR to treat key CVOCs (TCE, cDCE, and VC) exceeding their respective NADC.

Current Status

- IMWP is currently in progress

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APPENDIX B

BIOSPARGE SYSTEM PHOTO LOG, FIELD NOTES, AND O&M LOG

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Photo Log

Project: MLP/VAB (SWMU056)	**Project Number:** 80KSC019F0075
Site Name: Treatment System Area	**Site Location:** Kennedy Space Center, FL

Photograph: 1

Date: Nov 17, 2021

Direction:

Comments:

Pad before placement

Photograph: 2

Date: Nov 19, 2021

Direction:

Comments:

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

Photograph: 3 **Date:** **N**ov 18, 2021 **Direction:** NE **Comments:**	
Photograph: 4 **Date:** Nov 19, 2021 **Direction:** **Comments:** Inside trailer facing south	

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

Photograph: 5 **Date:** Nov 17, 2021 **Direction:** **Comments:** Anchored to concrete pad in rear	
Photograph: 6 **Date:** Dec 8, 2021 **Direction:** **Comments:** Anchored to ground in front	

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

Photograph: 7 **Date:** Nov 19, 2021 **Direction:** **Comments:** Step constructed for stable entry	
Photograph: 8 **Date:** Dec 8, 2021 **Direction:** **Comments:**	

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

Photograph: 9

Date: Dec 8, 2021

Direction:

Photograph: 8

Date: Dec 8, 2021

Direction:

Comments:

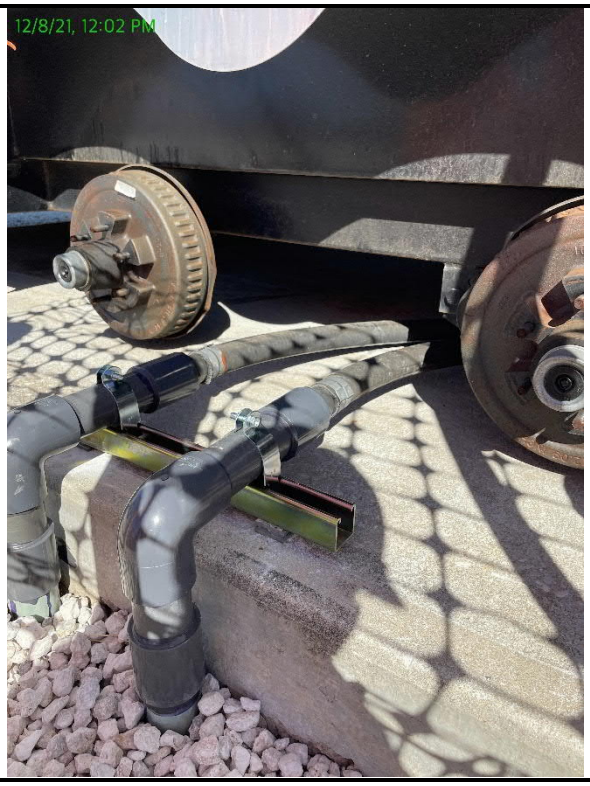
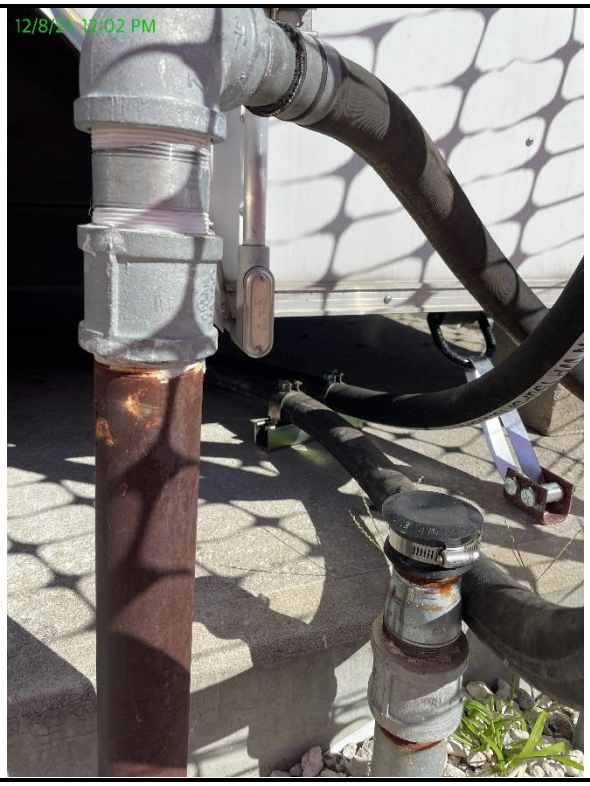
Connected sparge header lines

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

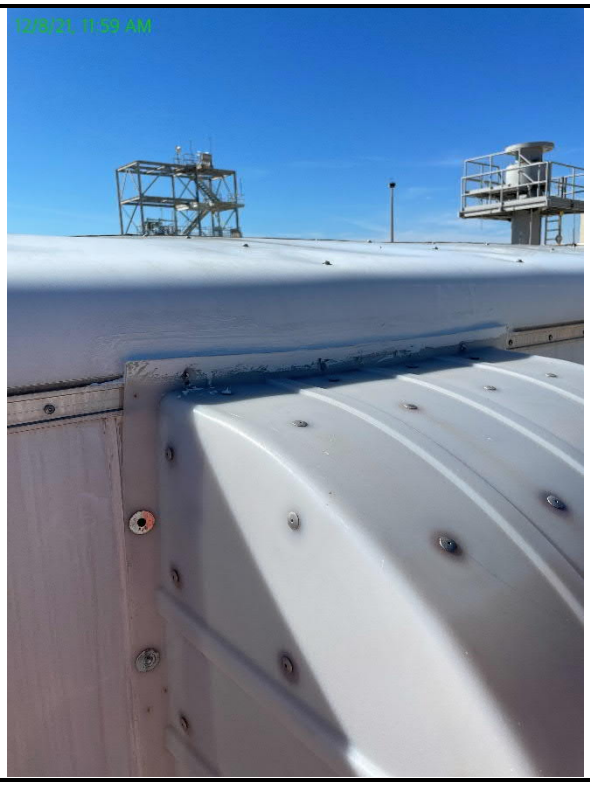
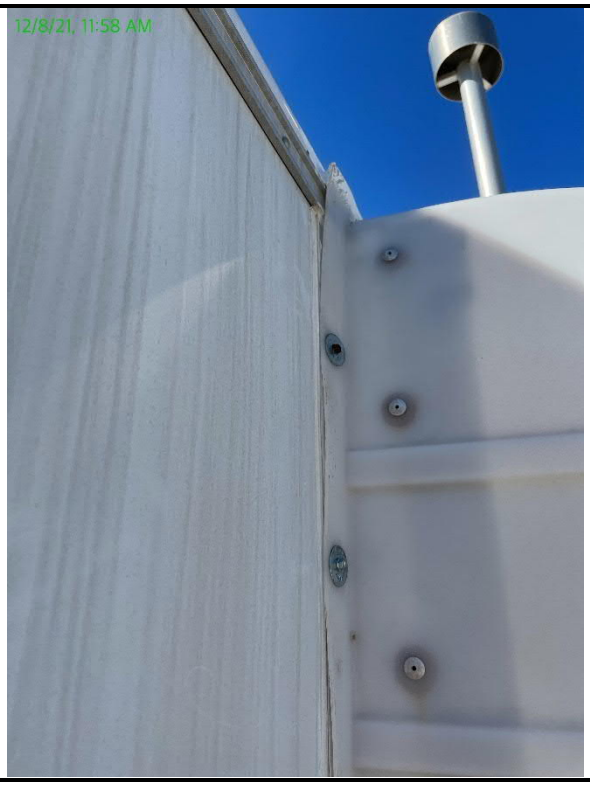
Photograph: 10 **Date:** Dec 8, 2021 **Direction:** **Comments:** Connected sparge header lines	
Photograph: 11 **Date:** Dec 8, 2021 **Direction:** **Comments:** Connected sparge header lines	

AECOM

Photo Log

Project: MLP/VAB (SWMU056) **Project Number:** 80KSC019F0075

Site Name: Treatment System Area **Site Location:** Kennedy Space Center, FL

Photograph: 12 **Date:** Dec 8, 2021 **Direction:** **Comments:** Sealed exhaust vent hood	
Photograph: 13 **Date:** Dec 8, 2021 **Direction:** **Comments:** Sealed exhaust vent hood	

3/9/21 p 1 of 1 JB/DS

NASA MLPV GAUGING EVENT

0800 James Bradford & Dustin Sclater onsite in (2) TRUCKS.
H&S Tailgate
Weather: 61°F, CLOUDY, WINDY

0830 Begin calibrations

0900 Begin collecting field readings.
*FOR DETAILS, REFER TO O&M LOG
NOTE: STARTED @ ASMW-05 & ASMW-06
COLLECTED READINGS from (2) separate DO meters (YSI 550A / YSI PRO DO) at (2) elevations, (TOP of WELL / SCREEN)
- Readings were similar between the two, remaining well data collected w/ YSI PRO DO and PRO 10 (COLP)
*IW0031 → 1" well
NOTE: ASMW-02 → DO METER PROBE would not descend past 10ft. Reading taken at that elevation.

1315
JB ~~1315~~ Completed gauging event, ALL personnel off site.

JB

AECOM

MLP/VAB O&M

MLP/VAB Area, SWMU No. 56

Kennedy Space Center, Florida

Personnel: James Broadfoot / Dustin Slater **Date:** 3/4/21 **Time:** 0800

Maintenance & Monitoring

Item	Frequency	Completed (yes/no)	Comments or Notes
System Operational on Arrival (yes/no)	Each Visit		ORP CAL: STD: 240 } YSI
System Operational on Departure (yes/no)	Each Visit		@ 8:35 ACT: 240 } PRO 20
Clean Inlet Filters (In-line, Bleed Air)	Each Visit		DO CAL: STD: 9.409 }
Drain Condensate and Clean Air Cooler	Each Visit		@ 8:40 ACT: 9.412 @ 18.3 } YSI 550A
Check Oil Level in Compressor (Gear-Lube 150)	Each Visit		STD: 9.976 }
Oil Change	5,000 hrs.		ACT: 10.03 @ 15.5 } YSI PRO DO

Equipment Shed Readings (Biosparge)

Pre-Compressor			Post-Compressor				
Hour Meter		hrs	TI-1 (°F)	Leg/Location #	Compressor Header	Leg 1 (ASW01 to 13)	Leg 2 (ASW14 to 25)	Leg 5 (ASW26 to 31)
AMPs		amps		Pressure (PSI)	PI-7/Before Hex	PI-2	PI-3	PI-6
Electric Meter		kWhr	TI-2 (°F)					
Vacuum (PI-I)		in. WC		Observed Flow Rate (ACFM)	Total Flow (sum)	FI-1	FI-2	FI-5
				Corrected Flow Rate (SCFM)				

$$\text{Corrected Flow Rate} = \text{Observed Flow Rate} \cdot \left(\frac{SG \cdot T + 460}{\sqrt{36 \cdot [P + 14.7]}}\right)^{-1}$$

Biosparge System Readings

MAKE SURE COMPRESSOR IS RUNNING BEFORE TAKING MEASUREMENTS IF PRESSURE LESS THAN 18 PSI OR IF PRESSURE VARIES MORE THAN 1 PSI BETWEEN WELLS, CALL PROJECT MANAGER IMMEDIATELY.

	ASW01	ASW02	ASW03	ASW04	ASW05	ASW06	ASW07	ASW08
Pressure (PSI)								
Temp. (°F)								
Differential (in. WC)								
Flow (SCFM)								
	ASW09	ASW10	ASW11	ASW12	ASW13	ASW14	ASW15	ASW16
Pressure (PSI)								
Temp. (°F)								
Differential (in. WC)								
Flow (SCFM)								
	ASW17	ASW18	ASW19	ASW20	ASW21	ASW22	ASW23	ASW24
Pressure (PSI)								
Temp. (°F)								
Differential (in. WC)								
Flow (SCFM)								
	ASW25	Biosparge Expansion	BSW26 (Leg 5)	BSW27 (Leg 5)	BSW28 (Leg 5)	BSW29 (Leg 5)	BSW30 (Leg 5)	BSW31 (Leg 5)
Pressure (PSI)		Pressure (PSI)						
Temp. (°F)		Flow (ACFM)						
Differential (in. WC)		Flow (SCFM)						
Flow (SCFM)								

Dissolved Oxygen (DO) in mg/L, Temperature in °C, and Oxidation-Reduction Potential (ORP) in mV, DTW in feet below top of casing

	ASPZ-1R	ASPZ-2	ASMW-1	ASMW-2	ASMW-3	ASMW-4	ASMW-5	ASMW-6
Depth to Water (feet BTOC)	3.85	3.32	5.11	5.11	5.61	1.28	1.98	1.04
Stress (" H2O)								
Dissolved Oxygen (mg/L)	6.59	0.57	6.66	3.63	0.58	0.69	5.35 / 7.17	4.72 / 5.81
Temperature °C	24.2	24.8	24.4	25.0	25.1	24.5	19.1 / 21.8	18.9 / 20.8
ORP (mV)	-83	-136	~~100~~ -6	-129	-99	-28	~~158~~ 4	~~75~~ -31
Zone/Leg	1	2	1	1	2	1	1	2
	IW0031	IW0061	IW0062	IW0063	IW0064	IW0006IR		
Depth to Water (feet BTOC)	1.85	4.94	5.03	2.99	2.90	2.03		
Stress (" H2O)								
Dissolved Oxygen (mg/L)	0.56	1.48	1.79	1.38	0.27	0.73	0.36 / 0.77	1.54 / 0.63
Temperature °C	23.1	21.7	22.3	22.2	21.6	24.3	22.5 / 24.4	22.2 / 24.6
ORP (mV)	-93	-103	-56	-270	-134	-30		

TOP of WELL: YSI 550 / YSI PRO DO

SCREEN

Comments

61°F Cloudy

*ASMW-2 → DO PROBE GOT STUCK AT 10 ft. which is where measurement was collected.

NASA MCPV TRAILER INSTALL

0700 JAMES BRADFORD & DUSTIN SLATER AT DEPOT (ORLANDO)
LOAD UP EQUIPMENT & TRAILER

0800 JB & DS DEPART DEPOT

0930 JB ONSITE ; DS ALREADY ONSITE
WEATHER 74°F ; SUNNY

0950 MOVE OLD TRANSFORMER UNIT FROM CONCRETE PAD.
MOVE TRAILER ONTO PAD

1040 KSC PERSONNEL ONSITE (ASM)

1100 PICK UP SUPPLIES AT HOME DEPOT

1230 REMOVE TIRES FROM TRAILER
SET TRAILER ON PAD ; SUPPORTED ON FOUR CORNERS BY CONCRETE BLOCKS

11/17/2021 p 2 of 5 JB/DS

1315 INSTALL ANCHORS
- (2) AUGERS IN FRONT
-(2) IN CONCRETE PAD

1400 SHORT 30 MIN DELAY WHILE BECHTEL HAS MEETING & TAKES PICTURES NEXT TO TRAILER

1500 ANCHORS INSTALLED; NO STRAPS ON AUGERS UNTIL CONCRETE SETS UP

1515 - CLEAN AREA
- LOCK UP TRAILER

1535 ALL PERSONNEL OFFSITE

11/18/2021 p 3 of 5 JB/DS

0800 DUSTIN SLATER ONSITE.

0825 JAMES BRADFORD ONSITE
WEATHER: 75°F, OVERCAST

0900 INSTALL 3" VENT STACK

0935 INSTALL HOODS OVER FANS

1045 INSTALL/CONNECT BIOSPARGE LINES.
*NOTE: COULD NOT CONNECT TO EASTERN BANKS.

1220 PICK UP SUPPLIES FOR ELECTRICAL (SOLENOIDS) AND OTHER ITEMS

1330 RAIN & PHASE II LIGHTNING WARNING.
*DECIDED TO ~~FINISH~~ FINISH TOMORROW

1345 ALL PERSONNEL OFFSITE

0800 DUSTIN SLATER- ONSITE
JAMES BRADFORD ONSITE

WEATHER: 72°F CLEAR SKIES

0830 - FINISH INSTALLING FRONT ANCHORS
- FINISH INSTALLING SOLENOID VALVES
- ADD MORE SUPPORT FOR EXHAUST FAN HOODS.
- INSTALL STEP AT SIDE DOOR ENTRANCE

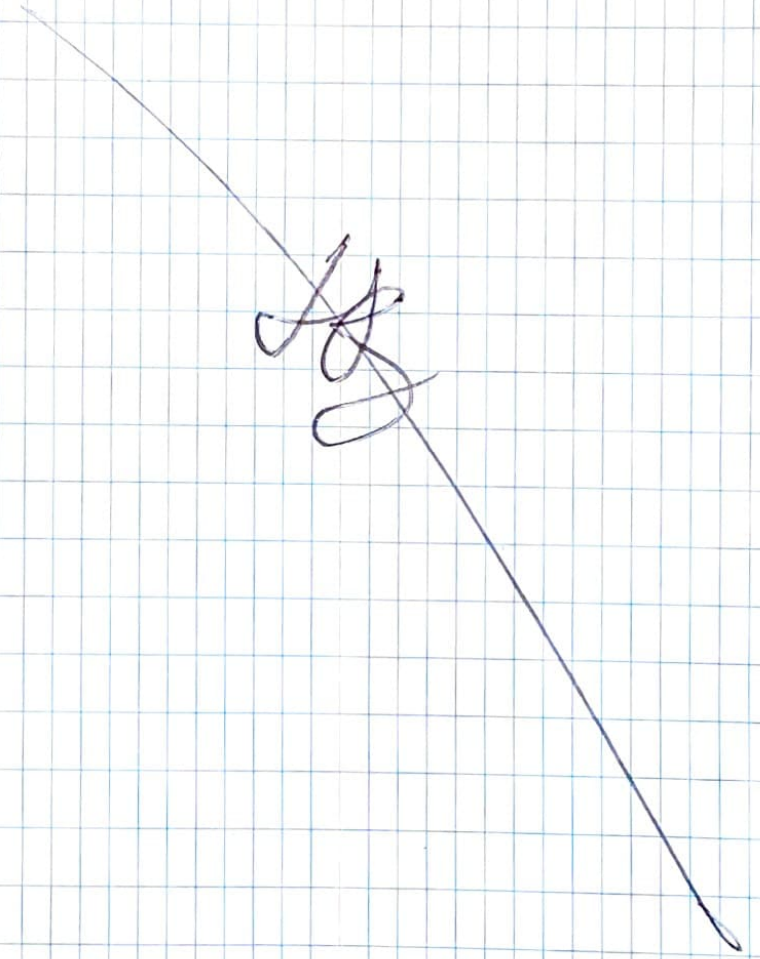
1000 - ADDED SUPPORT FOR SHIELD SVG LINE (DURING TRANSPORT)
- REINSTALLED CONDENSER TRAY AND GFCI FOR RHEO DAMN.

1045 PICK UP TOOLS, CLEAN AREA

1130 - INSTALLED ORANGE FENCE AROUND BACK OF TRAILER (PROTECTING ELECTRICAL)
- PAINTED TRAILER HITCH HI-VIS YELLOW

1100 - COMPLETED SAFETY ITEMS
- CLEAN UP AREA

1230 - ALL PERSONNEL OFFSITE



12/8/2021 p 1 of 2 JB/DT

NASA MLPV TRAILER INSTALL

0820 James Bradford & Dave Train meet at KSC Badging Station from DFRC
- Head towards site.

0835 JB & DT onsite.
His Tailgate
Weather: 67°F (Hi 81°)
Sunny (Clear)
- Finish installing/connecting 63mm stub ups to 2" trailer fittings (1½" @ trailer)

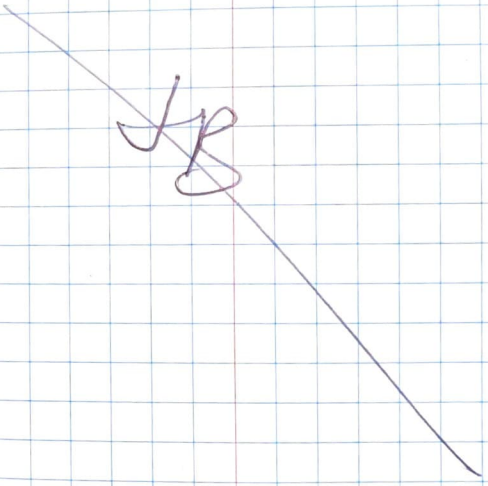
0950 Mati Lutki (Bechtel) onsite to inform us: the gate will be locked on Fridays.

1030 Piping complete.
- Begin sealing Exhaust Vent Hoods

12/8/2021 p 2 of 2 JB/DT

1155 Completed sealing Exhaust Vent Hoods.
- Begin cleaning up.

1210 All personnel offsite



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APPENDIX C

FIELD NOTES – DPT GROUNDWATER SAMPLING ACTIVITIES

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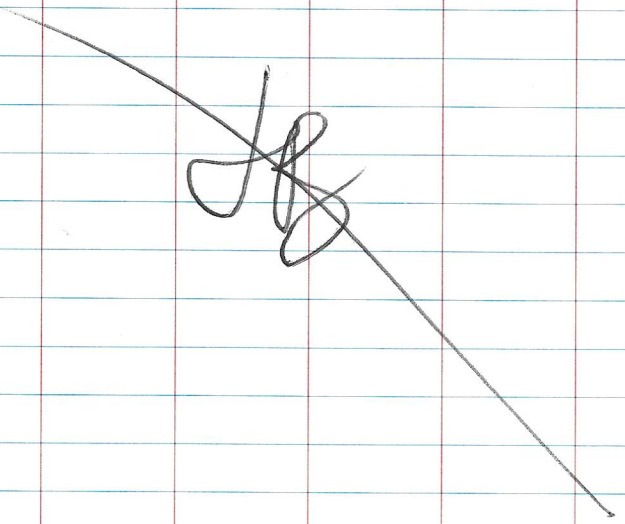
3/25/21 p2 of 2 JB

1450 Need to change locations of #15 (in a pond) and #20 (in a driving/parking way)

1515 Begin marking location at Biosparge area.

1630 Marked locations in parking lot (was full before)

1700 JB offsite (ALL PERSONNEL)



DPT

3/26/21 Utility Locate BF

0650 Brittany Follett arrives at depot to pick up truck and equipment

Truck: Ford F-150 #903

Equipment: Wood stakes, hammer flagging tape

0700 BF departs depot for site

0805 BF arrives on-site at HS2 Air Sparge area to meet with BOSS-utility locator

SOW: Oversite for DPT Utility locate

- 20 DPT locations at HS2
- 6 DPT locations at Biosparge

H+S: Slips/trips/falls, weather, biologicals

weather: 73°F mostly cloudy

Hummidity: 94% Pressure 30"↑

0830 Begin utility locate activities

1300 Locate activities complete

BF departs site

1400 BF arrives at depot

BF

03/19/21 MLP GW sampling

0900 Madan Parsotan @ Aecom Depot load up truck #904 Ford F150

0935 heave Aecom Depot for Job site

1045 Arrive on site
Weather 70°F sunny
Review H&S
Calibrate Equipment
Scoope of Work
Collect IDW sample from Drum # 222837
Check PH Reading 7.05
Sample Collected @ 20210319@1052
Sample place on ice and will drop off at SGS lab in Orlando, FL

1150 off site

1245 Arrive at SGS lab drop off sample
Back to Aecom Depot to off ~~load~~ truck

3/25/21 p 1 of 2 JB

GPR LOCATING (MLPV DPT)

0800 James Bradford onsite in #907 AECOM TRUCK.
Weather: 80°F, FAIR
- Rec'd call from Alfredo George (Utility locators)
+ Went to emergency water line service; would be late

0850 Alfredo arrives. Area too large for locating service.
+ Requires staking out each DPT location

1005 Call Linnea king. Decided to Get stakes and mark DPT locations
+ Went to HOME DEPOT to buy stakes ~ 1.2hrs

1130 Begin marking locations (HS-2)
+ Alfredo rescheduled for FRIDAY 3/26/21
- Continued marking locations

3/29/2021 NASA KCS-MLPV-DPT SM JR

0600 leave to KCS Badging Center to obtain Badge

0810 Meet with Linnea at Badging office

0830 Nuts + Bolts Meeting at location MLPV

0900 Setup DPT + GPS and General Setup
Jones Bradford 407-222-5855
Matt (Bechtel) 956-551-2595

0915 Tailgate Meeting
Walking of Utility locators first locations have not been Cleared yet.

1018 Locators Arrived to Clear Utilities @ Biosparge area.

1035 Begin drilling @ MLPV-DPT0626
- Sampled 31-35' @ 11:05
- Sampled 36-40 @ 11:25
- Sampled 41-45 @ 12:00

1205 Demobilize Crew 0626 and abandon + Grout hole, Move to DPT0627

1210 Lunch Break

1245 Begin 2' hand Auger and drilling @ MLPV-DPT0627.
- Sampled 31-35' @ 1315
- Sampled 36'-40' @ 1335
- Sampled 41'-45' @ 1400

3/29/2021 NASA KCS-MLPV-DPT SM JR

1405 Grout + Abandon boring

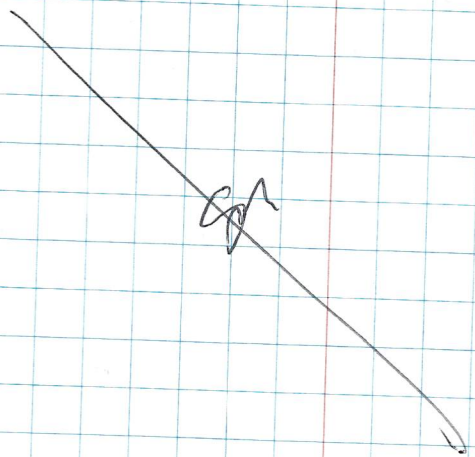
1415 Mobilize to DPT0628

1420 Auger to 2' + Begin drilling MLPV-DPT0628
- Sampled 31-35 @ 1445
- Sampled 36-40 @ 1505
- Sampled 41-45 @ 1535

1540 Grout + Abandon boring + Mobilize to DPT0629.

1550 Auger to 2' + Begin drilling @ MLPV-DPT0629
- Sampled 31'-35' @ 1615
- Sampled 36'-40' @ 1630
- Sampled 41'-45' @ 1655

1705 Demobilize + leave Site



NASA

3/30/2021 KCS/MLPV-DPT SM JR

0700 Arrive on site, Tailgate Safety Meeting @ Biosparge Area

0710 Grout + Abandon DPT0629

0740 Mobilize to DPT0630

0745 Travel to CCP to dump IDW into drums at Stand area First Drum (223953) is 50% full in shell # 223954

0805 Arrive back at MLPV site to prepare for drilling

0815 HAND Auger 2' pilot hole and Begin drilling at MLPV-DPT0630

(33) - Sampled 31'-35' @ 0840

(37) - Sampled 36'-40' @ 0900

(43) - Sapled 41'-45' @ 0920

(47) - Sampled 46-50' @ 0940

0945 Demobilize + Grout and Abandon Boring

0955 Relocated to DPT0631 location and Cleared debris and Brush Grow area

1000 Hand Auger to 2' and Begin drilling boring MLPV-DPT0631.

(33) - Sampled 31'-35' @ 1020

(37) - Sampled 36'-40' @ 1045

(43) - Sampled 41-45 @ 1105

(47) - Sampled 46-50 @ 1125

1130 Demobilize + Grout and Abandon boring

NASA

3/30/2021 KCS-MLPV-DPT SM JR

1140 relocate to Next Point DPT0632 (Point#2) GPS locations at HOT SPOT #2

1145 Hand Auger 2' at DPT0632 and Setup for drilling

1155 Lunch Break

1235 Begin drilling at MLPV-DPT0632 (Point#2)

(43) - Sampled 41'-45' @ 1255

(46) - Sampled 46'-50' @ 1315

1320 Demobilize, Grout + Abandon boring

1325 Mobilize to DPT0633, Hand Auger 2' and begin drilling at MLPV-DPT0633 (Point#6)

(43) - Sampled 41'-45' @ 1405

(46) - Sampled 46'-50' @ 1425

1430 Demobilize, Grout + Abandon boring

1435 Drillers to decon pit + James and I CPSed future boring locations

1515 Completed decon, begin Mobilizing for Drilling. Hand auger 2' pilot hole

1520 Begin DPT drilling @ MLPV-DPT0634 (Point #9)

(43) - Sampled 41'-45' @ 1530

(47) - Sampled 46-50 @ 1545

1550 Demobilize, Grout and Abandon boring

1600 Travel to CCF to dispose of IDW.

NASA

3/30/2021 KCS-MLPV-DPT

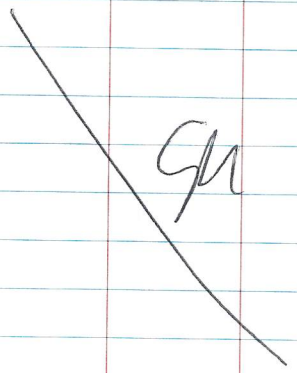
1630 arrive back at Rig

1635 Begin drilling at MLPV-DPT0635 (Point #10)
- Sampled 41'-45' @ 1650
~~Sampled 46'-50' @~~

1700 Stopped drilling to demobilize Clean Site and prepare to Continue DPT0635 the Following Day

1705 James and I traveled to Hotspot 3 to locate and Mark remaining boring locations with New Information

1730 Leave site



NASA

03/31/2021 KCS-MLPV-DPT

0700 Arrive on site for tailgate Meeting and Complete Safety Documentation

0710 Resume drilling at MLPV-DPT0635 (Point #10)
(47) - Sampled 46'-50' @ 0730

0735 Demobilize, Grout and Abandon Boring GPS remaining point

0750 Hand Auger 2' and Begin drilling at MLPV-DPT0636 (Point #11)
(43) - Sampled 41'-45' @ 0830
(47) - Sampled 46'-50' @ 0845

0850 Demobilize, grout, GPS and Abandon boring

0855 Travel to DPT-0637

0900 Hand auger 2' + Begin Drilling @ MLPV-DPT0637 (Point #12)
- Sampled 41'-45' @ 0920
- Sampled 46'-50' @ 0935

0940 Demobilize, grout, GPS and Abandon boring

0950 Travel to next boring location

0955 Hand Auger 2' pilot hole + Begin drilling at MLPV-DPT0638 (Point #13)
(43) - Sampled 41'-45' @ 1010
(47) - Sampled 46'-50' @ 1025

1030 Demobilize, Grout, GPS and Abando

1035 mobilize to next location.

03/30/2021 NASA KCS-MLPV-DPT SM

1040 Arrive on DPT0639

1045 Hand Auger 2' pilot hole + Begin drilling at MLPV-DPT0639 (Point # 16)

(43) - Sampled 41'-45' @ 1115

(47) - Sampled 46'-50' @ 1140

1145 Demobilize, Grout, GPS and Abandon Boring

1200 Setup on DPT0640 (Point #19) Then break for lunch and decon

Attempt to Contact Utility locators for Hot Spot 3, They did not Respond

1305 bore through the asphalt and Hand Auger 2'. Begin drilling at MLPV-DPT0640 (Point #19)

(43) - Sampled 41'-45' @ 1330

(47) - Sampled 46'-50' @ 1350

1400 Demobilize, grout, patch + GPS boring placed cones around hazard.

1415 Travel rig to next boring + Hand Auger 2' pilot hole. (Point #3)

1430 Travel to CCF to dump water into drum # (223955) Pallet ID 223954

1505 Return to boring DPT0641

1508 Begin drilling at MLPV-DPT0641 (Point #3)

(43) - Sampled 41'-45' @ 1520

(47) - Sampled 46'-50' @ 1540

03/31/2021 NASA KCS-MLPV-DPT SM

1545 Demobilize, Grout, GPS + Abandon boring Mark next boring based on Communication with Linnea. Point #22 is roughly 10' Directly South of Point #2

1550 Hand Auger 2' pilot hole and begin drilling at MLPV-DPT0642 (Point #22)

(43) - Sampled 41-45 @ 1608

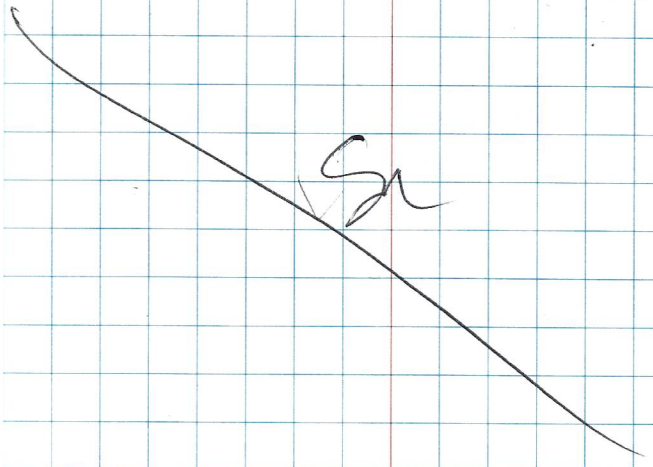
(47) - Sampled 46-50 @ 1625

(53) - Sampled 51-55 @ 1650

1655 Demobilize, Grout, GPS and Abandon Boring

1700 Clean work area and dispose trash

1710 leave site



NASA

04/01/2021 KCS - MLPV - DPT SM

0700 Travel to get Ice for samples + fix flat tire. Tailgate meeting

0830 Arrive back at Site Drill MLPV-DPT0643 (Point #5)

(43) - Sampled 41-45' @ 0835

(47) - Sampled 46-50 @ 0850

0900 Travel to HOT SPOT #3 Coordinate with drillers and Liner over drilling and Sampling plan 0644

0930 Begin drilling at MLPV-DPT~~0645~~ (Point #1) *With RSK Samples

(45) - Sampled 43-47 @ 0955

(50) - Sampled 48-52 @ 1020

1025 Demobilize, Grout, transport Samples & Abandon

1035 begin 2' Hand Auger and Rolling at MLPV-DPT0645 (Point #2)

(45) - Sampled 43-47 @ 1105

(50) - Sampled 48-52 @ 1130

(56) - Sampled 54-058 @ 1200

1205 Demobilize, Grout, GPS + Abandon

1215 Locate and move to next boring. Hand Auger 2' Pilot hole.

1220 Break for lunch

1250 Resun drilling at MLPV-DPT0646 (Point #3)

NASA

04/01/2021 KCS-MLPV-DPT SM

DPT0646

(45) - Sampled 43'-47' @ 1310

(50) - Sampled 48-52 @ 1335

1340 Demobilize, Grout and Abandon boring travel to next boring

1355 Travel to CCF to dispose IDW and decon pit. MLPV-DPT0647 (Point #4)

(38) - Sampled 36'-40' @ 1440

(45) - Sampled 43'-47' @ 1500

(50) - Sampled 48-52 @ 1525

1530 Drillers to decon pit for equipment Wash Demobilize, Grout + Abandon Boring. GPS last 2 borings

1555 Return to rig, Hand auger 2' pilot hole Begin drilling MLPV-DPT0648 (Point #5)

* Drillers hit footer of support structure to building 3 times. Moved boring <10' South of original position to avoid footer

(45) - Sampled 43'-47' @ 1630

1635 Demobilize, Clean and prep for leaving Site. Dispose trash, give Data & Samples

1700 Leave Site

SM

M+SA

SN
JR

04/02/2021 KCS/MLPV-DPT

0700 Arrive on site, Tailgate Meeting Complete Safety documentation,

0715 Resume drilling at MLPV-DPT0648 in Hotspot 3

(50) - Sampled 48'-52' @0735

(56) - Sampled 54'-58' @0805

0805 Demobilize, Grout, Abandon DPT0648

0815 Travel to (Point #6) and drillers began filing rods.

0845 Begin drilling at MLPV-DPT0649 (Outlier)

(38) - Sampled 36-40' @0910 (19' East of 1593')

(45) - Sampled 43'-47' @0935

(50) - Sampled 48'-52' @1000

(56) - Sampled 54-58' @1025

1020 Demobilize, Grout + Abandon boring

1035 Begin drilling at MLPV-DPT0650 (Point #6)

(11) - Sampled 9'-13' @11:00

(16) - Sampled 14'-18' @1115

(38) - Sampled 36'-40' @1140

(45) - Sampled 43'-47' @1200

1205 Demobilize, Grout, GPS and Abandon boring

1210 Lunch Break

1300 Resume and Drill MLPV at DPT0651 (Point #8)

(7) - Sampled 5'-9' @1305

~~Sampled 9'-13' @~~

Drillers to decon Equipment

1310 Coordinated with Liners regarding Coordinates and point locations re-GPSed Rotor locations while Drillers decon.

1400 Resume drilling at MLPV-DPT0651 (Point #8)

(11) - Sampled 9'-13' @ 1410

(16) - Sampled 14'-18' @1425

(22) - Sampled 20'-24' @ 1445

(27) - Sample 25'-29' @ —— *

* WELL WENT DRY. GET SIT IDLE FOR 20 MINUTES, DID NOT RECHARGE ENOUGH TO SAMPLE (DID NOT FILL TUBING) (DID NOT RECHARGE)

(38) - Sampled 36'-40' @ 1540

(45) - Sampled 43'-47' @ 1600

(50) - Sampled 48-52 @ 1625

1630 Demobilize, Grout, Abandon

1635 GPS location show Jason work plan and how to utilize GPS.

1700 All personnel offsite

JR

04/05/21 p 1 of 2 JB/EDS

NASA MLPV DPT SAMPLING

0700 James Bradford & EDS onsite

EDS: Chris Phelps
Keith Olson

H&S Tailgate meeting

Weather. 65°F, mostly sunny

Cooling DPT in HS-3

BEGIN DRILLING MLPV-DPT0652 (#9)

(11) - Sampled @ 7:40 9'-13'
(16) Sampled 14' to 18' @ 7:55
(45) Sampled 43' to 47' @ 8:10
(50) Sampled 48' to 52' @ 8:30

Begin drilling MLPV-DPT0653 (#10)

(7) Sampled 5'-9' @ 8:55
(11) Sampled 9'-13' @ 9:30
(16) Sampled 14'-18 @ 9:50
(38) Sampled 36'-40' @ 10:05

Begin drilling MLPV-DPT0654 (#7 (2))

(11) Sampled 9'-13' @ 1080
(16) Sampled 14'-18' @ 1050
(38) Sampled 36'-40' @ 1110
(45) Sampled 43'-47' @ 11:25

11:45 LUNCH.

p 2 of 2 JB/EDS

1215 Begin drilling MLPV-DPT 0655 (#11)
12:30

(11) Sampled 9' to 13' @ 12:35
(16) Sampled 14' to 18' @ 12:55
(22) Sampled 20 to 24' @ 1310

DECON EQUIPMENT

MLPV-DPT 0656 (#5 (2))

(45) Sampled 43' to 47' @ 1350
(50) Sampled 48' to 52' 1415
(56) Sampled 54' to 58' 1435

14:45 Head to BADGING OFFICE to drop off samples.

1520 CCF to store IDW GROUNDWATER (PURGE WATER)

1600 SET UP FOR DPT 0657 (#12)

1630 ALL PERSONNEL OFFSITE

JB

4/6/21021 p 1 of 2 JB/EDS

NASH MLPV DPT Sampling

700 James Bradford onsite in Aecom #903 truck. EDS onsite
EDS: Chris Phelps
Ronald (Alan) Lamtman
H&S Tailgate: Wedlin 55°F Clear
SOW: Continue DPT sampling in WS-3 area.
*NOTE - DPT 0657 moved away from structure {Shifting obstructions

7:20 Begin drilling MLPV-DPT0657 (#12)
(11) Sampled 9' to 13' @ 740
(16) Sampled 14' to 18' @ 805
(22) Sampled 20' to 24' @ 825
*NOTE: DRLG ONSITE ~ 8:00

840 Begin drilling MLPV-DPT0658 ~~(#1 rev)~~ # JB
(45) Sampled 43' to 47' @ 905 (#1 rev)
(50) Sampled 48' to 52' @ 940
*NOTE: @ Interval 45, flow was very slow and water was very turbid.

950 Begin drilling MLPV-DPT0659 (#2 rev)
(45) Sampled 43' to 47' @ 1015
(50) Sampled 48' to 52' @ 1050
(56) Sampled 54' to 58' @ 1115

4/6/2021 p 2 of 2 JB/EDS

1140 Begin (revisit) MLPV-DPT 0650 (#6 rev)
*NOTE: DPT 0650 was started on 4/2/2021
(45) Sampled 43' to 47' @ 1200
(50) Sampled 48' to 52' @ 1315
(56) Sampled 54' to 58' @ 1350

1215 LUNCH & DECON → 12:45

1405 *MOVED #13 TOWARDS PLATFORM TO AVOID UNDERGROUND ELECTRICAL
JB ~~1405~~ Begin drilling MLPV-DPT0660 (#13)
(45) Sampled 43' to 47' @ 1430
(50) Sampled 48' to 52' @ 1500
(56) Sampled 54' to 58' @ 1535

1600 Begin drilling MLPV-DPT0661 (#14)
(16) Sampled 14' to 18' @ 1630

1700 EDS offsite. JB marks locations to continue sampling WS-3
Locations #15 to #32
* Skip #16 (already sampled)
& #29 (cancelled) & #15 + #18

1900 Finished staking (except #17)
JB offsite
* #12 location was shifted due to footing
#13 location was shifted due to underground electrical
JB

NASA MLPV DPT Sampling

0700 James Broadhead and EDS onsite.
EDS: Chris Phelps
Keith Olsen
His tailgate: Weather: 57° FAIR
SOW: continue DPT sampling (HS-3)

0730 Continue MLPV-DPT0661 (#14 cont.)
(22) Sampled 20' to 24' @ 0735
(45) Sampled 43' to 47' @ 0750
(50) Sampled 48' to 52' @ 0810

0900 Move to (revisit) MLPV-DPT0651 (#8 REV)
to try to sample @ interval 25' to 29'
(27) Sampled 25' to 29' @ 0930

0950 Move to MLPV-DPT0662 (#31)
(7) Sampled 5' to 9' @ 1010
(11) 9' to 13' 1028
(16) 14' to 18' 1040
(22) 20' to 24' 1055

1105 Moved to MLPV-DPT0663 (#32)
(45) Sampled at 43' to 47' @ 1125
(50) Sampled at 48' to 52 @ 1140

1150 BREAK FOR LUNCH.

1230 Moved to MLPV-DPT0664 (#19)
(7) Sampled at 5' to 9' @ 1255
(11) Sampled at 9' to 13' @ 1310
(16) Sampled at 14' to 18' @ 1345
(22) Sampled at 20' to 24' @ 1400

1410 Move to MLPV-DPT0665 (#33)
(45) Sampled 43' to 47' @ 1425
(50) Sampled 48' to 52' @ 1445

1455 Move to MLPV-DPT0666 (#36)
(45) Sampled 43' to 47' @ 1515
(50) Sampled 48' to 52' @ 1535

1600 Dropped off samples at badging office
1615 Continued marking locations. Moved #35 away from platform due to underground electrical.
1700 ALL PERSONNEL OFFSITE

JB

NASA MLPV DPT Sampling

0700 James Bradford & EDS onsite:
EDS: Chris Phelps
Keith Olson
N&S tailgate: Weather 63°F, sunny
SOW: Continue DPT sampling
WS-3

0720 Move to MLPV-DPT0667 (#35)
(45) Sampled 43' to 47' @ 0745
D (50) Sampled 48' to 52' @ 0805
(56) Sampled 54' to 58' @ 0830

0840 Move to MLPV-DPT0668 (#28)
(45) Sampled 43' to 47' @ 0900
D (50) Sampled 48 to 52 @ 0920
(56) Sampled 54 to 58 @ 0940
NOTE: DPT0668 was shifted away from electrical obstructions (towards the platform)

0950 DECON

1020 Move to MLPV-DPT0669 (#24)
(16) Sampled 14' to 18' @ 1040
(22) Sampled 20' to 24' @ 1050
(27) Sampled 25' to 29' @ 1105
(38) Sampled 36' to 40' @ 1120
(45) Sampled 43' to 47' @ 1140
(50) Sampled 48' to 52' @ 1240
(56) Sampled 54' to 58' @ 1300

*NOTE: The 25' to 29' interval produced very little water, high turbidity (silty)

1145 – LUNCH –

1310 MOVE TO MLPV-DPT0670 (#34)
(45) Sampled 43' to 47' @ 1330
(50) Sampled 48' to 52' @ 1350
(56) Sampled 54' to 58' @ 1410

1420 Move to MLPV-DPT0671 (#22)
(16) Sampled 14' to 18' @ 1435
(22) Sampled 20' to 24' @ 1450
(27) Sampled 25' to 29' @ 1530

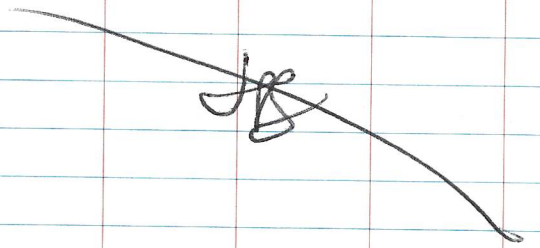
1540 Delivered samples to Gadsing center.
*NOTE The 25' to 29' interval produced very little water, high turbidity.

1535 Move to MLPV-DPT0672 (#23)
(16) Sampled 14' to 18' @ 1555
(22) ~~Sampled~~
~~(27)~~

1605 Head to CCF to empty purge water buckets. Label new drum for HOT SPOT 3.

1620 GPS locate points #7 through #12 in Biosparge area.
NOTE: #7 & #8 are moved away from railroad track due to overgrowth in drainage ditch. The suggested locations were in the ditches.

1700 ALL PERSONNEL OFFSITE



NASA MLPV DPT SAMPLING

0700 James Bradford and EDS onsite.
EDS: Keith Olsen & Chris Phelps
H&S tailgate: Weather: 64°F, clear
SoW: Continue sampling HS-3

0720 Continue sampling MLPV-DPT0672 (#23)
(22) Sampled 20' to 24' @ 0740
(27) Sampled 25' to 29' @ 0800

0810 Moved to MLPV-DPT0673 (#25)
(45) Sampled 43' to 47' @ 0830
(50) Sampled 48' to 52' @ 0845
(56) Sampled 54' to 58' @ 0905

0915 Moved to MLPV-DPT0674 (#27)
NOTE: Staircase close to location. Had to move point ~ 3 ft W.
(45) Sampled 43' to 47' @ 0945
(50) Sampled 48' to 52' @ 1000
(56) Sampled 54' to 58' @ 1020

1025 Moved to MLPV-DPT0675 (#41)
(45) Sampled 43' to 47' @ 1046
(50) Sampled 48' to 52' @ 1100

1110 Moved to MLPV-DPT0676 (#40)
+DECON EQUIPMENT
(45) Sampled 43' to 47' @ 1150
(50) Sampled 48' to 52' @ 1245
(56) Sampled 54' to 58' @ 1305

1315 Moved to MLPV-DPT0677 (#39)
(45) Sampled 43' to 47' @ 1330
(50) Sampled 48' to 52' @ 1350

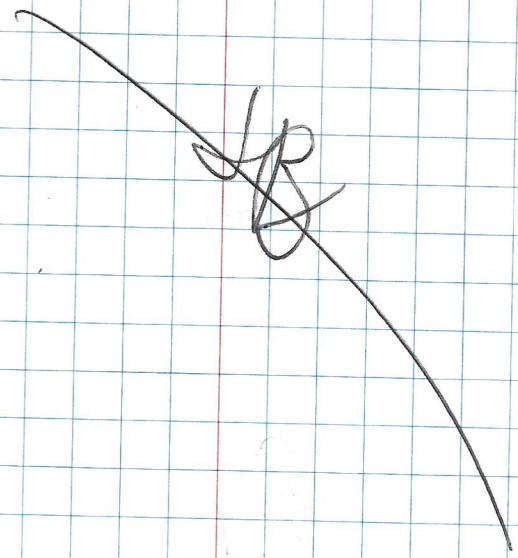
1400 Move to MLPV-DPT0678 (#38)
(7) Sampled 5' to 9' @ 1410
(11) Sampled 9 to 13' @ 1425

1435 Move to MLPV-DPT0679 (#37)
(45) Sampled 43' to 47' 1535
(50) Sampled 48' to 52' 1550

1600 Pick up & clear area at HS-3.
Removed stakes.
Checked locations at #8
& #11.

1700 Uploaded GPS points
- Re-synced GPS data points

-ALL PERSONNEL OFFSITE



4/12/2021 NASA MLPV DPT pg 1 of 3 SM/ED

0700 Arrive on site + grab equipment from drilling trailer

0730 Talk to drillers Tailgate Safety Meeting + Call Linnea and go over days work plan

0740 GPS next point to drill

0815 Mobilize rig to MLPV-DPT0680 (point #26)

(45) Sampled 43-47' @ 0845

(50) Sampled 48-52' @ 0905

(56) Sampled 54-58' @ 0925

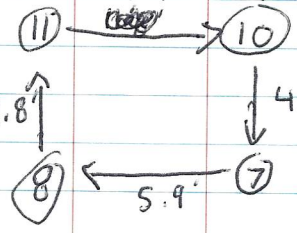
0930 Demobilize, grout + GPS. Talk to Linnea about next boring location Decided to travel to the unnumbered point ~~directly~~ South-Southwest of point #39 (DPT0677)

1000 Arrive at unnumbered point + begin drilling MLPV-DPT0681.

(45) - Sampled 43-47' @ 1020

(50) - Sampled 48-52 @ 1040

1035 Measure distance 5.9' between points below



4/12/2021 NASA MLPV DPT pg 2 of 3 SM/ED

1100 Work with Linnea to find next drilling locations. Mobilized to point #43 via GPS

1120 hit footer, Step out 6" from support Structure 5'-8' North West of point #31 (DPT0662)

1125 redrill at MLPV-DPT0682 (Point #43) stepout

(7) Sampled 5'-9' @ 1130

(11) Sampled 9'-13' @ 1145

1155 lunch Break

1230 locate boring #44 with driller

1240 mobilize rig to next location begin drilling MLPV-DPT0683 (Point #44)

(7) Sampled 5'-9' @ 1300

(11) Sampled 9'-13' @ 1330

1335 demobilize, Grout and GPS locations

1340 Move to MLPV-DPT0684 (Point #45) begin drilling

(7) - Sampled 5'-9' @ 1355 ← Decon Equipment

(11) - Sampled 9'-13' @ ~~1400~~ 1430

(45) - Sampled 43'-47' @ 1450

(50) - Sampled 48'-52' @ 1510

* pressure of Groundwater ejected water from rods after drilling.

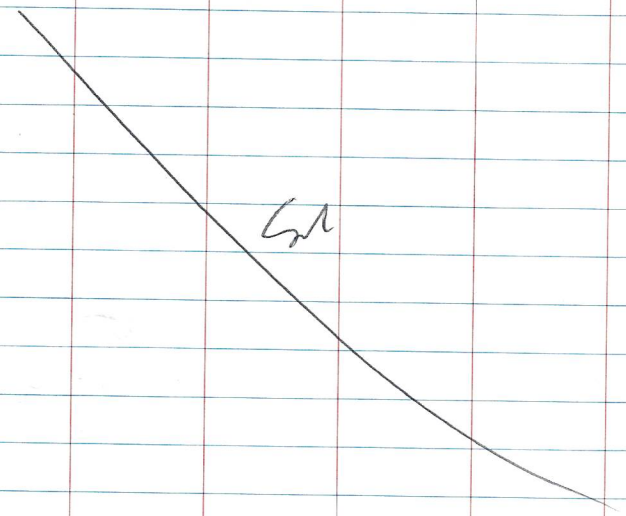
4/12/2021 NASA MLPV DPT pg 3 of 3 SM ED

1525 Mobilize to MLPV-DPT0685 (Point #46)
- Sampled 5'-9' @ 1540
- Sampled 9'-13' @ 1555

1600 Drillers to OCF to dispose of residual Wash Water
No new drums

1630 GPS and locate borings 47, 48 49 + 50. Also tried to remark utilities in the area
Contacted Jeff + Alfredo to locate utilities near new point
No answer left detailed Messages

1700 All personnel off site



4/13/2021 NASA MLPV DPT pg 1 of 2 SM ED

0700 Arrive on site for tailgate Safety Meeting
Call locators for utilities. Locators Confirmed Mid-morning arrival. Drillers performing maintenance on rig + pipes

0800 Locators arrive on site to clear proposed boring locations

0810 Mobilize rig to MLPV-DPT0686 (Point #47) to begin drilling
(45) - Sampled 43'-47' @ 0830
(50) - Sampled 48'-42' @ 0850
(56) - Sampled 54-58 @ 0915

0920 Demobilize, Grout, GPS next point
Talk with Linnea about switching points, due to nearby welding.

0950 Travel to next point MLPV-DPT0687 (Point # 54)
(7) - Sampled 5'-9' @ 1000
(11) - Sampled 9'-13' @ 1020

1025 Demobilize, Grout + GPS Future and Past points

1045 Arrive at MLPV-DPT0688 (Point #52)
(7) - Sample 5'-9' @ 1100
(11) - Sample 9'-13' @ 1120

1125 Demobilize, Grout move to next point

NASA — Sm — ED

04/13/2021 MLPV DPT pg 2 of 2

1130 Mobilize to MLPV-DPT0689 (Point #52) begin drilling
(7) – Sampled 5'-9' @ 1140
(11) – Sampled 9'-13' @ 1155

1200 Lunch Break + Mobilize to Next boring location

1240 Mobilize and begin drilling at MLPV-DPT0690 (Point #48)
(45) – Sampled 43'-47' @ 1305
(50) – Sampled 48'-52' @ 1325
(56) – Sampled 54-58 @ 1345 ← Decon
(63) – Sampled 61-65 @ 1435

1440 demobilize, grout, GPS and locate next position. Begin drilling MLPV-DPT0691 (Point #55)
(7) – Sampled 5'-9' @ 1515
(11) – Sampled 9'-13' @ 1535 ← meet with Lab Customer @ 1600
(16) – Sampled 14'-18' @ 1615
(22) – Sampled 20'-24' @ 1630

1635 Demobilize, Grout + GPS point
1645 Travel to CCF to take lab to down
1700 All personnel leave Site

Sm

NASA — Sm — ED

04/14/2021 MLPV DPT p 1 of 3

0700 Arrive on site, Tailgate Safety meeting Complete forms, Review tasks
0715 GPS locations while drillers maintain rods. Work with Vinnea regarding Boring locations
0755 Move rig to next location and mobilize to drill
0800 Begin drilling at MLPV-DPT0692 (Point #56)
(7) – Sampled 5'-9' @ 0810
(11) – Sampled 9-13' @ 0825
(16) – Sampled 14'-18' @ 0835
(22) – Sampled 20'-24' @ 0845
0850 demobilize, Grout and relocate
0900 begin drilling at MLPV-DPT0693 (Point #57)
(7) – Sampled 5'-9' @ 0910
(11) – Sampled 9'-13' @ 0920
(16) – Sampled 14'-18' @ 0930
(22) – Sampled 20'-24' @ 0945
0950 demobilize, grout + GPS
0955 Return to MLPV-DPT0682 (Point #43) to drill.
(16) – Sampled 14'-18' @ 1005
(22) – Sampled 20'-24' @ 1015
1028 Demobilize, grout + GPS

NASA

04/14/2021 MLPV DPT pg 2 of 3 SM ED

1025 Move to revisit MLPV-DPT0683 (Point#44) begin drilling.
(16) - Sampled 14'-18' @ 1035
(22) - Sampled 20'-24' @ 1045.

1050 Demobilize, grout + travel to next Boring

1055 Revisit MLPV-DPT0688 (Point #6) Decon
(7) - Sampled 5'-9' @ 1130

1135 Demobilize, Grout + GPS

1140 Move rig + begin drilling at MLPV-DPT0694 (Point #49)
(45) - Sampled 43'-47' @ 1155
Lunch Break → (50) - Sampled 48'-52' @ 1255
(56) - Sampled 54'-58' @ 1310

1315 Demobilize, Grout + GPS. Move to next location

1325 Begin drilling at MLPV-DPT0695 (Point #50)
(45) - Sampled 43'-47' @ 1340
(50) - Sampled 48'-52' @ 1400
(56) - Sampled 54'-58' @ 1420

1425 Demobilize, grout move to next location

1435 Begin drilling at MLPV-DPT0696 (Point #51)
Sample #20 → (45) - Sampled 43'-47' @ 1445
(50) - Sampled 48'-52' @ 1500
(56) - Sampled 54'-58' @ 1520

NASA

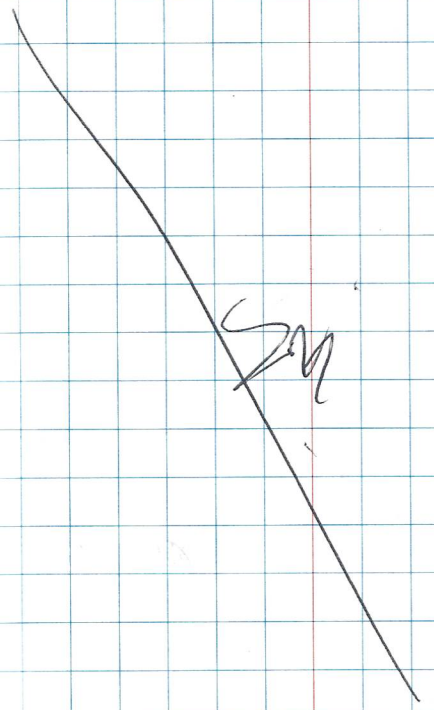
04/14/2021 MLPV-DPT pg 3 of 3 SM ED

1525 Demobilize, Grout + GPS

1530 Decon + Maintence on rig

1600 Travel to dump IDW in drums (Total 8 Drums now)

1630 Travel to new boring location
All personel leave site



NASA

04/15/2021 MLPV DPT pg 1 of 3 SM ED

0700 Arrive on site, meet drillers for tailgate Safety meeting and Daily discussion.

0730 Meet with Linnea + Review locations while drillers file rods

0800 Begin drilling at MLPV-DPT0697 (Point #58)

(45) - Sampled 43'-47' @0810

(50) - Sampled 48'-52'@0830

(56) - Sampled 54'-58'@0850

0855 Demobilize, grout, Travel to new location

0915 Begin drilling at MLPV-DPT0698 (Point#59)

(7) - Sampled 5-9'@0925

(11) - Sampled 9-13'@0935

0940 Demobilize, grout, Travel to next location

0945 Begin drilling at MLPV-DPT0699 (Point #60)

(7) - Sampled 5'-9'@ 0955

(11) - Sampled 9'-13'@1005

1010 Demobilize, grout GPS

1015 Begin drilling at MLPV-DPT0700 (Point#61)

(50) - Sampled 48'-52'@1030

~~- Sampled~~

1035 Demobilize, Grout + Relocate

NASA

04/15/2021 MLPV DPT pg2of3 SM ED

1045 Begin drilling at MLPV-DPT0701 (Point #63)

(50) - Sampled 48'-52' @1055

1100 Demobilize + Grout ~~Call~~ Contact Linnea regarding intervals at next location

1115 move rig to next location

1120 Begin drilling at MLPV-DPT0702 (Point#64)

(50) - Sampled 48'-52' @ 1135

(56) - Sampled 54'-58'@ 1200

1205 Demobilize, grout + GPS

1210 Decon + Water dump

1220 Lunch break

1255 Mobilize rig to Biosparge Area

1320 Arrive at Biosparge Area and mobilize to next boring location.

1325 Begin drilling at MLPV-DPT0703 (Point #7) *Point moved 4' due to hazardous slope

(33) - Sampled 31'-35' @1345

(38) - Sampled 36'-40 @1400

(43) - Sampled 41-45 @1430

1435 Demobilize, grout + move to next location, Hand Auger

1445 Begin drilling at MLPV-DPT0704 (Point #8) moved ~5' away from ditch

04/15/2021 NASA MLPV DPT pg 3 of 3 SM ED

(33) - Sampled 31'-35' @ 1455
(38) - Sampled 36'-40' @ 1515
(43) - Sampled 41'-45' @ 1540
1545 Demobilize, Grout + Relocate to next boring
1555 Begin Hand Auger and drilling at MLPV-DPT0705 (Point #9)
(43) - Sampled 41'-45' @ 1615
(48) - Sampled 46'-50' @ 1635
1640 Demobilize, grout + GPS prior location
1650 Travel to CCF and dispose IDW (10 drums total) + Decon
1705 All personnel leave Site

SM

04/16/2021 NASA MLPV DPT plot SM ED

0700 Arrive on site + Tailgate Safety Meeting Review days plan
0715 Transport Rig to next location
0725 Begin 2' Hand Auger and drilling at MLPV-DPT0706 (Point #10)
(33) - Sampled 31'-35' @ 0745
(38) - Sampled 36'-40' @ 0800
(43) - Sampled 41-45 @ 0815
(48) - Sampled 46-50 @ 0830
0835 Demobilize, grout, Drillco to decon rig + Equipment
0900 Arrive at next location begin drilling at MLPV-DPT0707 (Point #11)
(33) - Sampled 31'-35' @ 0920
(38) - Sampled 36-40 @ 0935
(43) - Sampled 41-45 @ 0950
(48) - Sampled 46-50 @ 1010
1015 Demobilize, grout, travel to next location
1020 Begin 2' hand Auger and drilling at MLPV-DPT0708 (Point #12) ← Drillers Edit Down Pipe (rods)
(33) - Sampled 31'-35' @ 1110
(38) - Sampled 36-40 @ 1125
(43) - Sampled 41'-45' @ 1140
(48) - Sampled 46'-50' @ 1155
200 Demobilize, grout + GPS Bio sparge area locations. Drillco Travel to next location

1225 Lunch break; Move to Hot Spot #3

1255 Setup and begin drilling at MLPV-DPT0709 (Point #65)

(7) - Sampled 5'-9' @ 1310

(11) - Sampled 9'-13' @ 1320

1325 Demobilize, Grout + move to next location

1335 Arrive on location and begin drilling at MLPV-DPT0710 (Point #67)

(50) - Sampled 48'-52' @ 1350

(56) - Sampled 54'-58' @ 1410

1415 Demobilize, Grout + GPS

1425 Begin drilling at MLPV-DPT0711 (Point #66

(50) - Sampled 48'-52' @ 1445

(56) - Sampled 54'-58' @ 1505

1515 demobilize, grout + GPS locations

1520 Travel to CCF to Sample Drums with Liner Ring

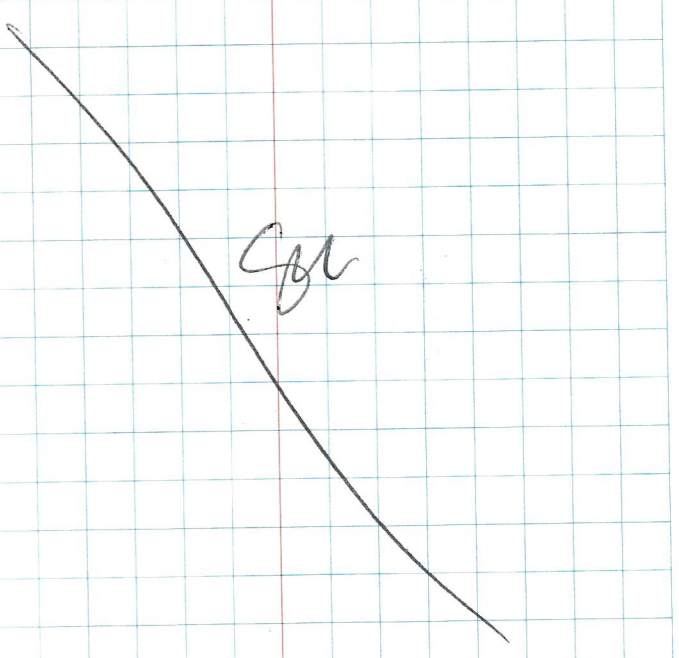
Drum Log:

Drum #	Gen. Date	Location	Source	Pallet ID	Drum ID
1	3/30/21	Biosparge	629-631	223954	223953
2	3/30/21	HS #2	632-631	|	223955
3	4/1/21	HS #3	644-651	|	223956
4	4/1/21	HS#2	648-652	|	223957
5	4/5/21	HS#3	652-651	223958	223959

Drum Log Continued:

Drum #	Gen date	Location	Source	PalletID	Drum ID
6	04/08/2021	HS#3	682-685	223958	223960
7	04/13/2021	HS#3	685-694	|	223961
8	04/07/2021	HS#3	651-662	|	223972
9	04/14/2021	HS#3	694-702	223973	223974
~~10~~	~~04/15/2021~~	~~Biosparge~~	+683+682 +710+711	|	223975
10	04/15/2021	Biosparge	703-708	|	

1620 Leave Site



4/26/2021 — pH lab — JB

pH testing Drums

1000 James Bradford at CCF.

Calibrate pH meter

STD	INITIAL pH	INITIAL TEMP	FINAL pH	FINAL TEMP
4.0	4.01	25.0	4.03	26.6
7.0	7.00	25.0	7.04	26.0
10.0	10.00	25.0	10.08	26.1

1025 Measure pH levels

~~Pallet ID: 223954~~

	LOCATION	DRUM ID	PH	TEMP	SHELL ID
1029	HOT SPOT 2	223957	10.24	29.4	223954
1031	HS-2	223955	9.58	29.0	
1034	HS-3	223956	8.21	30.5	
1037	BIO	223953	7.84	28.8	
1040	HS-3	223959	7.59	28.9	223958
1043	HS-3	223972	8.38	29.7	
1045	HS-3	223961	7.92	30.4	
1047	HS-3	223960	7.99	30.3	
1052	BIO	223975	8.30	26.8	223973
1054	HS-3	223975	8.61	27.2	

+ CHECK CALIBRATIONS — see final above

1120 REPLACE SHELL *223973 IDW LABEL

1130 JB offsite. (CCF)

Drum testing at CCF (from DPT)

1600 James Bradford at CCF
- Open shell # 223954
- Begin adding pH DOWN to drum # 223955
  ~ 80% full
  added ~ 6 oz
- Begin adding pH down to drum # 223957
  ~ 10% full
  added ~ ½ oz

1630 Collected pH readings
DRUM # 223955 → pH = 8.41 @ 31.7°C
DRUM # 223957 → pH = 6.43 @ 30.2°C
* meter calibrated prior to readings

1700 ALL PERSONNEL (JB) OFFSITE

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APPENDIX D

MOBILE LABORATORY ANALYTICAL REPORTS –

DPT GROUNDWATER SAMPLING

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Analytical Laboratories of Florida, Inc.

October 10, 2020

PERMISSION TO PUBLISH

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Sincerely,
ANALYTICAL LABORATORIES OF FLORIDA, INC.

Dale Schamp
Chemist

4125 Alan Shepard Avenue, Cocoa, Florida 32926
E mail: mobilealf@cs.com
Cell phone: 321–258-1355

Analytical Laboratories of Florida, Inc.

April 22, 2021

Jennifer Chastain
Data Management Coordinator
AECOM Technical Services - Orlando
Project Name: Wilson's Corner Site, KSC, Fl.

Re: PDF - Analytical Data Package

Analytical Laboratories of Florida, Inc. (ALF) office located at 4125 Alan Shepard Avenue, Cocoa, Florida provided laboratory services for AECOM Technical Services, Inc. at the Mobile Launch Platform / Vehicle Assembly (MLPV) areas of Kennedy Space Center during direct push temporary well sample collection. The site is located at NASA's Kennedy Space Center, Florida complex. The laboratory contact is Dale Schamp at 321-258-1355. The laboratory project name is AECOM032921. Analysis was performed utilizing EPA8260D methodology. A total of 254 ground water samples were analyzed by Dale Schamp (Chemist) over a period of fifteen days from March 29 – April 12, 2021. The project utilized one of two mobile laboratories over the duration of the project. The mobile laboratories are certified (Certification Number E83934 or E831090) by the Florida Department of Health using the guidelines of the national NELAC certification program. The client's Jennifer Chastain deemed the excel spreadsheet format utilized to transport environmental analytical data to AECOM is acceptable in an electronic format submitted. ALF's data was submitted to AECOM-Orlando under file name EDDNASA.MLPV.032921.total on April 22, 2021.

AECOM's Project Manager is Linnea King Clark out of the Orlando, Florida office. The AECOM Contact's project number is 60615493. The mobile laboratory was utilized to perform laboratory analysis to delineate volatile organic contamination in the groundwater at various NASA sites. The contaminants of concern included vinyl chloride,1,1-Dichloroethene, cis/trans-1,2-DCE, trichloroethene and tetrachloroethene. The sample analysis load was expected to be up to 20 samples per day.

ALF performed the sample extraction with a Teledyne Stratum sample concentrator utilizing a purge and trap technique. The EPA 5030 method was used as a guideline for this procedure. The process involved is done by purging a gas (UHP helium) through a known sample volume (10 ml – undiluted) at a constant flow rate and specific time. This process transfers the contaminants of
concern (COC) from the liquid matrix (groundwater) onto the trap. The trap is then heated to 250C releasing the compounds from the trap into the GC/MS system. An electronic value

inside

Analytical Laboratories of Florida, Inc.

the Stratum sample concentrator is electronically moved from the load position to the inject position to transfer the COCs to the GC/MS.

ALF's GC/MS system consists of a Stratum PTC hooked up to an Agilent 6890 (or Model 7890) Gas Chromatograph in series with an Agilent 5973 (or Model 5975C) MS detector. The COCs are separated by the gradual increase of temperature of GC oven from 45C to 200C and the column's internal coating. ALF's column of choice is a J&W DB-VRX 20 meter, 0.18mm ID, 1um df. This setup closely follows the requirements of EPA Method 8260D for identification and quantification.

The target compound list had a very wide range of project specific detection limit requirements between 1 and 100 ppb to meet the Florida GCTLs. The lab settled on a method detection level for all compounds of 1 ppb. This detection level allowed the compounds to be analyzed in the scan sensitivity mode only.

The compounds are identified by two ways: retention time and ion spectrum. Simply under repetitive flow rates and consistent oven variation of temperatures a compound will pass through a detector at the same time for unknown samples and known calibration standards. The time, after the start of a run, the compound passes through a detector to give a peak type response is known as the retention time. This is how any Gas Chromatograph with a detector identifies a compound. The MS detector has the additional power of compound ion spectrums which occur when the compounds are bombarded with electrons as they pass into the detector which causes the compounds to fragment. Each COC fragments differently from all other compounds thus this is an additional aid in identifying compounds. In the SIM mode, the detector looks for specific compound fragments which increase detector sensitivity.

The compounds are quantified by comparing area responses of unknown sample concentrations to known calibration standards. The greater the peak area response the greater the concentration of the COC present.

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Dale Schamp was the designated Field Chemist for this project. Each day on the Field Activity Form (FAF), the sample analyst would document the sample field description, matrix, sample's date and collection time for each sample received. The FAF also recorded the date and time the sample was received by the mobile laboratory.

Analytical Laboratories of Florida, Inc.

The FAF was also used to record the sample analysis time and volume utilized to perform the analysis. The GC/MS system is linear to 500 ppb for the COCs. Mr. Schamp may have utilized one or two SRI GC systems to determine the sample size which was required to run the sample on the GC/MS. This sample pre-screening process prevented the field chemist from doing multiple runs due to high COC concentrations in the groundwater sample which in turn allowed him to get the final data to the contractor quicker.

Quality Assurance (QA) is an important part of sample analysis. QA is utilized to aid in the measurement of the data quality generated. The FDEP and EPA methods require the mobile laboratory run: a calibration curve, laboratory duplicates, laboratory matrix spikes, daily instrument tune checks, daily method blanks, internal standards, surrogate standards and calibration check standards. Other than the initial calibration standards curves and tune checks, this information can be found in the Excel Data Summary Tables provided and/or the overall Project EDD table required by client.

Once the sample's analysis was completed, the chemist entered the data into an Excel Data Summary Table spreadsheet. ALF analyzed 15 sample(s) for matrix spike analysis to determine whether the samples themselves cause interferences with the data generation. Project requirements specify 5 % while ALF's frequency was 5.9 % (15/254). ALF analyzed 15 sample duplicate(s) to check analysis reproducibility. This is also required at a frequency of 5% while ALF did this at a rate of 5.9 % (15/254).

The following information is attached or included in the electronic deliverables:

1. AECOM EDD Data Summary Tables which includes QC data
2. Field Activities Forms
3. A Copy of this Project Summary

The data generated has been reviewed and submitted under KSCs EDD format and the data has been reviewed by client personnel for errors. I can be reached at 321-258-1355, if you have any follow-up questions.

Sincerely,
ANALYTICAL LABORATORIES OF FLORIDA, INC.

4125 Alan Shepard Avenue, Cocoa, Florida 32926
E mail: mobilealf@cs.com
Cell phone: 321–258-1355

Dale Schamp
Chemist

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E mail: mobilealf@cs.com
Cell phone: 321–258-1355

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

3/29/21 Activities: Calibrate GC#5/Lab#1 Ref#10 Temperature: < -10 C

Method (soil/water) Blank(s): All responses < 5% of Lowest reported Reg Limit

Cal(water/soil)Curve(s): fn: 032921DRY6F.M

Cal(water/soil)Curve(s): All standards ion ratios are within 30% of mid level standard. All compound Response Factor ratios are > 0.1 or >0.2

Cal(water/soil)Curve(s): Second Source expected % Recovery met +/- 30 % of expected response (ng)

Lowest Concen level: Recalibrated Detection level standard meet +/- 30 % expected response (10ng level)

Cal(water)Curve(s): Blank passed tune acceptance criteria of EPA 8260C Section 11.3.1

0843 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 72 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0849 Run method blank in (fn: 032921blk1.d) 10 ml H20. All analyte responses equal to or < 5% of lowest quantitation calibration standard.

0900 TO 1155 Calibrate C#5

1215 Rec 3 GW from JB on ice. Temp = 65F. FN: MLPV-DPT0626@33' (1105)/Lab ID: AECOM032921-W001 ; @ 37' (1125)/W002 ; @43' (1200)/W003

1233 Remove 10 ml GW sample W-001 from VOA vial W-001C-1. Add int/surr stds. Load onto PT-1. FN: DPT0626@33' / Lab ID: AECOM032921-W-001. 1243 Inject.

1307 Remove 10 ml GW sample W-001 from VOA vial W-001C-2. Add 100NG,int/surr stds. Load onto PT-1. FN: DPT0626@33' / Lab ID: AECOM032921-W-001MS. 1317 Inject.

1320 Remove 10 ml GW sample W-002 from VOA vial W-002C-1. Add int/surr stds. Load onto PT-1. FN: DPT0626@37' / Lab ID: AECOM032921-W-002. 1330 Inject.

1322 Rec 1 GW from JB. FN: MLPV-DPT0627@33' (1315)/Lab ID: AECOM032921-W004

1333 Remove 10 ml GW sample W-003 from VOA vial W-003C-1. Add int/surr stds. Load onto PT-1. FN: DPT0626@43' / Lab ID: AECOM032921-W-003. 1343 Inject.

1340 Rec 1 GW from JB. FN: MLPV-DPT0627@37' (1335)/Lab ID: AECOM032921-W005

1348 Remove 10 ml GW sample W-004 from VOA vial W-004C-1. Add int/surr stds. Load onto PT-1. FN: DPT0627@33' / Lab ID: AECOM032921-W-004. 1358 Inject.

1401 Remove 10 ml GW sample W-003 from VOA vial W-003C-2. Add int/surr stds. Load onto PT-1. FN: DPT0626@43' / Lab ID: AECOM032921-W-003DUP. 1411 Inject.

1404 Rec 1 GW from JB. FN: MLPV-DPT0627@43' (1400)/Lab ID: AECOM032921-W006

1414 Remove 10 ml GW sample W-005 from VOA vial W-005C-1. Add int/surr stds. Load onto PT-1. FN: DPT0627@37' / Lab ID: AECOM032921-W-005. 1424 Inject.

1432 Remove 10 ml GW sample W-006 from VOA vial W-006C-1. Add int/surr stds. Load onto PT-1. FN: DPT0627@43' / Lab ID: AECOM032921-W-006. 1442 Inject.

1448 Rec 1 GW from JB. FN: MLPV-DPT0628@33' (1445)/Lab ID: AECOM032921-W007

1453 Remove 10 ml GW sample W-007 from VOA vial W-007C-1. Add int/surr stds. Load onto PT-1. FN: DPT0628@33' / Lab ID: AECOM032921-W-007. 1503 Inject.

1509 Rec 1 GW from JB. FN: MLPV-DPT0628@37' (1505)/Lab ID: AECOM032921-W008

1512 Remove 10 ml GW sample W-008 from VOA vial W-008C-1. Add int/surr stds. Load onto PT-1. FN: DPT0628@37' / Lab ID: AECOM032921-W-008. 1522 Inject.

1540 Rec 1 GW from JB. FN: MLPV-DPT0628@43' (1535)/Lab ID: AECOM032921-W009

1543 Remove 10 ml GW sample W-009 from VOA vial W-009C-1. Add int/surr stds. Load onto PT-1. FN: DPT0628@43' / Lab ID: AECOM032921-W-009. 1553 Inject.

1616 Rec 1 GW from JB. FN: MLPV-DPT0629@33' (1615)/Lab ID: AECOM032921-W010

1617 Remove 10 ml GW sample W-010 from VOA vial W-010C-1. Add int/surr stds. Load onto PT-1. FN: DPT0629@33' / Lab ID: AECOM032921-W-010. 1627 Inject.

1633 Rec 1 GW from JB. FN: MLPV-DPT0629@37' (1631)/Lab ID: AECOM032921-W011

1635 Remove 10 ml GW sample W-011 from VOA vial W-011C-1. Add int/surr stds. Load onto PT-1. FN: DPT0629@37' / Lab ID: AECOM032921-W-011. 1645 Inject.

1656 Rec 1 GW from JB. FN: MLPV-DPT0629@43' (1655)/Lab ID: AECOM032921-W012

1656 Remove 10 ml GW sample W-012 from VOA vial W-012C-1. Add int/surr stds. Load onto PT-1. FN: DPT0629@43' / Lab ID: AECOM032921-W-012. 1705 Inject.

3/30/21 Activities:

0759 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 72 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0804 Run method blank in (fn: 033021blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.

0822 Run 10ml H20 with 100ng spike (fn: 033021ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.

0842 Rec 1 GW from JB. FN: MLPV-DPT0630@33' (0840)/Lab ID: AECOM032921-W013

0846 Remove 10 ml GW sample W-013 from VOA vial W-013C-1. Add int/surr stds. Load onto PT-1. FN: DPT0630@33' / Lab ID: AECOM032921-W-013. 0856 Inject.

0903 Remove 10 ml GW sample W-013 from VOA vial W-013C-2. Add 100N,int/surr stds. Load onto PT-1. FN: DPT0630@33' / Lab ID: AECOM032921-W-013MS. 0913 Inject.

0906 Rec 1 GW from JB. FN: MLPV-DPT0630@37' (0900)/Lab ID: AECOM032921-W014

0922 Remove 10 ml GW sample W-014 from VOA vial W-014C-1. Add int/surr stds. Load onto PT-1. FN: DPT0630@37' / Lab ID: AECOM032921-W-014. 0932 Inject.

0923 Rec 1 GW from JB. FN: MLPV-DPT0630@43' (0920)/Lab ID: AECOM032921-W015

0940 Remove 10 ml GW sample W-015 from VOA vial W-015C-1. Add int/surr stds. Load onto PT-1. FN: DPT0630@43' / Lab ID: AECOM032921-W-015. 0950 Inject.

0944 Rec 1 GW from JB. FN: MLPV-DPT0630@47' (0940)/Lab ID: AECOM032921-W016

1001 Remove 0.5 ml GW sample W-015 from VOA vial W-015C-2. Add int/surr stds. Load onto PT-1. FN: DPT0630@43' / Lab ID: AECOM032921-W-015R. 1011 Inject.

1020 Remove 3 ml GW sample W-016 from VOA vial W-016C-1. Add int/surr stds. Load onto PT-1. FN: DPT0630@47' / Lab ID: AECOM032921-W-016. 1030 Inject.

1023 Rec 1 GW from JB. FN: MLPV-DPT0631@33' (1020)/Lab ID: AECOM032921-W017

1039 Remove 5 ml GW sample W-016 from VOA vial W-016C-2. Add int/surr stds. Load onto PT-1. FN: DPT0630@47' / Lab ID: AECOM032921-W-016DUP. 1049 Inject.

1050 Rec 1 GW from JB. FN: MLPV-DPT0631@37' (1045)/Lab ID: AECOM032921-W018

1057 Remove 10 ml GW sample W-017 from VOA vial W-017C-1. Add int/surr stds. Load onto PT-1. FN: DPT0631@33' / Lab ID: AECOM032921-W-017. 1107 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 3/29-30/2021

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

3/30/21 Activities:

1110 Rec 1 GW from JB. FN: MLPV-DPT0631@43' (1105)/Lab ID: AECOM032921-W019

1115 Remove 10 ml GW sample W-018 from VOA vial W-018C-1. Add int/surr stds. Load onto PT-1. FN: DPT0631@37' / Lab ID: AECOM032921-W-018. 1125 Inject.

1130 Rec 1 GW from JB. FN: MLPV-DPT0631@47' (1125)/Lab ID: AECOM032921-W020

1133 Remove 10 ml GW sample W-019 from VOA vial W-019C-1. Add int/surr stds. Load onto PT-1. FN: DPT0631@43' / Lab ID: AECOM032921-W-019. 1143 Inject.

1152 Remove 10 ml GW sample W-020 from VOA vial W-020C-1. Add int/surr stds. Load onto PT-1. FN: DPT0631@47' / Lab ID: AECOM032921-W-020. 1202 Inject.

1320 Rec 2 GW from JB on ice. Temp = 65F. FN: MLPV-DPT0632@43' (1255)/Lab ID: AECOM032921-W021 ; @47(1315)/W22

1331 Remove 10 ml GW sample W-021 from VOA vial W-021C-1. Add int/surr stds. Load onto PT-1. FN: DPT0632@43' / Lab ID: AECOM032921-W-021. 1341 Inject.

1349 Remove 2 ml GW sample W-021 from VOA vial W-021C-2. Add int/surr stds. Load onto PT-1. FN: DPT0632@43' / Lab ID: AECOM032921-W-021r. 1359 Inject.

1407 Remove 10 ml GW sample W-022 from VOA vial W-022C-1. Add int/surr stds. Load onto PT-1. FN: DPT0632@47' / Lab ID: AECOM032921-W-022. 1417 Inject.

1408 Rec 1 GW from JB. FN: MLPV-DPT0633@43' (1405)/Lab ID: AECOM032921-W023

1425 Remove 10 ml GW sample W-023 from VOA vial W-023C-1. Add int/surr stds. Load onto PT-1. FN: DPT0633@43' / Lab ID: AECOM032921-W-023. 1435 Inject.

1427 Rec 1 GW from JB. FN: MLPV-DPT0633@47' (1425)/Lab ID: AECOM032921-W024

1443 Remove 5 ml GW sample W-024 from VOA vial W-024C-1. Add int/surr stds. Load onto PT-1. FN: DPT0633@47' / Lab ID: AECOM032921-W-024. 1453 Inject.

1533 Rec 1 GW from JB. FN: MLPV-DPT0634@43' (1530)/Lab ID: AECOM032921-W025

1535 Remove 10 ml GW sample W-025 from VOA vial W-025C-1. Add int/surr stds. Load onto PT-1. FN: DPT0634@43' / Lab ID: AECOM032921-W-025. 1545 Inject.

1548 Rec 1 GW from JB. FN: MLPV-DPT0634@47' (1545)/Lab ID: AECOM032921-W026

1552 Remove 10 ml GW sample W-026 from VOA vial W-026C-1. Add int/surr stds. Load onto PT-1. FN: DPT0634@47' / Lab ID: AECOM032921-W-026. 1602 Inject.

1651 Rec 1 GW from JB. FN: MLPV-DPT0635@43' (1650)/Lab ID: AECOM032921-W027

1652 Remove 10 ml GW sample W-027 from VOA vial W-027C-1. Add int/surr stds. Load onto PT-1. FN: DPT0635@43' / Lab ID: AECOM032921-W-027. 1702 Inject.

1706 Remove 5 ml GW sample W-027 from VOA vial W-027C-2. Add int/surr stds. Load onto PT-1. FN: DPT0635@43' / Lab ID: AECOM032921-W-027R. 1714 Inject.

3/31/21 Activities:

0802 Rec 1 GW from SM on ice. Temp = 67F. FN: MLPV-DPT0635@47' (0730)/Lab ID: AECOM032921-W028

0828 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 74 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0832 Rec 1 GW from SM. FN: MLPV-DPT0636@43' (0830)/Lab ID: AECOM032921-W029

0850 Rec 1 GW from SM. FN: MLPV-DPT0636@47' (0845)/Lab ID: AECOM032921-W030

0852 Run 10ml H20 with 100ng spike (fn: 033121ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.

0909 Run method blank in (fn: 033121blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.

0920 Remove 10 ml GW sample W-028 from VOA vial W-028C-1. Add int/surr stds. Load onto PT-1. FN: DPT0635@47' / Lab ID: AECOM032921-W-028. 0930 Inject.

0924 Rec 1 GW from SM. FN: MLPV-DPT0637@43' (0920)/Lab ID: AECOM032921-W031

0937 Remove 3 ml GW sample W-028 from VOA vial W-028C-2. Add int/surr stds. Load onto PT-1. FN: DPT0635@47' / Lab ID: AECOM032921-W-028DUP. 0947 Inject.

0937 Rec 1 GW from SM. FN: MLPV-DPT0637@47' (0935)/Lab ID: AECOM032921-W032

0955 Remove 10 ml GW sample W-029 from VOA vial W-029C-1. Add int/surr stds. Load onto PT-1. FN: DPT0636@43' / Lab ID: AECOM032921-W-029. 1005 Inject.

1014 Rec 1 GW from SM. FN: MLPV-DPT0638@43' (1010)/Lab ID: AECOM032921-W033

1028 Remove 10 ml GW sample W-030 from VOA vial W-030C-1. Add int/surr stds. Load onto PT-1. FN: DPT0636@47' / Lab ID: AECOM032921-W-030. 1038 Inject.

1029 Rec 1 GW from SM. FN: MLPV-DPT0638@47' (1025)/Lab ID: AECOM032921-W034

1046 Remove 3 ml GW sample W-031 from VOA vial W-031C-1. Add int/surr stds. Load onto PT-1. FN: DPT0637@43' / Lab ID: AECOM032921-W-031. 1056 Inject.

1102 Remove 3 ml GW sample W-032 from VOA vial W-032C-1. Add int/surr stds. Load onto PT-1. FN: DPT0637@47' / Lab ID: AECOM032921-W-032. 1112 Inject.

1119 Rec 1 GW from SM. FN: MLPV-DPT0639@43' (1115)/Lab ID: AECOM032921-W035

1119 Remove 10 ml GW sample W-033 from VOA vial W-033C-1. Add int/surr stds. Load onto PT-1. FN: DPT0638@43' / Lab ID: AECOM032921-W-033. 1129 Inject.

1136 Remove 10 ml GW sample W-034 from VOA vial W-034C-1. Add int/surr stds. Load onto PT-1. FN: DPT0638@47' / Lab ID: AECOM032921-W-034. 1146 Inject.

1143 Rec 1 GW from SM. FN: MLPV-DPT0639@47' (1140)/Lab ID: AECOM032921-W036

1155 Remove 10 ml GW sample W-035 from VOA vial W-035C-1. Add int/surr stds. Load onto PT-1. FN: DPT0639@43' / Lab ID: AECOM032921-W-035. 1205 Inject.

1215 Remove 10 ml GW sample W-035 from VOA vial W-035C-2. Add 100n,int/surr stds. Load onto PT-1. FN: DPT0639@43' / Lab ID: AECOM032921-W-035MS. 1225 Inject.

1233 Remove 3 ml GW sample W-036 from VOA vial W-036C-1. Add int/surr stds. Load onto PT-1. FN: DPT0639@47' / Lab ID: AECOM032921-W-036. 1243 Inject.

1333 Rec 1 GW from SM. FN: MLPV-DPT0640@43' (1330)/Lab ID: AECOM032921-W037

1337 Remove 10 ml GW sample W-037 from VOA vial W-037C-1. Add int/surr stds. Load onto PT-1. FN: DPT0640@43' / Lab ID: AECOM032921-W-037. 1347 Inject.

1353 Rec 1 GW from SM. FN: MLPV-DPT0640@47' (1350)/Lab ID: AECOM032921-W038

1357 Remove 3 ml GW sample W-038 from VOA vial W-038C-1. Add int/surr stds. Load onto PT-1. FN: DPT0640@47' / Lab ID: AECOM032921-W-038. 1407 Inject.

1530 Rec 1 GW from SM. FN: MLPV-DPT0641@43' (1520)/Lab ID: AECOM032921-W039

1541 Remove 3 ml GW sample W-039 from VOA vial W-039C-1. Add int/surr stds. Load onto PT-1. FN: DPT0641@43' / Lab ID: AECOM032921-W-039. 1551 Inject.

1546 Rec 1 GW from SM. FN: MLPV-DPT0641@47' (1540)/Lab ID: AECOM032921-W040

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 3/30-31/2021

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

3/31/21 Activities:

1602 Remove 5 ml GW sample W-040 from VOA vial W-040C-1. Add int/surr stds. Load onto PT-1. FN: DPT0641@47' / Lab ID: AECOM032921-W-040. 1612 Inject.
1611 Rec 1 GW from SM. FN: MLPV-DPT0642@43' (1608)/Lab ID: AECOM032921-W041
1628 Remove 2 ml GW sample W-041 from VOA vial W-041C-1. Add int/surr stds. Load onto PT-1. FN: DPT0642@43' / Lab ID: AECOM032921-W-041. 1638 Inject.
1630 Rec 1 GW from SM. FN: MLPV-DPT0642@47' (1625)/Lab ID: AECOM032921-W042
1645 Remove 2 ml GW sample W-042 from VOA vial W-042C-1. Add int/surr stds. Load onto PT-1. FN: DPT0642@47' / Lab ID: AECOM032921-W-042. 1655 Inject.
1653 Rec 1 GW from SM. FN: MLPV-DPT0642@53' (1650)/Lab ID: AECOM032921-W043
1701 Remove 10 ml GW sample W-043 from VOA vial W-043C-1. Add int/surr stds. Load onto PT-1. FN: DPT0642@53' / Lab ID: AECOM032921-W-043. 1711 Inject.

4/1/21 Activities:

0828 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 72 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0837 Rec 1 GW from SM. FN: MLPV-DPT0643@43' (0835)/Lab ID: AECOM032921-W044
0837 Run method blank in (fn: 040121blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0853 Rec 1 GW from SM. FN: MLPV-DPT0643@47' (0850)/Lab ID: AECOM032921-W045
0855 Run 10ml H20 with 100ng spike (fn: 040121ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.
0904 Remove 5 ml GW sample W-044 from VOA vial W-044C-1. Add int/surr stds. Load onto PT-1. FN: DPT0643@43' / Lab ID: AECOM032921-W-044. 0914 Inject.
0922 Remove 3 ml GW sample W-044 from VOA vial W-044C-2. Add int/surr stds. Load onto PT-1. FN: DPT0643@43' / Lab ID: AECOM032921-W-044DUP. 0932 Inject.
0940 Remove 3 ml GW sample W-045 from VOA vial W-045C-1. Add int/surr stds. Load onto PT-1. FN: DPT0643@47' / Lab ID: AECOM032921-W-045. 0950 Inject.
0959 Remove 3 ml GW sample W-045 from VOA vial W-045C-2. Add 1000ng,int/surr stds. Load onto PT-1. FN: DPT0643@47' / Lab ID: AECOM032921-W-045MS. 1009 Inject.
1035 Rec 2 GWs from SM on ice. Temp = 68F. FN: MLPV-DPT0644@45' (0955)/Lab ID: AECOM032921-W046 ; @50' (1020)/W47
1039 Remove 10 ml GW sample W-046 from VOA vial W-046C-1. Add int/surr stds. Load onto PT-1. FN: DPT0644@45' / Lab ID: AECOM032921-W-046. 1049 Inject.
1057 Remove 10 ml GW sample W-047 from VOA vial W-047C-1. Add int/surr stds. Load onto PT-1. FN: DPT0644@50' / Lab ID: AECOM032921-W-047. 1107 Inject.
1205 Rec 3 GWs from SM on ice. Temp = 69F. FN: MLPV-DPT0645@45' (1105)/Lab ID: AECOM032921-W048 ; @50' (1130)/W49 ; @ 56'(1200)/W50
1215 Remove 10 ml GW sample W-048 from VOA vial W-048C-1. Add int/surr stds. Load onto PT-1. FN: DPT0645@45' / Lab ID: AECOM032921-W-048. 1225 Inject.
1233 Remove 2 ml GW sample W-049 from VOA vial W-049C-1. Add int/surr stds. Load onto PT-1. FN: DPT0645@50' / Lab ID: AECOM032921-W-049. 1243 Inject.
1256 Remove 10 ml GW sample W-050 from VOA vial W-050C-1. Add int/surr stds. Load onto PT-1. FN: DPT0645@56' / Lab ID: AECOM032921-W-050. 1306 Inject.
1340 Rec 2 GWs from SM on ice. Temp = 66F. FN: MLPV-DPT0646@45' (1310)/Lab ID: AECOM032921-W051 ; @50' (1335)/W52
1348 Remove 5 ml GW sample W-051 from VOA vial W-051C-1. Add int/surr stds. Load onto PT-1. FN: DPT0646@45' / Lab ID: AECOM032921-W-051. 1358 Inject.
1407 Remove 10 ml GW sample W-052 from VOA vial W-052C-1. Add int/surr stds. Load onto PT-1. FN: DPT0646@50' / Lab ID: AECOM032921-W-052. 1417 Inject.
1540 Rec 3 GWs from SM on ice. Temp = 63F. FN: MLPV-DPT0647@38' (1440)/Lab ID: AECOM032921-W053 ; @45' (1500)/W54 ; @ 50'(1525)/W55
1546 Remove 10 ml GW sample W-053 from VOA vial W-053C-1. Add int/surr stds. Load onto PT-1. FN: DPT0647@38' / Lab ID: AECOM032921-W-053. 1556 Inject.
1603 Remove 3 ml GW sample W-054 from VOA vial W-054C-1. Add int/surr stds. Load onto PT-1. FN: DPT0647@45' / Lab ID: AECOM032921-W-054. 1613 Inject.
1621 Remove 10 ml GW sample W-055 from VOA vial W-055C-1. Add int/surr stds. Load onto PT-1. FN: DPT0647@50' / Lab ID: AECOM032921-W-055. 1631 Inject.
1650 Rec 1 GW from SM on ice. Temp = 68F. FN: MLPV-DPT0648@45' (1630)/Lab ID: AECOM032921-W056
1652 Remove 10 ml GW sample W-056 from VOA vial W-056C-1. Add int/surr stds. Load onto PT-1. FN: DPT0648@45' / Lab ID: AECOM032921-W-056. 1702 Inject.

4/2/21 Activities:

0812 Rec 2 GW from JB on ice. Temp = 64F. FN: MLPV-DPT0648@50' (0735)/Lab ID: AECOM032921-W057 ; @ 56'(0805)/W58
0820 go get diesel for generator
0913 Rec 1 GW from JB. FN: MLPV-DPT0649@38' (0910)/Lab ID: AECOM032921-W059
0928 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 55 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0929 Run method blank in (fn: 040221blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0940 Rec 1 GW from JB. FN: MLPV-DPT0649@45' (0935)/Lab ID: AECOM032921-W060
0947 Run 10ml H20 with 100ng spike (fn: 040221ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.
0955 Remove 10 ml GW sample W-057 from VOA vial W-057C-1. Add int/surr stds. Load onto PT-1. FN: DPT0648@50' / Lab ID: AECOM032921-W-057. 1005 Inject.
1003 Rec 1 GW from JB. FN: MLPV-DPT0649@50' (1000)/Lab ID: AECOM032921-W061
1028 Rec 1 GW from JB. FN: MLPV-DPT0649@56' (1025)/Lab ID: AECOM032921-W062
1030 Remove 10 ml GW sample W-058 from VOA vial W-058C-1. Add int/surr stds. Load onto PT-1. FN: DPT0648@56' / Lab ID: AECOM032921-W-058. 1040 Inject.
1048 Remove 10 ml GW sample W-059 from VOA vial W-059C-1. Add int/surr stds. Load onto PT-1. FN: DPT0649@38' / Lab ID: AECOM032921-W-059. 1058 Inject.
1103 Rec 1 GW from JB. FN: MLPV-DPT0650@11' (1100)/Lab ID: AECOM032921-W063
1105 Remove 10 ml GW sample W-060 from VOA vial W-060C-1. Add int/surr stds. Load onto PT-1. FN: DPT0649@45' / Lab ID: AECOM032921-W-060. 1115 Inject.
1117 Rec 1 GW from JB. FN: MLPV-DPT0650@16' (1115)/Lab ID: AECOM032921-W064
1123 Remove 10 ml GW sample W-061 from VOA vial W-061C-1. Add int/surr stds. Load onto PT-1. FN: DPT0649@50' / Lab ID: AECOM032921-W-061. 1133 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 3/31 and 4/1-2/2021 Page 3 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/2/21 Activities:

1144 Rec 1 GW from JB. FN: MLPV-DPT0650@38' (1140)/Lab ID: AECOM032921-W065

1123 Remove 10 ml GW sample W-061 from VOA vial W-061C-1. Add int/surr stds. Load onto PT-1. FN: DPT0649@50' / Lab ID: AECOM032921-W-061. 1133 Inject.

1141 Remove 10 ml GW sample W-061 from VOA vial W-061C-2. Add 100ng,int/surr stds. Load onto PT-1. FN: DPT0649@50' / Lab ID: AECOM032921-W-061MS. 1151 Inject.

1159 Remove 10 ml GW sample W-062 from VOA vial W-062C-1. Add int/surr stds. Load onto PT-1. FN: DPT0649@56' / Lab ID: AECOM032921-W-062. 1209 Inject.

1203 Rec 1 GW from JB. FN: MLPV-DPT0650@45' (1200)/Lab ID: AECOM032921-W066

1216 Remove 10 ml GW sample W-063 from VOA vial W-063C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@11' / Lab ID: AECOM032921-W-063. 1226 Inject.

1233 Remove 10 ml GW sample W-064 from VOA vial W-064C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@16' / Lab ID: AECOM032921-W-064. 1240 Inject.

1246 Remove 10 ml GW sample W-065 from VOA vial W-065C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@38' / Lab ID: AECOM032921-W-065. 1254 Inject.

1302 Remove 0.5 ml GW sample W-066 from VOA vial W-066C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@45' / Lab ID: AECOM032921-W-066. 1312 Inject.

1308 Rec 1 GW from JB. FN: MLPV-DPT0651@7' (1305)/Lab ID: AECOM032921-W067

1302 Remove 0.1 ml GW sample W-066 from VOA vial W-066C-2. Add int/surr stds. Load onto PT-1. FN: DPT0650@45' / Lab ID: AECOM032921-W-066dup. 1312 Inject.

1338 Remove 0.1 ml GW sample W-066 from VOA vial W-066C-2syringe. Add int/surr stds. Load onto PT-1. FN: DPT0650@45' / Lab ID: AECOM032921-W-066R. 1312 Inject.

1355 Remove 10 ml GW sample W-067 from VOA vial W-067C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@7' / Lab ID: AECOM032921-W-067. 1405 Inject.

1413 Rec 1 GW from JB. FN: MLPV-DPT0651@11' (1410)/Lab ID: AECOM032921-W068

1422 Remove 10 ml GW sample W-068 from VOA vial W-068C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@11' / Lab ID: AECOM032921-W-068. 1432 Inject.

1430 Rec 1 GW from JB. FN: MLPV-DPT0651@16' (1425)/Lab ID: AECOM032921-W069

1441 Remove 1 ml GW sample W-068 from VOA vial W-068C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@11' / Lab ID: AECOM032921-W-068R. 1451 Inject.

1447 Rec 1 GW from JB. FN: MLPV-DPT0651@22' (1445)/Lab ID: AECOM032921-W070

1459 Remove 5 ml GW sample W-069 from VOA vial W-069C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@16' / Lab ID: AECOM032921-W-069. 1509 Inject.

1519 Remove 10 ml GW sample W-070 from VOA vial W-070C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@22' / Lab ID: AECOM032921-W-070. 1529 Inject.

1545 Rec 1 GW from JB. FN: MLPV-DPT0651@38' (1540)/Lab ID: AECOM032921-W071

1559 Remove 10 ml GW sample W-071 from VOA vial W-071C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@38' / Lab ID: AECOM032921-W-071. 1609 Inject.

1604 Rec 1 GW from JB. FN: MLPV-DPT0651@45' (1600)/Lab ID: AECOM032921-W072

1620 Remove 0.1 ml GW sample W-072 from VOA vial W-072C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@45' / Lab ID: AECOM032921-W-072. 1630 Inject.

1630 Rec 1 GW from JB. FN: MLPV-DPT0651@50' (1625)/Lab ID: AECOM032921-W073

1646 Remove 10 ml GW sample W-073 from VOA vial W-073C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@50' / Lab ID: AECOM032921-W-073. 1656 Inject.

4/5/21 Activities:

0802 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 55 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0806 Run method blank

0813 Rec 2 GW from JB on ice. Temp= 66F. FN: MLPV-DPT0652@11' (0740)/Lab ID: AECOM032921-W074 ; @16(0755)/W075

0814 to 1130 Calibrate GC (FN: 040521dry6F.dcb.M)

0815 Rec 1 GW from JB. FN: MLPV-DPT0652@45' (0810)/Lab ID: AECOM032921-W076

0833 Rec 1 GW from JB. FN: MLPV-DPT0652@50' (0830)/Lab ID: AECOM032921-W077

0858 Rec 1 GW from JB. FN: MLPV-DPT0653@7' (0855)/Lab ID: AECOM032921-W078

0933 Rec 1 GW from JB. FN: MLPV-DPT0653@11' (0930)/Lab ID: AECOM032921-W079

0955 Rec 1 GW from JB. FN: MLPV-DPT0653@16' (0950)/Lab ID: AECOM032921-W080

1010 Rec 1 GW from JB. FN: MLPV-DPT0653@38' (1005)/Lab ID: AECOM032921-W081

1033 Rec 1 GW from JB. FN: MLPV-DPT0654@11' (1030)/Lab ID: AECOM032921-W082

1055 Rec 1 GW from JB. FN: MLPV-DPT0654@16' (1050)/Lab ID: AECOM032921-W083

1114 Rec 1 GW from JB. FN: MLPV-DPT0654@38' (1110)/Lab ID: AECOM032921-W084

1130 Rec 1 GW from JB. FN: MLPV-DPT0654@45' (1125)/Lab ID: AECOM032921-W085

1134 Remove 10 ml GW sample W-074 from VOA vial W-074C-1. Add int/surr stds. Load onto PT-1. FN: DPT0652@11' / Lab ID: AECOM032921-W-074. 1144 Inject.

1153 Remove 10 ml GW sample W-074 from VOA vial W-074C-2. Add 100ng,int/surr stds. Load onto PT-1. FN: DPT0652@11' / Lab ID: AECOM032921-W-074MS. 1203 Inject.

1207 Remove 10 ml GW sample W-075 from VOA vial W-075C-1. Add int/surr stds. Load onto PT-1. FN: DPT0652@16' / Lab ID: AECOM032921-W-075. 1217 Inject.

1223 Remove 5 ml GW sample W-076 from VOA vial W-076C-1. Add int/surr stds. Load onto PT-1. FN: DPT0652@45' / Lab ID: AECOM032921-W-076. 1233 Inject.

1233 Rec 1 GW from JB. FN: MLPV-DPT0655@7' (1230)/Lab ID: AECOM032921-W086

1240 Rec 1 GW from JB. FN: MLPV-DPT0655@11' (1235)/Lab ID: AECOM032921-W087

1241 Remove 5 ml GW sample W-077 from VOA vial W-077C-1. Add int/surr stds. Load onto PT-1. FN: DPT0652@50' / Lab ID: AECOM032921-W-077. 1251 Inject.

1300 Rec 1 GW from JB. FN: MLPV-DPT0655@16' (1255)/Lab ID: AECOM032921-W088

1303 Remove 10 ml GW sample W-078 from VOA vial W-078C-1. Add int/surr stds. Load onto PT-1. FN: DPT0653@7' / Lab ID: AECOM032921-W-078. 1313 Inject.

1315 Rec 1 GW from JB. FN: MLPV-DPT0655@22' (1310)/Lab ID: AECOM032921-W089

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/2, 5/2021 Page 4 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/5/21 Activities:

1320 Remove 0.5 ml GW sample W-079 from VOA vial W-079C-1. Add int/surr stds. Load onto PT-1. FN: DPT0653@11' / Lab ID: AECOM032921-W-079. 1330 Inject.
1338 Remove 0.1 ml GW sample W-080 from VOA vial W-080C-1. Add int/surr stds. Load onto PT-1. FN: DPT0653@16' / Lab ID: AECOM032921-W-080. 1348 Inject.
1355 Rec 1 GW from JB. FN: MLPV-DPT0656@45' (1350)/Lab ID: AECOM032921-W090
1355 Remove 10 ml GW sample W-081 from VOA vial W-081C-1. Add int/surr stds. Load onto PT-1. FN: DPT0653@38' / Lab ID: AECOM032921-W-081. 1405 Inject.
1412 Remove 10 ml GW sample W-082 from VOA vial W-082C-1. Add int/surr stds. Load onto PT-1. FN: DPT0654@11' / Lab ID: AECOM032921-W-082. 1422 Inject.
1420 Rec 1 GW from JB. FN: MLPV-DPT0656@50' (1415)/Lab ID: AECOM032921-W091
1429 Remove 5 ml GW sample W-078 from VOA vial W-078C-2. Add int/surr stds. Load onto PT-1. FN: DPT0653@7' / Lab ID: AECOM032921-W-078DUP. 1439 Inject.
1438 Rec 1 GW from JB. FN: MLPV-DPT0656@56' (1435)/Lab ID: AECOM032921-W092
1447 Remove 10 ml GW sample W-083 from VOA vial W-083C-1. Add int/surr stds. Load onto PT-1. FN: DPT0654@16' / Lab ID: AECOM032921-W-083. 1457 Inject.
1504 Remove 10 ml GW sample W-084 from VOA vial W-084C-1. Add int/surr stds. Load onto PT-1. FN: DPT0654@38' / Lab ID: AECOM032921-W-084. 1514 Inject.
1521 Remove 0.05 ml GW sample W-085 from VOA vial W-085C-1. Add int/surr stds. Load onto PT-1. FN: DPT0654@45' / Lab ID: AECOM032921-W-085. 1531 Inject.
1538 Remove 5 ml GW sample W-086 from VOA vial W-086C-1. Add int/surr stds. Load onto PT-1. FN: DPT0655@7' / Lab ID: AECOM032921-W-086. 1548 Inject.
1556 Remove 0.05 ml GW sample W-087 from VOA vial W-087C-1. Add int/surr stds. Load onto PT-1. FN: DPT0655@11' / Lab ID: AECOM032921-W-087. 1606 Inject.
1612 Remove 0.5 ml GW sample W-088 from VOA vial W-088C-1. Add int/surr stds. Load onto PT-1. FN: DPT0655@16' / Lab ID: AECOM032921-W-088. 1622 Inject.
1629 Remove 10 ml GW sample W-089 from VOA vial W-089C-1. Add int/surr stds. Load onto PT-1. FN: DPT0655@22' / Lab ID: AECOM032921-W-089. 1639 Inject.
1646 Remove 3 ml GW sample W-090 from VOA vial W-090C-1. Add int/surr stds. Load onto PT-1. FN: DPT0656@45' / Lab ID: AECOM032921-W-090. 1656 Inject.
1703 Remove 10 ml GW sample W-091 from VOA vial W-091C-1. Add int/surr stds. Load onto PT-1. FN: DPT0656@50' / Lab ID: AECOM032921-W-091. 1713 Inject.
1721 Remove 10 ml GW sample W-092 from VOA vial W-092C-1. Add int/surr stds. Load onto PT-1. FN: DPT0656@56' / Lab ID: AECOM032921-W-092. 1731 Inject.

4/6/21 Activities:

0750 Rec 1 GW from JB. FN: MLPV-DPT0657@11' (0740)/Lab ID: AECOM032921-W093
0752 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 57 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0755 Flush with a coulple of blanks to get out SO2 compounds
0810 Rec 1 GW from JB. FN: MLPV-DPT0657@16' (0805)/Lab ID: AECOM032921-W094
0830 Rec 1 GW from JB. FN: MLPV-DPT0657@22' (0825)/Lab ID: AECOM032921-W095
0908 Rec 1 GW from JB. FN: MLPV-DPT0658@45' (0905)/Lab ID: AECOM032921-W096
0919 Run method blank in (fn: 040621blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0937 Run 10ml H20 with 100ng spike (fn: 040621ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.
0943 Rec 1 GW from JB. FN: MLPV-DPT0658@50' (0940)/Lab ID: AECOM032921-W097
1006 Remove 10 ml GW sample W-093 from VOA vial W-093C-1. Add int/surr stds. Load onto PT-1. FN: DPT0657@11' / Lab ID: AECOM032921-W-093. 1731 Inject.
1018 Rec 1 GW from JB. FN: MLPV-DPT0659@45' (1015)/Lab ID: AECOM032921-W098
1024 Remove 10 ml GW sample W-093 from VOA vial W-093C-2. Add int/surr stds. Load onto PT-1. FN: DPT0657@11' / Lab ID: AECOM032921-W-093dup. 1034 Inject.
1043 Remove 10 ml GW sample W-093 from VOA vial W-093C-2 syringe. Add 100ng,int/surr stds.Load onto PT-1. FN:DPT0657@11'/Lab ID: AECOM032921-W-093MS. 1053 Inject.
1052 Rec 1 GW from JB. FN: MLPV-DPT0659@50' (1050)/Lab ID: AECOM032921-W099
1100 Remove 10 ml GW sample W-094 from VOA vial W-094C-1. Add int/surr stds. Load onto PT-1. FN: DPT0657@16' / Lab ID: AECOM032921-W-094. 1110 Inject.
1118 Remove 5 ml GW sample W-095 from VOA vial W-095C-1. Add int/surr stds. Load onto PT-1. FN: DPT0657@22' / Lab ID: AECOM032921-W-095. 1128 Inject.
1120 Rec 1 GW from JB. FN: MLPV-DPT0659@56' (1115)/Lab ID: AECOM032921-W100
1136 Remove 5 ml GW sample W-096 from VOA vial W-096C-1. Add int/surr stds. Load onto PT-1. FN: DPT0658@45' / Lab ID: AECOM032921-W-096. 1146 Inject.
1153 Remove 10 ml GW sample W-097 from VOA vial W-097C-1. Add int/surr stds. Load onto PT-1. FN: DPT0658@50' / Lab ID: AECOM032921-W-097. 1203 Inject.
1212 Remove 0.25 ml GW sample W-098 from VOA vial W-098C-1. Add int/surr stds. Load onto PT-1. FN: DPT0659@45' / Lab ID: AECOM032921-W-098. 1222 Inject.
1231 Remove 0.25 ml GW sample W-099 from VOA vial W-099C-1. Add int/surr stds. Load onto PT-1. FN: DPT0659@50' / Lab ID: AECOM032921-W-099. 1241 Inject.
1249 Remove 10 ml GW sample W-100 from VOA vial W-100C-1. Add int/surr stds. Load onto PT-1. FN: DPT0659@56' / Lab ID: AECOM032921-W-100. 1259 Inject.
1318 Rec 1 GW from JB. FN: MLPV-DPT0650@50' (1315)/Lab ID: AECOM032921-W101
1344 Remove 0.5 ml GW sample W-101 from VOA vial W-101C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@50' / Lab ID: AECOM032921-W-101. 1354 Inject.
1353 Rec 1 GW from JB. FN: MLPV-DPT0650@56' (1350)/Lab ID: AECOM032921-W102
1419 Remove 10 ml GW sample W-102 from VOA vial W-102C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@56' / Lab ID: AECOM032921-W-102. 1429 Inject.
1435 Rec 1 GW from JB. FN: MLPV-DPT0660@45' (1430)/Lab ID: AECOM032921-W103
1456 Remove 10 ml GW sample W-103 from VOA vial W-103C-1. Add int/surr stds. Load onto PT-1. FN: DPT0660@45' / Lab ID: AECOM032921-W-103. 1506 Inject.
1503 Rec 1 GW from JB. FN: MLPV-DPT0660@50' (1500)/Lab ID: AECOM032921-W104
1525 Remove 0.5 ml GW sample W-104 from VOA vial W-104C-1. Add int/surr stds. Load onto PT-1. FN: DPT0660@50' / Lab ID: AECOM032921-W-104. 1535 Inject.
1540 Rec 1 GW from JB. FN: MLPV-DPT0660@56' (1535)/Lab ID: AECOM032921-W105
1600 Remove 0.5 ml GW sample W-105 from VOA vial W-105C-1. Add int/surr stds. Load onto PT-1. FN: DPT0660@56' / Lab ID: AECOM032921-W-105. 1610 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/5-6/2021 Page 5 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/6/21 Activities:

1635 Rec 1 GW from JB. FN: MLPV-DPT0661@16' (1630)/Lab ID: AECOM032921-W106

1648 Remove 0.5 ml GW sample W-106 from VOA vial W-106C-1. Add int/surr stds. Load onto PT-1. FN: DPT0661@16' / Lab ID: AECOM032921-W-106. 1658 Inject.

4/7/21 Activities:

0727 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 59 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0730 Run method blank in (fn: 040721blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.

0735 to 1020 Recalibrate GCMS FN: 040721DRY6F.M

0740 Rec 1 GW from JB. FN: MLPV-DPT0661@22' (0735)/Lab ID: AECOM032921-W107

0755 Rec 1 GW from JB. FN: MLPV-DPT0661@45' (0750)/Lab ID: AECOM032921-W108

0813 Rec 1 GW from JB. FN: MLPV-DPT0661@50' (0810)/Lab ID: AECOM032921-W109

0933 Rec 1 GW from JB. FN: MLPV-DPT0651@27' (0930)/Lab ID: AECOM032921-W110

1014 Rec 1 GW from JB. FN: MLPV-DPT0662@7' (1010)/Lab ID: AECOM032921-W111

1022 Remove 10 ml GW sample W-107 from VOA vial W-107C-1. Add int/surr stds. Load onto PT-1. FN: DPT0661@22' / Lab ID: AECOM032921-W-107. 1032 Inject.

1030 Rec 1 GW from JB. FN: MLPV-DPT0662@11' (1025)/Lab ID: AECOM032921-W112

1040 Remove 10 ml GW sample W-107 from VOA vial W-107C-2. Add 100N,int/surr stds. Load onto PT-1. FN: DPT0661@22' / Lab ID: AECOM032921-W-107MS. 1050 Inject.

1045 Rec 1 GW from JB. FN: MLPV-DPT0662@16' (1040)/Lab ID: AECOM032921-W113

1059 Remove 5 ml GW sample W-108 from VOA vial W-108C-1. Add int/surr stds. Load onto PT-1. FN: DPT0661@45' / Lab ID: AECOM032921-W-108. 1109 Inject.

1100 Rec 1 GW from JB. FN: MLPV-DPT0662@22' (1055)/Lab ID: AECOM032921-W114

1130 Rec 1 GW from JB. FN: MLPV-DPT0663@45' (1125)/Lab ID: AECOM032921-W115

1135 Remove 1 ml GW sample W-109 from VOA vial W-109C-1. Add int/surr stds. Load onto PT-1. FN: DPT0661@50' / Lab ID: AECOM032921-W-109. 1145 Inject.

1145 Rec 1 GW from JB. FN: MLPV-DPT0663@50' (1140)/Lab ID: AECOM032921-W116

1153 Remove 1 ml GW sample W-109 from VOA vial W-109C-2. Add int/surr stds. Load onto PT-1. FN: DPT0661@50' / Lab ID: AECOM032921-W-109dup. 1203 Inject.

1212 Remove 10 ml GW sample W-110 from VOA vial W-110C-1. Add int/surr stds. Load onto PT-1. FN: DPT0651@27' / Lab ID: AECOM032921-W-110. 1222 Inject.

1230 Remove 10 ml GW sample W-111 from VOA vial W-111C-1. Add int/surr stds. Load onto PT-1. FN: DPT0662@7' / Lab ID: AECOM032921-W-111. 1240 Inject.

1249 Remove 10 ml GW sample W-112 from VOA vial W-112C-1. Add int/surr stds. Load onto PT-1. FN: DPT0662@11' / Lab ID: AECOM032921-W-112. 1259 Inject.

1300 Rec 1 GW from JB. FN: MLPV-DPT0664@55' (1255)/Lab ID: AECOM032921-W117

1309 Remove 10 ml GW sample W-113 from VOA vial W-113C-1. Add int/surr stds. Load onto PT-1. FN: DPT0662@16' / Lab ID: AECOM032921-W-113. 1319 Inject.

1312 Rec 1 GW from JB. FN: MLPV-DPT0664@11' (1310)/Lab ID: AECOM032921-W118

1327 Remove 10 ml GW sample W-114 from VOA vial W-114C-1. Add int/surr stds. Load onto PT-1. FN: DPT0662@22' / Lab ID: AECOM032921-W-114. 1337 Inject.

1346 Remove 10 ml GW sample W-115 from VOA vial W-115C-1. Add int/surr stds. Load onto PT-1. FN: DPT0663@45' / Lab ID: AECOM032921-W-115. 1356 Inject.

1350 Rec 1 GW from JB. FN: MLPV-DPT0664@16' (1345)/Lab ID: AECOM032921-W119

1403 Rec 1 GW from JB. FN: MLPV-DPT0664@22' (1400)/Lab ID: AECOM032921-W120

1404 Remove 3 ml GW sample W-116 from VOA vial W-116C-1. Add int/surr stds. Load onto PT-1. FN: DPT0663@50' / Lab ID: AECOM032921-W-116. 1414 Inject.

1421 Remove 10 ml GW sample W-117 from VOA vial W-117C-1. Add int/surr stds. Load onto PT-1. FN: DPT0664@7' / Lab ID: AECOM032921-W-117. 1431 Inject.

1430 Rec 1 GW from JB. FN: MLPV-DPT0665@48' (1425)/Lab ID: AECOM032921-W121

1441 Remove 10 ml GW sample W-118 from VOA vial W-118C-1. Add int/surr stds. Load onto PT-1. FN: DPT0664@11' / Lab ID: AECOM032921-W-118. 1451 Inject.

1447 Rec 1 GW from JB. FN: MLPV-DPT0665@50' (1445)/Lab ID: AECOM032921-W122

1459 Remove 10 ml GW sample W-119 from VOA vial W-119C-1. Add int/surr stds. Load onto PT-1. FN: DPT0664@16' / Lab ID: AECOM032921-W-119. 1509 Inject.

1516 Remove 10 ml GW sample W-120 from VOA vial W-120C-1. Add int/surr stds. Load onto PT-1. FN: DPT0664@22' / Lab ID: AECOM032921-W-120. 1526 Inject.

1520 Rec 1 GW from JB. FN: MLPV-DPT0666@45' (1515)/Lab ID: AECOM032921-W123

1534 Remove 10 ml GW sample W-121 from VOA vial W-121C-1. Add int/surr stds. Load onto PT-1. FN: DPT0665@45' / Lab ID: AECOM032921-W-121. 1544 Inject.

1540 Rec 1 GW from JB. FN: MLPV-DPT0666@50' (1535)/Lab ID: AECOM032921-W124

1552 Remove 10 ml GW sample W-122 from VOA vial W-122C-1. Add int/surr stds. Load onto PT-1. FN: DPT0665@50' / Lab ID: AECOM032921-W-122. 1602 Inject.

1608 Remove 10 ml GW sample W-123 from VOA vial W-123C-1. Add int/surr stds. Load onto PT-1. FN: DPT0666@45' / Lab ID: AECOM032921-W-123. 1618 Inject.

1625 Remove 10 ml GW sample W-124 from VOA vial W-124C-1. Add int/surr stds. Load onto PT-1. FN: DPT0666@50' / Lab ID: AECOM032921-W-124. 1635 Inject.

4/8/21 Activities:

0755 Rec 1 GW from JB. FN: MLPV-DPT0667@45' (0745)/Lab ID: AECOM032921-W125

0808 Rec 1 GW from JB. FN: MLPV-DPT0667@50' (0805)/Lab ID: AECOM032921-W126

0808 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 56 F. JG Finneran C#340024-2895 Lot# 793920147V40C

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/6-8/2021 Page 6 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/8/21 Activities:

0822 Run method blank in (fn: 040821blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0830 Flush system of sulfides
0835 Rec 1 GW from JB. FN: MLPV-DPT0667@56' (0830)/Lab ID: AECOM032921-W127
0900 to 1150 Recalibrate GCMS FN: 040821DRY6F.dcb.M
0905 Rec 1 GW from JB. FN: MLPV-DPT0668@45' (0900)/Lab ID: AECOM032921-W128
0925 Rec 1 GW from JB. FN: MLPV-DPT0668@50' (0920)/Lab ID: AECOM032921-W129
0945 Rec 1 GW from JB. FN: MLPV-DPT0668@56' (0940)/Lab ID: AECOM032921-W130
1044 Rec 1 GW from JB. FN: MLPV-DPT0669@16' (1040)/Lab ID: AECOM032921-W131
1054 Rec 1 GW from JB. FN: MLPV-DPT0669@22' (1050)/Lab ID: AECOM032921-W132
1110 Rec 1 GW from JB. FN: MLPV-DPT0669@27' (1105)/Lab ID: AECOM032921-W133
1125 Rec 1 GW from JB. FN: MLPV-DPT0669@38' (1120)/Lab ID: AECOM032921-W134
1145 Rec 1 GW from JB. FN: MLPV-DPT0669@45' (1140)/Lab ID: AECOM032921-W135
1154 Remove 10 ml GW sample W-125 from VOA vial W-125C-1. Add int/surr stds. Load onto PT-1. FN: DPT0667@45' / Lab ID: AECOM032921-W-125. 1204 Inject.
1213 Remove 10 ml GW sample W-125 from VOA vial W-125C-2. Add 100n,int/surr stds. Load onto PT-1. FN: DPT0667@45' / Lab ID: AECOM032921-W-125MS. 1223 Inject.
1231 Remove 10 ml GW sample W-126 from VOA vial W-126C-1. Add int/surr stds. Load onto PT-1. FN: DPT0667@50' / Lab ID: AECOM032921-W-126. 1241 Inject.
1244 Rec 1 GW from JB. FN: MLPV-DPT0669@50' (1240)/Lab ID: AECOM032921-W136
1248 Remove 10 ml GW sample W-126 from VOA vial W-126C-2. Add int/surr stds. Load onto PT-1. FN: DPT0667@50' / Lab ID: AECOM032921-W-126dup. 1258 Inject.
1302 Remove 10 ml GW sample W-127 from VOA vial W-127C-1. Add int/surr stds. Load onto PT-1. FN: DPT0667@56' / Lab ID: AECOM032921-W-127. 1312 Inject.
1304 Rec 1 GW from JB. FN: MLPV-DPT0669@56' (1300)/Lab ID: AECOM032921-W137
1320 Remove 10 ml GW sample W-128 from VOA vial W-128C-1. Add int/surr stds. Load onto PT-1. FN: DPT0668@45' / Lab ID: AECOM032921-W-128. 1330 Inject.
1334 Rec 1 GW from JB. FN: MLPV-DPT0670@45' (1330)/Lab ID: AECOM032921-W138
1337 Remove 0.25 ml GW sample W-129 from VOA vial W-129C-1. Add int/surr stds. Load onto PT-1. FN: DPT0668@50' / Lab ID: AECOM032921-W-129. 1347 Inject.
1353 Rec 1 GW from JB. FN: MLPV-DPT0670@50' (1350)/Lab ID: AECOM032921-W139
1354 Remove 1 ml GW sample W-130 from VOA vial W-130C-1. Add int/surr stds. Load onto PT-1. FN: DPT0668@56' / Lab ID: AECOM032921-W-130. 1404 Inject.
1410 Remove 10 ml GW sample W-131 from VOA vial W-131C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@16' / Lab ID: AECOM032921-W-131. 1420 Inject.
1415 Rec 1 GW from JB. FN: MLPV-DPT0670@56' (1410)/Lab ID: AECOM032921-W140
1427 Remove 10 ml GW sample W-132 from VOA vial W-132C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@22' / Lab ID: AECOM032921-W-132. 1437 Inject.
1440 Rec 1 GW from JB. FN: MLPV-DPT0671@16' (1435)/Lab ID: AECOM032921-W141
1445 Remove 10 ml GW sample W-133 from VOA vial W-133C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@27' / Lab ID: AECOM032921-W-133. 1455 Inject.
1453 Rec 1 GW from JB. FN: MLPV-DPT0671@22' (1450)/Lab ID: AECOM032921-W142
1504 Remove 10 ml GW sample W-134 from VOA vial W-134C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@38' / Lab ID: AECOM032921-W-134. 1514 Inject.
1522 Remove 10 ml GW sample W-135 from VOA vial W-135C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@45' / Lab ID: AECOM032921-W-135. 1532 Inject.
1533 Rec 1 GW from JB. FN: MLPV-DPT0671@27' (1530)/Lab ID: AECOM032921-W143
1540 Remove 0.5 ml GW sample W-136 from VOA vial W-136C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@50' / Lab ID: AECOM032921-W-136. 1550 Inject.
1558 Remove 5 ml GW sample W-137 from VOA vial W-137C-1. Add int/surr stds. Load onto PT-1. FN: DPT0669@56' / Lab ID: AECOM032921-W-137. 1608 Inject.
1600 Rec 1 GW from JB. FN: MLPV-DPT0672@16' (1555)/Lab ID: AECOM032921-W144
1615 Remove 5 ml GW sample W-138 from VOA vial W-138C-1. Add int/surr stds. Load onto PT-1. FN: DPT0670@45' / Lab ID: AECOM032921-W-138. 1625 Inject.
1632 Remove 10 ml GW sample W-139 from VOA vial W-139C-1. Add int/surr stds. Load onto PT-1. FN: DPT0670@50' / Lab ID: AECOM032921-W-139. 1642 Inject.
1649 Remove 10 ml GW sample W-140 from VOA vial W-140C-1. Add int/surr stds. Load onto PT-1. FN: DPT0670@56' / Lab ID: AECOM032921-W-140. 1659 Inject.
1707 Remove 10 ml GW sample W-141 from VOA vial W-141C-1. Add int/surr stds. Load onto PT-1. FN: DPT0671@16' / Lab ID: AECOM032921-W-141. 1717 Inject.
1725 Remove 10 ml GW sample W-142 from VOA vial W-142C-1. Add int/surr stds. Load onto PT-1. FN: DPT0671@22' / Lab ID: AECOM032921-W-142. 1735 Inject.
1742 Remove 10 ml GW sample W-143 from VOA vial W-143C-1. Add int/surr stds. Load onto PT-1. FN: DPT0671@27' / Lab ID: AECOM032921-W-143. 1752 Inject.
1801 Remove 10 ml GW sample W-144 from VOA vial W-144C-1. Add int/surr stds. Load onto PT-1. FN: DPT0672@16' / Lab ID: AECOM032921-W-144. 1811 Inject.

4/9/21 Activities:

0705 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 62 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0710 Run method blank in (fn: 040921blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0725 Flush system of sulfides
0745 Rec 1 GW from JB. FN: MLPV-DPT0672@22' (0740)/Lab ID: AECOM032921-W145
0805 Rec 1 GW from JB. FN: MLPV-DPT0672@27' (0800)/Lab ID: AECOM032921-W146

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/8-9/2021 Page 7 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/9/21 Activities:

0810 to 1105 Recalibrate GCMS FN: 040921DRY6F.dcb.M
0835 Rec 1 GW from JB. FN: MLPV-DPT0673@45' (0830)/Lab ID: AECOM032921-W147
0847 Rec 1 GW from JB. FN: MLPV-DPT0673@50' (0845)/Lab ID: AECOM032921-W148
0910 Rec 1 GW from JB. FN: MLPV-DPT0673@56' (0905)/Lab ID: AECOM032921-W149
0950 Rec 1 GW from JB. FN: MLPV-DPT0674@45' (0945)/Lab ID: AECOM032921-W150
1004 Rec 1 GW from JB. FN: MLPV-DPT0674@50' (1000)/Lab ID: AECOM032921-W151
1023 Rec 1 GW from JB. FN: MLPV-DPT0674@56' (1020)/Lab ID: AECOM032921-W152
1047 Rec 1 GW from JB. FN: MLPV-DPT0675@45' (1040)/Lab ID: AECOM032921-W153
1104 Rec 1 GW from JB. FN: MLPV-DPT0675@50' (1100)/Lab ID: AECOM032921-W154
1107 Remove 10 ml GW sample W-145 from VOA vial W-145C-1. Add int/surr stds. Load onto PT-1. FN: DPT0672@22' / Lab ID: AECOM032921-W-145. 1117 Inject.
1126 Remove 10 ml GW sample W-145 from VOA vial W-145C-2. Add 100n,int/surr stds. Load onto PT-1. FN: DPT0672@22' / Lab ID: AECOM032921-W-145MS. 1136 Inject.
1146 Remove 10 ml GW sample W-146 from VOA vial W-146C-1. Add int/surr stds. Load onto PT-1. FN: DPT0672@27' / Lab ID: AECOM032921-W-146. 1156 Inject.
1155 Rec 1 GW from JB. FN: MLPV-DPT0676@45' (1150)/Lab ID: AECOM032921-W155
1205 Remove 10 ml GW sample W-147 from VOA vial W-147C-1. Add int/surr stds. Load onto PT-1. FN: DPT0673@45' / Lab ID: AECOM032921-W-147. 1215 Inject.
1226 Remove 2 ml GW sample W-148 from VOA vial W-148C-1. Add int/surr stds. Load onto PT-1. FN: DPT0673@50' / Lab ID: AECOM032921-W-148. 1236 Inject.
1245 Remove 2 ml GW sample W-148 from VOA vial W-148C-2. Add int/surr stds. Load onto PT-1. FN: DPT0673@50' / Lab ID: AECOM032921-W-148dup. 1255 Inject.
1255 Rec 1 GW from JB. FN: MLPV-DPT0676@50' (1250)/Lab ID: AECOM032921-W156
1304 Remove 10 ml GW sample W-149 from VOA vial W-149C-1. Add int/surr stds. Load onto PT-1. FN: DPT0673@56' / Lab ID: AECOM032921-W-149. 1314 Inject.
1308 Rec 1 GW from JB. FN: MLPV-DPT0676@56' (1305)/Lab ID: AECOM032921-W157
1324 Remove 10 ml GW sample W-150 from VOA vial W-150C-1. Add int/surr stds. Load onto PT-1. FN: DPT0674@45' / Lab ID: AECOM032921-W-150. 1334 Inject.
1335 Rec 1 GW from JB. FN: MLPV-DPT0677@45' (1330)/Lab ID: AECOM032921-W158
1343 Remove 1 ml GW sample W-151 from VOA vial W-151C-1. Add int/surr stds. Load onto PT-1. FN: DPT0674@50' / Lab ID: AECOM032921-W-151. 1353 Inject.
1355 Rec 1 GW from JB. FN: MLPV-DPT0677@50' (1350)/Lab ID: AECOM032921-W159
1403 Remove 3 ml GW sample W-152 from VOA vial W-152C-1. Add int/surr stds. Load onto PT-1. FN: DPT0674@56' / Lab ID: AECOM032921-W-152. 1413 Inject.
1421 Remove 10 ml GW sample W-153 from VOA vial W-153C-1. Add int/surr stds. Load onto PT-1. FN: DPT0675@45' / Lab ID: AECOM032921-W-153. 1431 Inject.
1423 Rec 1 GW from JB. FN: MLPV-DPT0678@7' (1415)/Lab ID: AECOM032921-W160
1430 Rec 1 GW from JB. FN: MLPV-DPT0678@11' (1425)/Lab ID: AECOM032921-W161
1441 Remove 10 ml GW sample W-154 from VOA vial W-154C-1. Add int/surr stds. Load onto PT-1. FN: DPT0675@50' / Lab ID: AECOM032921-W-154. 1451 Inject.
1500 Remove 10 ml GW sample W-155 from VOA vial W-155C-1. Add int/surr stds. Load onto PT-1. FN: DPT0676@45' / Lab ID: AECOM032921-W-155. 1510 Inject.
1519 Remove 10 ml GW sample W-156 from VOA vial W-156C-1. Add int/surr stds. Load onto PT-1. FN: DPT0676@50' / Lab ID: AECOM032921-W-156. 1529 Inject.
1538 Remove 10 ml GW sample W-157 from VOA vial W-157C-1. Add int/surr stds. Load onto PT-1. FN: DPT0676@56' / Lab ID: AECOM032921-W-157. 1548 Inject.
1540 Rec 1 GW from JB. FN: MLPV-DPT0679@45' (1535)/Lab ID: AECOM032921-W162
1555 Rec 1 GW from JB. FN: MLPV-DPT0679@50' (1550)/Lab ID: AECOM032921-W163
1558 Remove 10 ml GW sample W-158 from VOA vial W-158C-1. Add int/surr stds. Load onto PT-1. FN: DPT0677@45' / Lab ID: AECOM032921-W-158. 1608 Inject.
1616 Remove 3 ml GW sample W-159 from VOA vial W-159C-1. Add int/surr stds. Load onto PT-1. FN: DPT0677@50' / Lab ID: AECOM032921-W-159. 1626 Inject.
1635 Remove 10 ml GW sample W-160 from VOA vial W-160C-1. Add int/surr stds. Load onto PT-1. FN: DPT0678@7' / Lab ID: AECOM032921-W-160. 1645 Inject.
1653 Remove 10 ml GW sample W-161 from VOA vial W-161C-1. Add int/surr stds. Load onto PT-1. FN: DPT0678@11' / Lab ID: AECOM032921-W-161. 1703 Inject.
1712 Remove 10 ml GW sample W-162 from VOA vial W-162C-1. Add int/surr stds. Load onto PT-1. FN: DPT0679@45' / Lab ID: AECOM032921-W-162. 1722 Inject.
1732 Remove 10 ml GW sample W-163 from VOA vial W-163C-1. Add int/surr stds. Load onto PT-1. FN: DPT0679@50' / Lab ID: AECOM032921-W-163. 1742 Inject.

4/12/21 Activities:

0751 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 65 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0753 Run method blank in (fn: 041221blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0800 to 1045 Calibrate GCMS FN: 041221DRY6F.dcb.M
0848 Rec 1 GW from SM. FN: MLPV-DPT0680@45' (0845)/Lab ID: AECOM032921-W164
0910 Rec 1 GW from SM. FN: MLPV-DPT0680@50' (0905)/Lab ID: AECOM032921-W165
0928 Rec 1 GW from SM. FN: MLPV-DPT0680@56' (0925)/Lab ID: AECOM032921-W166
1024 Rec 1 GW from SM. FN: MLPV-DPT0681@45' (1020)/Lab ID: AECOM032921-W167
1044 Rec 1 GW from SM. FN: MLPV-DPT0681@50' (1040)/Lab ID: AECOM032921-W168
1046 Remove 10 ml GW sample W-164 from VOA vial W-164C-1. Add int/surr stds. Load onto PT-1. FN: DPT0680@45' / Lab ID: AECOM032921-W-164. 1056 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/9,12/2021 Page 8 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/12/21 Activities:

1104 Remove 10 ml GW sample W-164 from VOA vial W-164C-2. Add int/surr stds. Load onto PT-1. FN: DPT0680@45' / Lab ID: AECOM032921-W-164DUP. 1114 Inject.

1123 Remove 10 ml GW sample W-164 from VOA vial W-164C-2syringe. Add 100n,int/surr stds. Load onto PT-1. FN: DPT0680@45' / Lab ID: AECOM032921-W-164ms. 1133 Inject.

1135 Rec 1 GW from SM. FN: MLPV-DPT0682@7' (1130)/Lab ID: AECOM032921-W169

1141 Remove 10 ml GW sample W-165 from VOA vial W-165C-1. Add int/surr stds. Load onto PT-1. FN: DPT0680@50' / Lab ID: AECOM032921-W-165. 1151 Inject.

1150 Rec 1 GW from SM. FN: MLPV-DPT0682@11' (1145)/Lab ID: AECOM032921-W170

1159 Remove 10 ml GW sample W-166 from VOA vial W-166C-1. Add int/surr stds. Load onto PT-1. FN: DPT0680@56' / Lab ID: AECOM032921-W-166. 1209 Inject.

1217 Remove 10 ml GW sample W-167 from VOA vial W-167C-1. Add int/surr stds. Load onto PT-1. FN: DPT0681@45' / Lab ID: AECOM032921-W-167. 1227 Inject.

1235 Remove 10 ml GW sample W-168 from VOA vial W-168C-1. Add int/surr stds. Load onto PT-1. FN: DPT0681@50' / Lab ID: AECOM032921-W-168. 1245 Inject.

1253 Remove 0.5 ml GW sample W-169 from VOA vial W-169C-1. Add int/surr stds. Load onto PT-1. FN: DPT0682@7' / Lab ID: AECOM032921-W-169. 1303 Inject.

1304 Rec 1 GW from SM. FN: MLPV-DPT0683@7' (1300)/Lab ID: AECOM032921-W171

1311 Remove 0.5 ml GW sample W-170 from VOA vial W-170C-1. Add int/surr stds. Load onto PT-1. FN: DPT0682@11' / Lab ID: AECOM032921-W-170. 1321 Inject.

1330 Remove 0.25 ml GW sample W-171 from VOA vial W-171C-1. Add int/surr stds. Load onto PT-1. FN: DPT0683@7' / Lab ID: AECOM032921-W-171. 1340 Inject. Lost file

1334 Rec 1 GW from SM. FN: MLPV-DPT0683@11' (1330)/Lab ID: AECOM032921-W172

1350 Remove 0.01 ml GW sample W-172 from VOA vial W-172C-1. Add int/surr stds. Load onto PT-1. FN: DPT0683@11' / Lab ID: AECOM032921-W-172. 1400 Inject.

1400 Rec 1 GW from SM. FN: MLPV-DPT0684@7' (1355)/Lab ID: AECOM032921-W173

1409 Remove 0.25 ml GW sample W-171 from VOA vial W-171C-2. Add int/surr stds. Load onto PT-1. FN: DPT0683@7' / Lab ID: AECOM032921-W-171r. 1419 Inject.

1429 Remove 1 ml GW sample W-173 from VOA vial W-173C-1. Add int/surr stds. Load onto PT-1. FN: DPT0684@7' / Lab ID: AECOM032921-W-173. 1439 Inject.

1435 Rec 1 GW from SM. FN: MLPV-DPT0684@11' (1430)/Lab ID: AECOM032921-W174

1449 Remove 0.5 ml GW sample W-174 from VOA vial W-174C-1. Add int/surr stds. Load onto PT-1. FN: DPT0684@11' / Lab ID: AECOM032921-W-174. 1459 Inject.

1455 Rec 1 GW from SM. FN: MLPV-DPT0684@45' (1450)/Lab ID: AECOM032921-W175

1510 Remove 0.5 ml GW sample W-175 from VOA vial W-175C-1. Add int/surr stds. Load onto PT-1. FN: DPT0684@45' / Lab ID: AECOM032921-W-175. 1520 Inject.

1520 Rec 1 GW from SM. FN: MLPV-DPT0684@50' (1510)/Lab ID: AECOM032921-W176

1529 Remove 3 ml GW sample W-174 from VOA vial W-174C-2. Add int/surr stds. Load onto PT-1. FN: DPT0684@11' / Lab ID: AECOM032921-W-174r. 1539 Inject.

1545 Rec 1 GW from SM. FN: MLPV-DPT0685@7' (1540)/Lab ID: AECOM032921-W177

1547 Remove 5 ml GW sample W-175 from VOA vial W-175C-2. Add int/surr stds. Load onto PT-1. FN: DPT0684@45' / Lab ID: AECOM032921-W-175r. 1757 Inject.

1600 Rec 1 GW from SM. FN: MLPV-DPT0685@11' (1555)/Lab ID: AECOM032921-W178

1605 Remove 1 ml GW sample W-176 from VOA vial W-176C-1. Add int/surr stds. Load onto PT-1. FN: DPT0684@50' / Lab ID: AECOM032921-W-176. 1615 Inject.

1624 Remove 5 ml GW sample W-177 from VOA vial W-177C-1. Add int/surr stds. Load onto PT-1. FN: DPT0685@7' / Lab ID: AECOM032921-W-177. 1634 Inject.

1642 Remove 10 ml GW sample W-178 from VOA vial W-178C-1. Add int/surr stds. Load onto PT-1. FN: DPT0685@11' / Lab ID: AECOM032921-W-178. 1652 Inject.

4/13/21 Activities:

0843 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 62 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0849 Run method blank in (fn: 041321blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.

0850 to 1100 Calibrate GCMS FN: 041321DRY6F.dcb.M

0855 Rec 1 GW from SM on ice. Temp =61F. FN: MLPV-DPT0686@45' (0830)/Lab ID: AECOM032921-W179 ; @50(0850)/W180

0914 Rec 1 GW from SM. FN: MLPV-DPT0686@56' (0912)/Lab ID: AECOM032921-W181

1004 Rec 1 GW from SM. FN: MLPV-DPT0687@7' (1000)/Lab ID: AECOM032921-W182

1025 Rec 1 GW from SM. FN: MLPV-DPT0687@11' (1020)/Lab ID: AECOM032921-W183

1105 Rec 1 GW from SM. FN: MLPV-DPT0688@7' (1100)/Lab ID: AECOM032921-W184

1108 Remove 5 ml GW sample W-179 from VOA vial W-179C-1. Add int/surr stds. Load onto PT-1. FN: DPT0686@45' / Lab ID: AECOM032921-W-179. 1118 Inject.

1123 Rec 1 GW from SM. FN: MLPV-DPT0688@11' (1120)/Lab ID: AECOM032921-W185

1127 Remove 0.05 ml GW sample W-180 from VOA vial W-180C-1. Add int/surr stds. Load onto PT-1. FN: DPT0686@50' / Lab ID: AECOM032921-W-180. 1137 Inject.

1145 Rec 1 GW from SM. FN: MLPV-DPT0689@7' (1140)/Lab ID: AECOM032921-W186

1146 Remove 5 ml GW sample W-179 from VOA vial W-179C-2. Add 100ng,int/surr stds. Load onto PT-1. FN: DPT0686@45' / Lab ID: AECOM032921-W-179MS. 1156 Inject.

1155 Rec 1 GW from SM. FN: MLPV-DPT0689@11' (1150)/Lab ID: AECOM032921-W187

1204 Remove 0.1 ml GW sample W-180 from VOA vial W-180C-2. Add int/surr stds. Load onto PT-1. FN: DPT0686@50' / Lab ID: AECOM032921-W-180dup. 1214 Inject.

1222 Remove 0.5 ml GW sample W-181 from VOA vial W-181C-1. Add int/surr stds. Load onto PT-1. FN: DPT0686@56' / Lab ID: AECOM032921-W-181. 1232 Inject.

1240 Remove 3 ml GW sample W-182 from VOA vial W-182C-1. Add int/surr stds. Load onto PT-1. FN: DPT0687@7' / Lab ID: AECOM032921-W-182. 1250 Inject.

1259 Remove 3 ml GW sample W-183 from VOA vial W-183C-1. Add int/surr stds. Load onto PT-1. FN: DPT0687@11' / Lab ID: AECOM032921-W-183. 1309 Inject.

1310 Rec 1 GW from SM. FN: MLPV-DPT0690@45' (1305)/Lab ID: AECOM032921-W188

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/12-13/2021

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/13/21 Activities:

1317 Remove 10 ml GW sample W-184 from VOA vial W-184C-1. Add int/surr stds. Load onto PT-1. FN: DPT0688@7' / Lab ID: AECOM032921-W-184. 1327 Inject.
1310 Rec 1 GW from SM. FN: MLPV-DPT0690@45' (1305)/Lab ID: AECOM032921-W188
1330 Rec 1 GW from SM. FN: MLPV-DPT0690@50' (1325)/Lab ID: AECOM032921-W189
1336 Remove 10 ml GW sample W-185 from VOA vial W-185C-1. Add int/surr stds. Load onto PT-1. FN: DPT0688@11' / Lab ID: AECOM032921-W-185. 1346 Inject.
1350 Rec 1 GW from SM. FN: MLPV-DPT0690@56' (1345)/Lab ID: AECOM032921-W190
1354 Remove 10 ml GW sample W-186 from VOA vial W-186C-1. Add int/surr stds. Load onto PT-1. FN: DPT0689@7' / Lab ID: AECOM032921-W-186. 1404 Inject.
1413 Remove 10 ml GW sample W-187 from VOA vial W-187C-1. Add int/surr stds. Load onto PT-1. FN: DPT0689@11' / Lab ID: AECOM032921-W-187. 1423 Inject.
1429 Remove 10 ml GW sample W-188 from VOA vial W-188C-1. Add int/surr stds. Load onto PT-1. FN: DPT0690@45' / Lab ID: AECOM032921-W-188. 1439 Inject.
1440 Rec 1 GW from SM. FN: MLPV-DPT0690@63' (1435)/Lab ID: AECOM032921-W191
1446 Remove 1 ml GW sample W-189 from VOA vial W-189C-1. Add int/surr stds. Load onto PT-1. FN: DPT0690@50' / Lab ID: AECOM032921-W-189. 1456 Inject.
1506 Remove 5 ml GW sample W-190 from VOA vial W-190C-1. Add int/surr stds. Load onto PT-1. FN: DPT0690@56' / Lab ID: AECOM032921-W-190. 1516 Inject.
1520 Rec 1 GW from SM. FN: MLPV-DPT0691@7' (1515)/Lab ID: AECOM032921-W192
1524 Remove 10 ml GW sample W-191 from VOA vial W-191C-1. Add int/surr stds. Load onto PT-1. FN: DPT0690@63' / Lab ID: AECOM032921-W-191. 1534 Inject.
1540 Rec 1 GW from SM. FN: MLPV-DPT0691@11' (1535)/Lab ID: AECOM032921-W193
1543 Remove 10 ml GW sample W-192 from VOA vial W-192C-1. Add int/surr stds. Load onto PT-1. FN: DPT0691@7' / Lab ID: AECOM032921-W-192. 1553 Inject.
1602 Remove 10 ml GW sample W-193 from VOA vial W-193C-1. Add int/surr stds. Load onto PT-1. FN: DPT0691@11' / Lab ID: AECOM032921-W-193. 1612 Inject.
1620 Rec 1 GW from SM. FN: MLPV-DPT0691@16' (1615)/Lab ID: AECOM032921-W194
1635 Rec 1 GW from SM. FN: MLPV-DPT0691@22' (1630)/Lab ID: AECOM032921-W195
1639 Remove 10 ml GW sample W-194 from VOA vial W-194C-1. Add int/surr stds. Load onto PT-1. FN: DPT0691@16' / Lab ID: AECOM032921-W-194. 1649 Inject.
1658 Remove 10 ml GW sample W-195 from VOA vial W-195C-1. Add int/surr stds. Load onto PT-1. FN: DPT0691@22' / Lab ID: AECOM032921-W-195. 1708 Inject.
1715 Discard samples in IDW drum.

4/14/21 Activities:

0830 Covid-19 appointment this morning.
0950 Rec 8 GWs from SM on ice. Temp = 61F. FN: MLPV-DPT0692@7' (0810)/Lab ID: AECOM032921-W196 ; @11'(0825)/W197 ; @16(0835)/W198 ; @22(0845)/W199
0950 Rec 8 GWs from SM. FN: MLPV-DPT0693@7' (0910)/Lab ID: AECOM032921-W200 ; @11'(0920)/W201 ; @16(0930)/W202 ; @22(0945)/W203
0957 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 72 F. JG Finneran C#340024-2895 Lot# 793920147V40C
1010 Rec 1 GW from SM. FN: MLPV-DPT0682@11' (1005)/Lab ID: AECOM032921-W204
1016 Run method blank in (fn: 041421blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
1020 Rec 1 GW from SM. FN: MLPV-DPT0682@22' (1015)/Lab ID: AECOM032921-W205
1035 Run 10ml H20 with 100ng spike (fn: 041421ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.
1040 Rec 1 GW from SM. FN: MLPV-DPT0683@16' (1035)/Lab ID: AECOM032921-W206
1047 Remove 10 ml GW sample W-196 from VOA vial W-196C-1. Add int/surr stds. Load onto PT-1. FN: DPT0692@7' / Lab ID: AECOM032921-W-196. 1057 Inject.
1050 Rec 1 GW from SM. FN: MLPV-DPT0683@22' (1045)/Lab ID: AECOM032921-W207
1107 Remove 10 ml GW sample W-196 from VOA vial W-196C-2. Add int/surr stds. Load onto PT-1. FN: DPT0692@7' / Lab ID: AECOM032921-W-196DUP. 1117 Inject.
1135 Rec 1 GW from SM. FN: MLPV-DPT0650@7' (1130)/Lab ID: AECOM032921-W208
1125 Remove 5 ml GW sample W-197 from VOA vial W-197C-1. Add int/surr stds. Load onto PT-1. FN: DPT0692@11' / Lab ID: AECOM032921-W-197. 1135 Inject.
1144 Remove 10 ml GW sample W-198 from VOA vial W-198C-1. Add int/surr stds. Load onto PT-1. FN: DPT0692@16' / Lab ID: AECOM032921-W-198. 1154 Inject.
1200 Rec 1 GW from SM. FN: MLPV-DPT0694@45' (1155)/Lab ID: AECOM032921-W209
1203 Remove 10 ml GW sample W-198 from VOA vial W-198C-2. Add 100n,int/surr stds. Load onto PT-1. FN: DPT0692@16' / Lab ID: AECOM032921-W-198MS. 1213 Inject.
1222 Remove 10 ml GW sample W-199 from VOA vial W-199C-1. Add int/surr stds. Load onto PT-1. FN: DPT0692@22' / Lab ID: AECOM032921-W-199. 1232 Inject.
1241 Remove 3 ml GW sample W-200 from VOA vial W-200C-1. Add int/surr stds. Load onto PT-1. FN: DPT0693@7' / Lab ID: AECOM032921-W-200. 1251 Inject.
1259 Remove 10 ml GW sample W-201 from VOA vial W-201C-1. Add int/surr stds. Load onto PT-1. FN: DPT0693@11' / Lab ID: AECOM032921-W-201. 1309 Inject.
1300 Rec 1 GW from SM. FN: MLPV-DPT0694@50' (1255)/Lab ID: AECOM032921-W210
1315 Rec 1 GW from SM. FN: MLPV-DPT0694@56' (1310)/Lab ID: AECOM032921-W211
1317 Remove 10 ml GW sample W-202 from VOA vial W-202C-1. Add int/surr stds. Load onto PT-1. FN: DPT0693@16' / Lab ID: AECOM032921-W-202. 1327 Inject.
1336 Remove 10 ml GW sample W-203 from VOA vial W-203C-1. Add int/surr stds. Load onto PT-1. FN: DPT0693@22' / Lab ID: AECOM032921-W-203. 1346 Inject.
1343 Rec 1 GW from SM. FN: MLPV-DPT0695@45' (1340)/Lab ID: AECOM032921-W212
1354 Remove 10 ml GW sample W-204 from VOA vial W-204C-1. Add int/surr stds. Load onto PT-1. FN: DPT0682@16' / Lab ID: AECOM032921-W-204. 1404 Inject.
1403 Rec 1 GW from SM. FN: MLPV-DPT0695@50' (1400)/Lab ID: AECOM032921-W213

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/13-14/2021

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/14/21 Activities:

1412 Remove 10 ml GW sample W-205 from VOA vial W-205C-1. Add int/surr stds. Load onto PT-1. FN: DPT0682@22' / Lab ID: AECOM032921-W-205. 1422 Inject.
1423 Rec 1 GW from SM. FN: MLPV-DPT0695@56' (1420)/Lab ID: AECOM032921-W214
1431 Remove 0.01 ml GW sample W-206 from VOA vial W-206C-1. Add int/surr stds. Load onto PT-1. FN: DPT0683@16' / Lab ID: AECOM032921-W-206. 1441 Inject.
1449 Remove 3 ml GW sample W-207 from VOA vial W-207C-1. Add int/surr stds. Load onto PT-1. FN: DPT0683@22' / Lab ID: AECOM032921-W-207. 1459 Inject.
1450 Rec 1 GW from SM. FN: MLPV-DPT0696@45' (1445)/Lab ID: AECOM032921-W215
1504 Rec 1 GW from SM. FN: MLPV-DPT0696@50' (1500)/Lab ID: AECOM032921-W216
1507 Remove 10 ml GW sample W-208 from VOA vial W-208C-1. Add int/surr stds. Load onto PT-1. FN: DPT0650@7' / Lab ID: AECOM032921-W-208. 1517 Inject.
1524 Rec 1 GW from SM. FN: MLPV-DPT0696@56' (1520)/Lab ID: AECOM032921-W217
1525 Remove 10 ml GW sample W-209 from VOA vial W-209C-1. Add int/surr stds. Load onto PT-1. FN: DPT0694@45' / Lab ID: AECOM032921-W-209. 1535 Inject.
1542 Remove 1 ml GW sample W-210 from VOA vial W-210C-1. Add int/surr stds. Load onto PT-1. FN: DPT0694@50' / Lab ID: AECOM032921-W-210. 1552 Inject.
1600 Remove 10 ml GW sample W-211 from VOA vial W-211C-1. Add int/surr stds. Load onto PT-1. FN: DPT0694@56' / Lab ID: AECOM032921-W-211. 1610 Inject.
1618 Remove 10 ml GW sample W-212 from VOA vial W-212C-1. Add int/surr stds. Load onto PT-1. FN: DPT0695@45' / Lab ID: AECOM032921-W-212. 1628 Inject.
1636 Remove 1 ml GW sample W-213 from VOA vial W-213C-1. Add int/surr stds. Load onto PT-1. FN: DPT0695@50' / Lab ID: AECOM032921-W-213. 1646 Inject.
1653 Remove 10 ml GW sample W-214 from VOA vial W-214C-1. Add int/surr stds. Load onto PT-1. FN: DPT0695@56' / Lab ID: AECOM032921-W-214. 1703 Inject.
1711 Remove 10 ml GW sample W-215 from VOA vial W-215C-1. Add int/surr stds. Load onto PT-1. FN: DPT0696@45' / Lab ID: AECOM032921-W-215. 1721 Inject.

4/15/21 Activities:

0558 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 68 F. JG Finneran C#340024-2895 Lot# 793920147V40C
0612 Run method blank in (fn: 041521blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.
0630 Run 10ml H20 with 100ng spike (fn: 041521ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.
0754 Remove 3 ml GW sample W-216 from VOA vial W-216C-1. Add int/surr stds. Load onto PT-1. FN: DPT0696@50' / Lab ID: AECOM032921-W-216. 0804 Inject.
0812 Remove 2 ml GW sample W-217 from VOA vial W-217C-1. Add int/surr stds. Load onto PT-1. FN: DPT0696@56' / Lab ID: AECOM032921-W-217. 0822 Inject.
0815 Rec 1 GW from SM. FN: MLPV-DPT0697@45' (0810)/Lab ID: AECOM032921-W218
0830 Remove 1 ml GW sample W-217 from VOA vial W-217C-2. Add int/surr stds. Load onto PT-1. FN: DPT0696@56' / Lab ID: AECOM032921-W-217dup. 0840 Inject.
0835 Rec 1 GW from SM. FN: MLPV-DPT0697@50' (0830)/Lab ID: AECOM032921-W219
0848 Remove 10 ml GW sample W-218 from VOA vial W-218C-1. Add int/surr stds. Load onto PT-1. FN: DPT0697@45' / Lab ID: AECOM032921-W-218. 0858 Inject.
0855 Rec 1 GW from SM. FN: MLPV-DPT0697@56' (0850)/Lab ID: AECOM032921-W220
0906 Remove 10 ml GW sample W-218 from VOA vial W-218C-2. Add 300n,int/surr stds. Load onto PT-1. FN: DPT0697@45' / Lab ID: AECOM032921-W-218ms. 0916 Inject.
0930 Rec 1 GW from SM. FN: MLPV-DPT0698@07' (0925)/Lab ID: AECOM032921-W221
0924 Remove 1 ml GW sample W-219 from VOA vial W-219C-1. Add int/surr stds. Load onto PT-1. FN: DPT0697@50' / Lab ID: AECOM032921-W-219. 0934 Inject.
0940 Rec 1 GW from SM. FN: MLPV-DPT0698@11' (0935)/Lab ID: AECOM032921-W222
0944 Remove 5 ml GW sample W-220 from VOA vial W-220C-1. Add int/surr stds. Load onto PT-1. FN: DPT0697@56' / Lab ID: AECOM032921-W-220. 0954 Inject.
1000 Rec 1 GW from SM. FN: MLPV-DPT0699@7' (0955)/Lab ID: AECOM032921-W223
1010 Rec 1 GW from SM. FN: MLPV-DPT0699@11' (1005)/Lab ID: AECOM032921-W224
1003 Remove 10 ml GW sample W-221 from VOA vial W-221C-1. Add int/surr stds. Load onto PT-1. FN: DPT0698@7' / Lab ID: AECOM032921-W-221. 1013 Inject.
1021 Remove 10 ml GW sample W-222 from VOA vial W-222C-1. Add int/surr stds. Load onto PT-1. FN: DPT0698@11' / Lab ID: AECOM032921-W-222. 1031 Inject.
1035 Rec 1 GW from SM. FN: MLPV-DPT0700@50' (1030)/Lab ID: AECOM032921-W225
1040 Remove 5 ml GW sample W-223 from VOA vial W-223C-1. Add int/surr stds. Load onto PT-1. FN: DPT0699@7' / Lab ID: AECOM032921-W-223. 1050 Inject.
1059 Remove 10 ml GW sample W-224 from VOA vial W-224C-1. Add int/surr stds. Load onto PT-1. FN: DPT0699@11' / Lab ID: AECOM032921-W-224. 1109 Inject.
1100 Rec 1 GW from SM. FN: MLPV-DPT0701@50' (1055)/Lab ID: AECOM032921-W226
1118 Remove 10 ml GW sample W-225 from VOA vial W-225C-1. Add int/surr stds. Load onto PT-1. FN: DPT0700@50' / Lab ID: AECOM032921-W-225. 1128 Inject.
1137 Remove 1 ml GW sample W-226 from VOA vial W-226C-1. Add int/surr stds. Load onto PT-1. FN: DPT0701@50' / Lab ID: AECOM032921-W-226. 1147 Inject.
1140 Rec 1 GW from SM. FN: MLPV-DPT0702@50' (1135)/Lab ID: AECOM032921-W227
1200 Remove 10 ml GW sample W-227 from VOA vial W-227C-1. Add int/surr stds. Load onto PT-1. FN: DPT0702@50' / Lab ID: AECOM032921-W-227. 1210 Inject.
1204 Rec 1 GW from SM. FN: MLPV-DPT0702@56' (1200)/Lab ID: AECOM032921-W228
1218 Remove 10 ml GW sample W-228 from VOA vial W-228C-1. Add int/surr stds. Load onto PT-1. FN: DPT0702@56' / Lab ID: AECOM032921-W-228. 1228 Inject.
1344 Rec 1 GW from SM. FN: MLPV-DPT0703@33' (1345)/Lab ID: AECOM032921-W229
1404 Rec 1 GW from SM. FN: MLPV-DPT0703@38' (1400)/Lab ID: AECOM032921-W230
1404 Remove 10 ml GW sample W-229 from VOA vial W-229C-1. Add int/surr stds. Load onto PT-1. FN: DPT0703@33' / Lab ID: AECOM032921-W-229. 1414 Inject.
1423 Remove 10 ml GW sample W-230 from VOA vial W-230C-1. Add int/surr stds. Load onto PT-1. FN: DPT0703@38' / Lab ID: AECOM032921-W-230. 1433 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/14-15/2021 Page 11 of 13

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/15/21 Activities:

1434 Rec 1 GW from SM. FN: MLPV-DPT0703@43' (1430)/Lab ID: AECOM032921-W231

1447 Remove 10 ml GW sample W-231 from VOA vial W-231C-1. Add int/surr stds. Load onto PT-1. FN: DPT0703@43' / Lab ID: AECOM032921-W-231. 1457 Inject.

1500 Rec 1 GW from SM. FN: MLPV-DPT0704@33' (1455)/Lab ID: AECOM032921-W232

1505 Remove 10 ml GW sample W-232 from VOA vial W-232C-1. Add int/surr stds. Load onto PT-1. FN: DPT0704@33' / Lab ID: AECOM032921-W-232. 1515 Inject.

1520 Rec 1 GW from SM. FN: MLPV-DPT0704@38' (1515)/Lab ID: AECOM032921-W233

1525 Remove 10 ml GW sample W-233 from VOA vial W-233C-1. Add int/surr stds. Load onto PT-1. FN: DPT0704@38' / Lab ID: AECOM032921-W-233. 1535 Inject.

1542 Rec 1 GW from SM. FN: MLPV-DPT0704@43' (1540)/Lab ID: AECOM032921-W234

1546 Remove 10 ml GW sample W-234 from VOA vial W-234C-1. Add int/surr stds. Load onto PT-1. FN: DPT0704@43' / Lab ID: AECOM032921-W-234. 1556 Inject.

1618 Rec 1 GW from SM. FN: MLPV-DPT0705@43' (1615)/Lab ID: AECOM032921-W235

1622 Remove 10 ml GW sample W-235 from VOA vial W-235C-1. Add int/surr stds. Load onto PT-1. FN: DPT0705@43' / Lab ID: AECOM032921-W-235. 1632 Inject.

1639 Remove 0.5 ml GW sample W-235 from VOA vial W-235C-2. Add int/surr stds. Load onto PT-1. FN: DPT0705@43' / Lab ID: AECOM032921-W-235r. 1649 Inject.

4/16/21 Activities:

0535 Run BFB Dynamic hardware tune ; Refrigerator # 10 temp < -15C ; Ambient temp 65 F. JG Finneran C#340024-2895 Lot# 793920147V40C

0540 Run method blank in (fn: 041621blk1.d) 10 ml H20. All analyte responses equal to or < 50% of lowest quantitation calibration standard.

0558 Run 10ml H20 with 100ng spike (fn: 041621ccv1.d). All compound responses between within 20 % expected response and ion ratios within 30% expected ratio.

0750 Rec 2 GWs from SM on ice. Temp = 66F. FN: MLPV-DPT0705@48' (1635 4/15)/Lab ID: AECOM032921-W236 ; DPT706@33'(0745)/W237

0804 Rec 1 GW from SM. FN: MLPV-DPT0706@38' (0800)/Lab ID: AECOM032921-W238

0820 Rec 1 GW from SM. FN: MLPV-DPT0706@43' (0815)/Lab ID: AECOM032921-W239

0825 Remove 1 ml GW sample W-236 from VOA vial W-236C-1. Add int/surr stds. Load onto PT-1. FN: DPT0705@48' / Lab ID: AECOM032921-W-236. 0835 Inject.

0835 Rec 1 GW from SM. FN: MLPV-DPT0706@48' (0830)/Lab ID: AECOM032921-W240

0843 Remove 1 ml GW sample W-236 from VOA vial W-236C-2. Add int/surr stds. Load onto PT-1. FN: DPT0705@48' / Lab ID: AECOM032921-W-236DUP. 0853 Inject.

0901 Remove 10 ml GW sample W-237 from VOA vial W-237C-1. Add int/surr stds. Load onto PT-1. FN: DPT0706@33' / Lab ID: AECOM032921-W-237. 0911 Inject.

0919 Remove 10 ml GW sample W-237 from VOA vial W-237C-2. Add 100N,int/surr stds. Load onto PT-1. FN: DPT0706@33' / Lab ID: AECOM032921-W-237MS. 0929 Inject.

0923 Rec 1 GW from SM. FN: MLPV-DPT0707@33' (0920)/Lab ID: AECOM032921-W241

0937 Remove 10 ml GW sample W-238 from VOA vial W-238C-1. Add int/surr stds. Load onto PT-1. FN: DPT0706@38' / Lab ID: AECOM032921-W-238. 0947 Inject.

0940 Rec 1 GW from SM. FN: MLPV-DPT0707@38' (0935)/Lab ID: AECOM032921-W242

0955 Rec 1 GW from SM. FN: MLPV-DPT0707@43' (0950)/Lab ID: AECOM032921-W243

0955 Remove 10 ml GW sample W-239 from VOA vial W-239C-1. Add int/surr stds. Load onto PT-1. FN: DPT0706@43' / Lab ID: AECOM032921-W-239. 1005 Inject.

1013 Remove 1 ml GW sample W-240 from VOA vial W-240C-1. Add int/surr stds. Load onto PT-1. FN: DPT0706@48' / Lab ID: AECOM032921-W-240. 1023 Inject.

1015 Rec 1 GW from SM. FN: MLPV-DPT0707@48' (1010)/Lab ID: AECOM032921-W244

1033 Remove 10 ml GW sample W-241 from VOA vial W-241C-1. Add int/surr stds. Load onto PT-1. FN: DPT0707@33' / Lab ID: AECOM032921-W-241. 1043 Inject.

1051 Remove 10 ml GW sample W-242 from VOA vial W-242C-1. Add int/surr stds. Load onto PT-1. FN: DPT0707@38' / Lab ID: AECOM032921-W-242. 1101 Inject.

1108 Remove 2 ml GW sample W-243 from VOA vial W-243C-1. Add int/surr stds. Load onto PT-1. FN: DPT0707@43' / Lab ID: AECOM032921-W-243. 1118 Inject.

1115 Rec 1 GW from SM. FN: MLPV-DPT0708@33' (1110)/Lab ID: AECOM032921-W245

1126 Remove 10 ml GW sample W-244 from VOA vial W-244C-1. Add int/surr stds. Load onto PT-1. FN: DPT0707@48' / Lab ID: AECOM032921-W-244. 1136 Inject.

1130 Rec 1 GW from SM. FN: MLPV-DPT0708@38' (1125)/Lab ID: AECOM032921-W246

1145 Rec 1 GW from SM. FN: MLPV-DPT0708@43' (1140)/Lab ID: AECOM032921-W247

1145 Remove 10 ml GW sample W-245 from VOA vial W-245C-1. Add int/surr stds. Load onto PT-1. FN: DPT0708@33' / Lab ID: AECOM032921-W-245. 1155 Inject.

1200 Rec 1 GW from SM. FN: MLPV-DPT0708@48' (1155)/Lab ID: AECOM032921-W248

1206 Remove 10 ml GW sample W-246 from VOA vial W-246C-1. Add int/surr stds. Load onto PT-1. FN: DPT0708@38' / Lab ID: AECOM032921-W-246. 1216 Inject.

1224 Remove 10 ml GW sample W-247 from VOA vial W-247C-1. Add int/surr stds. Load onto PT-1. FN: DPT0708@43' / Lab ID: AECOM032921-W-247. 1234 Inject.

1244 Remove 10 ml GW sample W-248 from VOA vial W-248C-1. Add int/surr stds. Load onto PT-1. FN: DPT0708@48' / Lab ID: AECOM032921-W-248. 1254 Inject.

1325 Rec 2 GWs from SM on ice. Temp=71F. FN: MLPV-DPT0709@7' (1310)/Lab ID: AECOM032921-W249 ; @ 11(1320)/W250

1344 Remove 10 ml GW sample W-249 from VOA vial W-249C-1. Add int/surr stds. Load onto PT-1. FN: DPT0709@7' / Lab ID: AECOM032921-W-249. 1454 Inject.

1352 Remove 10 ml GW sample W-250 from VOA vial W-250C-1. Add int/surr stds. Load onto PT-1. FN: DPT0709@11' / Lab ID: AECOM032921-W-250. 1402 Inject.

1355 Rec 1 GWs from SM. FN: MLPV-DPT0710@50' (1350)/Lab ID: AECOM032921-W251

1414 Remove 10 ml GW sample W-251 from VOA vial W-251C-1. Add int/surr stds. Load onto PT-1. FN: DPT0710@50' / Lab ID: AECOM032921-W-251. 1424 Inject.

1415 Rec 1 GWs from SM. FN: MLPV-DPT0710@56' (1410)/Lab ID: AECOM032921-W252

1432 Remove 10 ml GW sample W-252 from VOA vial W-252C-1. Add int/surr stds. Load onto PT-1. FN: DPT0710@56' / Lab ID: AECOM032921-W-252. 1442 Inject.

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/15-16/2021

Signature:

Important phone calls / Changes:

ANALYTICAL LABORATORIES OF FLORIDA

FIELD ACTIVITIES FORM

Project Name: MLPV site ALF Project: AECOM032921

Address: KSC, FL.

PROJECT NOTES:

Method: EPA8260D; Target Compounds: Vinyl chloride,1,1-DCE, cis/trans-12,DCE, TCE and PCE. Lab#1/GC#5

4/15/21 Activities:

1448 Rec 1 GWs from SM. FN: MLPV-DPT0711@50' (1445)/Lab ID: AECOM032921-W253

1504 Remove 10 ml GW sample W-253 from VOA vial W-253C-1. Add int/surr stds. Load onto PT-1. FN: DPT0711@50' / Lab ID: AECOM032921-W-253. 1514 Inject.

1510 Rec 1 GWs from SM. FN: MLPV-DPT0711@56' (1505)/Lab ID: AECOM032921-W254

1522 Remove 10 ml GW sample W-254 from VOA vial W-254C-1. Add int/surr stds. Load onto PT-1. FN: DPT0711@56' / Lab ID: AECOM032921-W-254. 1532 Inject.

1535 Discard samples in IDW drum.

&

Sampler / Company On-site: James Bradford and Shawn McGuire - AECOM

Delays:

Weather:

Date: 4/16/2021 Page 13 of 13

Signature:

Important phone calls / Changes:

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
032921BLK1	GW	01/01/1900	00:00	-9999	-9999	032921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.9		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	113.2		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	107.1		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	106.7		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	105.0		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	102.0		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	98.7		%	1	1	100	
032921CCV1	GW	01/01/1900	00:00	-9999	-9999	032921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.3		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.9		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	88.4		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	87.9		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	92.0		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	97.4		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	92.7		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	89.1		%	1	1	100	
MLPV-DPT0626-033.0-20210329	GW	03/29/2021	11:05	31	35	AECOM032921-W001MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.8		%	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-037.0-20210329	GW	03/29/2021	11:25	35	39	AECOM032921-W002	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.5		%	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.5		%	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0626-043.0-20210329	GW	03/29/2021	12:00	41	45	AECOM032921-W003DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.9		%	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-033.0-20210329	GW	03/29/2021	13:15	31	35	AECOM032921-W004	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.4		%	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-037.0-20210329	GW	03/29/2021	13:35	35	39	AECOM032921-W005	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.3		%	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0627-043.0-20210329	GW	03/29/2021	14:00	41	45	AECOM032921-W006	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.7		%	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	22		UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-033.0-20210329	GW	03/29/2021	14:45	31	35	AECOM032921-W007	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.0		%	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-037.0-20210329	GW	03/29/2021	15:05	35	39	AECOM032921-W008	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	108.9		%	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0628-043.0-20210329	GW	03/29/2021	15:35	41	45	AECOM032921-W009	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	108.5		%	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-033.0-20210329	GW	03/29/2021	16:15	31	35	AECOM032921-W010	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.1		%	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-037.0-20210329	GW	03/29/2021	16:30	35	39	AECOM032921-W011	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.7		%	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0629-043.0-20210329	GW	03/29/2021	16:55	41	45	AECOM032921-W012	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.0		%	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
033021BLK1	GW	01/01/1900	00:00	-9999	-9999	033021BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	114.5		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	99.2		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	98.7		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	100.6		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	98.7		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	114.6		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	100.5		%	1	1	100	
033021CCV1	GW	01/01/1900	00:00	-9999	-9999	033021CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.3		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.4		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	85.9		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	86.3		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	86.0		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	91.8		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	99.9		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	89.3		%	1	1	100	
MLPV-DPT0630-033.0-20210330	GW	03/30/2021	08:40	31	35	AECOM032921-W013MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.0		%	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-037.0-20210330	GW	03/30/2021	09:00	35	39	AECOM032921-W014	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.4		%	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1200		UG/L	20	20	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0630-043.0-20210330	GW	03/30/2021	09:20	41	45	AECOM032921-W015	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.3		%	1	1	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	370		UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	30		UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.4		%	3	3	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	350		UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	29		UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0630-047.0-20210330	GW	03/30/2021	09:40	45	49	AECOM032921-W016DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.4		%	2	2	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-033.0-20210330	GW	03/30/2021	10:20	31	35	AECOM032921-W017	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	86.9		%	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	37		UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-037.0-20210330	GW	03/30/2021	10:45	35	39	AECOM032921-W018	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.5		%	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	270		UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	11		UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-043.0-20210330	GW	03/30/2021	11:05	41	45	AECOM032921-W019	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	86.1		%	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	180		UG/L	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	12		UG/L	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0631-047.0-20210330	GW	03/30/2021	11:25	45	49	AECOM032921-W020	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.4		%	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	660		UG/L	5	5	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	9		UG/L	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0632-043.0-20210330	GW	03/30/2021	12:55	41	45	AECOM032921-W021	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.6		%	1	1	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1100		UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	91		UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0632-047.0-20210330	GW	03/30/2021	13:15	45	49	AECOM032921-W022	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.5		%	3	3	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	190		UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	12		UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0633-043.0-20210330	GW	03/30/2021	14:05	41	45	AECOM032921-W023	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.2		%	1	1	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	92		UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	21		UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0633-047.0-20210330	GW	03/30/2021	14:25	45	49	AECOM032921-W024	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.1		%	2	2	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	89		UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	37		UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-043.0-20210330	GW	03/30/2021	15:30	41	45	AECOM032921-W025	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.3		%	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	29		UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0634-047.0-20210330	GW	03/30/2021	15:45	45	49	AECOM032921-W026	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	88.3		%	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	370		UG/L	2	2	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	93		UG/L	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-043.0-20210330	GW	03/30/2021	16:50	41	45	AECOM032921-W027	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	86.5		%	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
033121BLK1	GW	01/01/1900	00:00	-9999	-9999	033121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.6		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	103.1		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	106.5		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	107.5		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	111.8		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	108.5		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	114.3		%	1	1	100	
033121CCV1	GW	01/01/1900	00:00	-9999	-9999	033121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.7		%	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	420	J	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	160		UG/L	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.9		%	1	1	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	460		UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	150		UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0635-047.0-20210331	GW	03/31/2021	07:30	45	49	AECOM032921-W028DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.5		%	3	3	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	46		UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-043.0-20210331	GW	03/31/2021	08:30	41	45	AECOM032921-W029	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.5		%	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	310		UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	230		UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0636-047.0-20210331	GW	03/31/2021	08:45	45	49	AECOM032921-W030	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.1		%	1	1	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	550		UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	12		UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	21		UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-043.0-20210331	GW	03/31/2021	09:20	41	45	AECOM032921-W031	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.4		%	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	310		UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	300		UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0637-047.0-20210331	GW	03/31/2021	09:35	45	49	AECOM032921-W032	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.6		%	3	3	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	120		UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-043.0-20210331	GW	03/31/2021	10:10	41	45	AECOM032921-W033	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	86.8		%	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	48		UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	9		UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0638-047.0-20210331	GW	03/31/2021	10:25	45	49	AECOM032921-W034	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.7		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	14		UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.8		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	82.3		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	84.1		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	86.8		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	86.4		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	97.5		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	87.9		%	1	1	100	
MLPV-DPT0639-043.0-20210331	GW	03/31/2021	11:15	41	45	AECOM032921-W035MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.4		%	1	1	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	500		UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	9		UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	280		UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0639-047.0-20210331	GW	03/31/2021	11:40	45	49	AECOM032921-W036	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.0		%	3	3	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	270		UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20		UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	170		UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0640-043.0-20210331	GW	03/31/2021	13:30	41	45	AECOM032921-W037	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.8		%	1	1	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	320		UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	31		UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	210		UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0640-047.0-20210331	GW	03/31/2021	13:50	45	49	AECOM032921-W038	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.2		%	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	360		UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	20		UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0641-043.0-20210331	GW	03/31/2021	15:20	41	45	AECOM032921-W039	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.0		%	3	3	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	330		UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	53		UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0641-047.0-20210331	GW	03/31/2021	15:40	45	49	AECOM032921-W040	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.7		%	2	2	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	880		UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-043.0-20210331	GW	03/31/2021	16:08	41	45	AECOM032921-W041	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	86.4		%	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	800		UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	7		UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0642-047.0-20210331	GW	03/31/2021	16:25	45	49	AECOM032921-W042	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.5		%	5	5	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0642-053.0-20210331	GW	03/31/2021	16:50	51	55	AECOM032921-W043	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.6		%	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040121BLK1	GW	01/01/1900	00:00	-9999	-9999	040121BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	88.7		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	114.4		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	111.1		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	109.5		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	109.0		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	107.9		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	116.2		%	1	1	100	
040121CCV1	GW	01/01/1900	00:00	-9999	-9999	040121CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.9		%	1	1	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	780	J	UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	44		UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.5		%	2	2	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	810		UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	42		UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-043.0-20210401	GW	04/01/2021	08:35	41	45	AECOM032921-W044DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.1		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	220		UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	33		UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	88.0		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	87.1		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	98.9		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	100.2		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	100.5		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	100.4		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	105.0		%	3	3	100	
MLPV-DPT0643-047.0-20210401	GW	04/01/2021	08:50	45	49	AECOM032921-W045MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.6		%	3	3	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	7		UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-045.0-20210401	GW	04/01/2021	09:55	43	47	AECOM032921-W046	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.7		%	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	28		UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	20		UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0644-050.0-20210401	GW	04/01/2021	10:20	48	52	AECOM032921-W047	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.0		%	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-045.0-20210401	GW	04/01/2021	11:05	43	47	AECOM032921-W048	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	105.9		%	1	1	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	810		UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	22		UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2400		UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	5	5	100	
MLPV-DPT0645-050.0-20210401	GW	04/01/2021	11:30	48	52	AECOM032921-W049	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.9		%	5	5	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0645-056.0-20210401	GW	04/01/2021	12:00	54	58	AECOM032921-W050	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.0		%	1	1	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	130		UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	130		UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	6		UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0646-045.0-20210401	GW	04/01/2021	13:10	43	47	AECOM032921-W051	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	109.1		%	2	2	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	7		UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0646-050.0-20210401	GW	04/01/2021	13:35	48	52	AECOM032921-W052	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	109.2		%	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-038.0-20210401	GW	04/01/2021	14:40	36	40	AECOM032921-W053	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	105.0		%	1	1	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	10		UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0647-045.0-20210401	GW	04/01/2021	15:00	43	47	AECOM032921-W054	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	106.9		%	3	3	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0647-050.0-20210401	GW	04/01/2021	15:25	48	52	AECOM032921-W055	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	88.3		%	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-045.0-20210401	GW	04/01/2021	16:30	43	47	AECOM032921-W056	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	110.8		%	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040221BLK1	GW	01/01/1900	00:00	-9999	-9999	040221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.2		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	80.7		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	91.0		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	87.1		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	93.6		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	115.8		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	109.8		%	1	1	100	
040221CCV1	GW	01/01/1900	00:00	-9999	-9999	040221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.0		%	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-050.0-20210402	GW	04/02/2021	07:35	48	52	AECOM032921-W057	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.0		%	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0648-056.0-20210402	GW	04/02/2021	08:05	54	58	AECOM032921-W058	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.2		%	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-038.0-20210402	GW	04/02/2021	09:10	36	40	AECOM032921-W059	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.0		%	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-045.0-20210402	GW	04/02/2021	09:35	43	47	AECOM032921-W060	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.1		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.7		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	81.6		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	88.3		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	78.8		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	91.2		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	100.3		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	91.9		%	1	1	100	
MLPV-DPT0649-050.0-20210402	GW	04/02/2021	10:00	48	52	AECOM032921-W061MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.8		%	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0649-056.0-20210402	GW	04/02/2021	10:25	54	58	AECOM032921-W062	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	88.2		%	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-011.0-20210402	GW	04/02/2021	11:00	9	13	AECOM032921-W063	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	113.8		%	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-016.0-20210402	GW	04/02/2021	11:15	14	18	AECOM032921-W064	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.5		%	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-038.0-20210402	GW	04/02/2021	11:40	36	40	AECOM032921-W065	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.9		%	1	1	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	15000	J	UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	48		UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	220		UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2900		UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3000		UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.9		%	20	20	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	15400		UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	200		UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	2600		UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	2800		UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0650-045.0-20210402	GW	04/02/2021	12:00	43	47	AECOM032921-W066DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.7		%	100	100	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-007.0-20210402	GW	04/02/2021	13:05	5	9	AECOM032921-W067	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	110.6		%	1	1	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	910		UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	33		UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2600		UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2300		UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0651-011.0-20210402	GW	04/02/2021	14:10	9	13	AECOM032921-W068	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.0		%	10	10	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	130		UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0651-016.0-20210402	GW	04/02/2021	14:25	14	18	AECOM032921-W069	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.5		%	2	2	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-022.0-20210402	GW	04/02/2021	14:45	20	24	AECOM032921-W070	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.9		%	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-038.0-20210402	GW	04/02/2021	15:40	36	40	AECOM032921-W071	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.0		%	1	1	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5400		UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5700		UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	8900		UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0651-045.0-20210402	GW	04/02/2021	16:00	43	47	AECOM032921-W072	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.2		%	100	100	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0651-050.0-20210402	GW	04/02/2021	16:25	48	52	AECOM032921-W073	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.3		%	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040521BLK1	GW	01/01/1900	00:00	-9999	-9999	040521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	81.3		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	89.2		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	90.8		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	90.8		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	94.1		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	99.2		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	92.9		%	1	1	100	
040521CCV1	GW	01/01/1900	00:00	-9999	-9999	040521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.0		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.4		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	103.5		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	94.3		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	96.2		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	94.8		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	98.2		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	91.6		%	1	1	100	
MLPV-DPT0652-011.0-20210405	GW	04/05/2021	07:40	9	13	AECOM032921-W074MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.2		%	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0652-016.0-20210405	GW	04/05/2021	07:55	14	18	AECOM032921-W075	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.1		%	1	1	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	7		UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	93		UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-045.0-20210405	GW	04/05/2021	08:10	43	47	AECOM032921-W076	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	83.3		%	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0652-050.0-20210405	GW	04/05/2021	08:30	48	52	AECOM032921-W077	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.7		%	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	470	J	UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	6		UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	20		UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.3		%	1	1	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	430		UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	6		UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	19		UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0653-007.0-20210405	GW	04/05/2021	08:55	5	9	AECOM032921-W078DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.9		%	2	2	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4200		UG/L	20	20	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	84		UG/L	20	20	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2100		UG/L	20	20	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0653-011.0-20210405	GW	04/05/2021	09:30	9	13	AECOM032921-W079	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.3		%	20	20	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	21000		UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	100		UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	790		UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	88000	J	UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2100		UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0653-016.0-20210405	GW	04/05/2021	09:50	14	18	AECOM032921-W080	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.5		%	100	100	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0653-038.0-20210405	GW	04/05/2021	10:05	36	40	AECOM032921-W081	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.8		%	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	190		UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	6		UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	20		UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-011.0-20210405	GW	04/05/2021	10:30	9	13	AECOM032921-W082	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.6		%	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	88		UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-016.0-20210405	GW	04/05/2021	10:50	14	18	AECOM032921-W083	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.3		%	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0654-038.0-20210405	GW	04/05/2021	11:10	36	40	AECOM032921-W084	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.8		%	1	1	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	17000		UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	29		UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	14000		UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	55000		UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0654-045.0-20210405	GW	04/05/2021	11:25	43	47	AECOM032921-W085	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.8		%	200	200	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	14		UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0655-007.0-20210405	GW	04/05/2021	12:30	5	9	AECOM032921-W086	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.6		%	2	2	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2900		UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	220		UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5200		UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	25000		UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0655-011.0-20210405	GW	04/05/2021	12:35	9	13	AECOM032921-W087	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.6		%	200	200	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3200		UG/L	20	20	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	360		UG/L	20	20	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	120		UG/L	20	20	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0655-016.0-20210405	GW	04/05/2021	12:55	14	18	AECOM032921-W088	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.4		%	20	20	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	16		UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0655-022.0-20210405	GW	04/05/2021	13:10	20	24	AECOM032921-W089	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.0		%	1	1	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	16		UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	13		UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	21		UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0656-045.0-20210405	GW	04/05/2021	13:50	43	47	AECOM032921-W090	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.8		%	3	3	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-050.0-20210405	GW	04/05/2021	14:15	48	52	AECOM032921-W091	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.8		%	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0656-056.0-20210405	GW	04/05/2021	14:35	54	58	AECOM032921-W092	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.9		%	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040621BLK1	GW	01/01/1900	00:00	-9999	-9999	040621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	109.4		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	98.3		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	89.4		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	91.4		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	97.8		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	93.7		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	95.3		%	1	1	100	
040621CCV1	GW	01/01/1900	00:00	-9999	-9999	040621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	111.5		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	11		UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	134.0		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	14		UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	133.4		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	118.1		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	76.6		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	87.6		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	78.1		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	128.3		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	91.5		%	1	1	100	
MLPV-DPT0657-011.0-20210406	GW	04/06/2021	07:40	9	13	AECOM032921-W093MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	134.6		%	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0657-016.0-20210406	GW	04/06/2021	08:05	14	18	AECOM032921-W094	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	134.0		%	1	1	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	14		UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	14		UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0657-022.0-20210406	GW	04/06/2021	08:25	20	24	AECOM032921-W095	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	134.9		%	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8		UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	25		UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0658-045.0-20210406	GW	04/06/2021	09:05	43	47	AECOM032921-W096	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.7		%	2	2	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	210		UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	420		UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0658-050.0-20210406	GW	04/06/2021	09:40	48	52	AECOM032921-W097	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	125.8		%	1	1	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9000		UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	200		UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4600		UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	55		UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0659-045.0-20210406	GW	04/06/2021	10:15	43	47	AECOM032921-W098	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	129.6		%	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9700		UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	520		UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4300		UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0659-050.0-20210406	GW	04/06/2021	10:50	48	52	AECOM032921-W099	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	131.6		%	40	40	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0659-056.0-20210406	GW	04/06/2021	11:15	54	58	AECOM032921-W100	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	130.4		%	1	1	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	7600		UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	90		UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4600		UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0650-050.0-20210406	GW	04/06/2021	13:15	48	52	AECOM032921-W101	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	125.8		%	20	20	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-056.0-20210406	GW	04/06/2021	13:50	54	58	AECOM032921-W102	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	131.2		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-045.0-20210406	GW	04/06/2021	14:30	43	47	AECOM032921-W103	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	123.6		%	1	1	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3000		UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	32		UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2700		UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0660-050.0-20210406	GW	04/06/2021	15:00	48	52	AECOM032921-W104	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	127.0		%	20	20	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0660-056.0-20210406	GW	04/06/2021	15:35	54	58	AECOM032921-W105	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	130.8		%	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-016.0-20210406	GW	04/06/2021	16:30	14	18	AECOM032921-W106	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.9		%	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040721BLK1	GW	01/01/1900	00:00	-9999	-9999	040721BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.4		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	109.7		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	109.6		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	106.5		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	95.5		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	96.9		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	115.8		%	1	1	100	
040721CCV1	GW	01/01/1900	00:00	-9999	-9999	040721CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.3		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.7		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	88.3		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	86.1		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	87.2		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	86.4		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	104.2		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	106.6		%	1	1	100	
MLPV-DPT0661-022.0-20210407	GW	04/07/2021	07:35	20	24	AECOM032921-W107MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.0		%	1	1	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2	U	UG/L	2	2	100	dilution due to high sulfide
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0661-045.0-20210407	GW	04/07/2021	07:50	43	47	AECOM032921-W108	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.1		%	2	2	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	770		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	12		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1600		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.0		%	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	840		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	13		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	1800		UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0661-050.0-20210407	GW	04/07/2021	08:10	48	52	AECOM032921-W109DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.3		%	10	10	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0651-027.0-20210407	GW	04/07/2021	09:30	25	29	AECOM032921-W110	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.8		%	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	140		UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-007.0-20210407	GW	04/07/2021	10:10	5	9	AECOM032921-W111	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.9		%	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-011.0-20210407	GW	04/07/2021	10:25	9	13	AECOM032921-W112	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.5		%	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-016.0-20210407	GW	04/07/2021	10:40	14	18	AECOM032921-W113	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.0		%	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0662-022.0-20210407	GW	04/07/2021	10:55	20	24	AECOM032921-W114	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.0		%	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0663-045.0-20210407	GW	04/07/2021	11:25	43	47	AECOM032921-W115	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.8		%	1	1	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	160		UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	6		UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	780		UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0663-050.0-20210407	GW	04/07/2021	11:40	48	52	AECOM032921-W116	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.7		%	3	3	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	54		UG/L	1	1	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-007.0-20210407	GW	04/07/2021	12:55	5	9	AECOM032921-W117	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.0		%	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-011.0-20210407	GW	04/07/2021	13:10	9	13	AECOM032921-W118	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.2		%	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-016.0-20210407	GW	04/07/2021	13:45	14	18	AECOM032921-W119	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.8		%	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0664-022.0-20210407	GW	04/07/2021	14:00	20	24	AECOM032921-W120	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.6		%	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	11		UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-045.0-20210407	GW	04/07/2021	14:25	43	47	AECOM032921-W121	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.3		%	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0665-050.0-20210407	GW	04/07/2021	14:45	48	52	AECOM032921-W122	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.5		%	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0666-045.0-20210407	GW	04/07/2021	15:15	43	47	AECOM032921-W123	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.6		%	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	74		UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	21		UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	16		UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0666-050.0-20210407	GW	04/07/2021	15:35	48	52	AECOM032921-W124	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.0		%	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040821BLK1	GW	01/01/1900	00:00	-9999	-9999	040821BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.9		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	96.1		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	96.2		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	94.7		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	94.2		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	105.1		%	1	1	100	
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	96.7		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
040821CCV1	GW	01/01/1900	00:00	-9999	-9999	040821CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.1		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	6		UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.4		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	112.3		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	93.6		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	97.3		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	93.6		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	122.4		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	99.1		%	1	1	100	
MLPV-DPT0667-045.0-20210408	GW	04/08/2021	07:45	43	47	AECOM032921-W125MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.0		%	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.7		%	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-050.0-20210408	GW	04/08/2021	08:05	48	52	AECOM032921-W126DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	128.2		%	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0667-056.0-20210408	GW	04/08/2021	08:30	54	58	AECOM032921-W127	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	85.4		%	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0668-045.0-20210408	GW	04/08/2021	09:00	43	47	AECOM032921-W128	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.8		%	1	1	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2800		UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	50		UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	7100		UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0668-050.0-20210408	GW	04/08/2021	09:20	48	52	AECOM032921-W129	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.4		%	40	40	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	93		UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	750		UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0668-056.0-20210408	GW	04/08/2021	09:40	54	58	AECOM032921-W130	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.7		%	10	10	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-016.0-20210408	GW	04/08/2021	10:40	14	18	AECOM032921-W131	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.4		%	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	27		UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-022.0-20210408	GW	04/08/2021	10:50	20	24	AECOM032921-W132	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.1		%	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-027.0-20210408	GW	04/08/2021	11:05	25	29	AECOM032921-W133	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.9		%	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-038.0-20210408	GW	04/08/2021	11:20	36	40	AECOM032921-W134	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.3		%	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0669-045.0-20210408	GW	04/08/2021	11:40	43	47	AECOM032921-W135	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.1		%	1	1	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	360		UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	820		UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0669-050.0-20210408	GW	04/08/2021	12:40	48	52	AECOM032921-W136	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.2		%	20	20	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	2	2	100	high level of sulfides
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5		UG/L	2	2	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0669-056.0-20210408	GW	04/08/2021	13:00	54	58	AECOM032921-W137	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.5		%	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2	U	UG/L	2	2	100	high level of sulfides
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0670-045.0-20210408	GW	04/08/2021	13:30	43	47	AECOM032921-W138	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.5		%	2	2	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-050.0-20210408	GW	04/08/2021	13:50	48	52	AECOM032921-W139	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.1		%	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0670-056.0-20210408	GW	04/08/2021	14:10	54	58	AECOM032921-W140	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.3		%	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-016.0-20210408	GW	04/08/2021	14:35	14	18	AECOM032921-W141	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.0		%	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-022.0-20210408	GW	04/08/2021	14:50	20	24	AECOM032921-W142	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.1		%	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	14		UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5		UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	9		UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0671-027.0-20210408	GW	04/08/2021	15:30	25	29	AECOM032921-W143	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.1		%	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-016.0-20210408	GW	04/08/2021	15:55	14	18	AECOM032921-W144	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.8		%	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
040921BLK1	GW	01/01/1900	00:00	-9999	-9999	040921BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.6		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	111.4		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	92.4		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	85.8		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	83.4		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	90.5		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	85.3		%	1	1	100	
040921CCV1	GW	01/01/1900	00:00	-9999	-9999	040921CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.0		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.1		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	121.0		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	94.2		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	91.5		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	97.7		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	105.3		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	102.4		%	1	1	100	
MLPV-DPT0672-022.0-20210409	GW	04/09/2021	07:40	20	24	AECOM032921-W145MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.6		%	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0672-027.0-20210409	GW	04/09/2021	08:00	25	29	AECOM032921-W146	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.9		%	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-045.0-20210409	GW	04/09/2021	08:30	43	47	AECOM032921-W147	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.4		%	1	1	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	160		UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	130		UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.7		%	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	180		UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	130		UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0673-050.0-20210409	GW	04/09/2021	08:45	48	52	AECOM032921-W148DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.1		%	5	5	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	38		UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	11		UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0673-056.0-20210409	GW	04/09/2021	09:05	54	58	AECOM032921-W149	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.8		%	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0674-045.0-20210409	GW	04/09/2021	09:45	43	47	AECOM032921-W150	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.1		%	1	1	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	380		UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	13		UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	430		UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0674-050.0-20210409	GW	04/09/2021	10:00	48	52	AECOM032921-W151	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.7		%	10	10	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	63		UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	76		UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0674-056.0-20210409	GW	04/09/2021	10:20	54	58	AECOM032921-W152	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.1		%	3	3	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-045.0-20210409	GW	04/09/2021	10:40	43	47	AECOM032921-W153	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.3		%	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	17		UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	12		UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0675-050.0-20210409	GW	04/09/2021	11:00	48	52	AECOM032921-W154	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.8		%	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-045.0-20210409	GW	04/09/2021	11:50	43	47	AECOM032921-W155	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	83.1		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-050.0-20210409	GW	04/09/2021	12:45	48	52	AECOM032921-W156	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.8		%	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0676-056.0-20210409	GW	04/09/2021	13:05	54	58	AECOM032921-W157	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	83.9		%	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	36		UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0677-045.0-20210409	GW	04/09/2021	13:30	43	47	AECOM032921-W158	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	82.4		%	1	1	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	160		UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	11		UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0677-050.0-20210409	GW	04/09/2021	13:50	48	52	AECOM032921-W159	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.0		%	3	3	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-007.0-20210409	GW	04/09/2021	14:15	5	9	AECOM032921-W160	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.9		%	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0678-011.0-20210409	GW	04/09/2021	14:25	9	13	AECOM032921-W161	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	120.4		%	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-045.0-20210409	GW	04/09/2021	15:35	43	47	AECOM032921-W162	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	82.7		%	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	65		UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0679-050.0-20210409	GW	04/09/2021	15:50	48	52	AECOM032921-W163	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	126.1		%	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
041221BLK1	GW	01/01/1900	00:00	-9999	-9999	041221BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	76.2		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	102.1		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	94.2		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	94.8		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	105.9		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	112.7		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	106.7		%	1	1	100	
041221CCV1	GW	01/01/1900	00:00	-9999	-9999	041221CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	108.8		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	111.5		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	107.9		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	96.8		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	100.4		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	109.6		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	100.4		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	92.1		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	110.9		%	1	1	100	
MLPV-DPT0680-045.0-20210412	GW	04/12/2021	08:45	43	47	AECOM032921-W164MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	109.2		%	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	22		UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-050.0-20210412	GW	04/12/2021	09:05	48	52	AECOM032921-W165	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.1		%	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0680-056.0-20210412	GW	04/12/2021	09:25	54	58	AECOM032921-W166	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.9		%	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	7		UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-045.0-20210412	GW	04/12/2021	10:20	43	47	AECOM032921-W167	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	109.9		%	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	41		UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	12		UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0681-050.0-20210412	GW	04/12/2021	10:40	48	52	AECOM032921-W168	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.3		%	1	1	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1100		UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-007.0-20210412	GW	04/12/2021	11:30	5	9	AECOM032921-W169	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	122.0		%	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	920		UG/L	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	150		UG/L	20	20	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	120		UG/L	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0682-011.0-20210412	GW	04/12/2021	11:45	9	13	AECOM032921-W170	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.1		%	20	20	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	310		UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2300		UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5700		UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	40	U	UG/L	40	40	100	
MLPV-DPT0683-007.0-20210412	GW	04/12/2021	13:00	5	9	AECOM032921-W171	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	110.2		%	40	40	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3000		UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	25000		UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	129000		UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0683-011.0-20210412	GW	04/12/2021	13:30	9	13	AECOM032921-W172	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.3		%	100	100	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	10	U	UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	28		UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	380		UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-007.0-20210412	GW	04/12/2021	13:55	5	9	AECOM032921-W173	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	111.4		%	10	10	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	260		UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0684-011.0-20210412	GW	04/12/2021	14:30	9	13	AECOM032921-W174	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	110.6		%	3	3	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0684-045.0-20210412	GW	04/12/2021	14:50	43	47	AECOM032921-W175	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.7		%	2	2	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	250		UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	14		UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	360		UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0684-050.0-20210412	GW	04/12/2021	15:10	48	52	AECOM032921-W176	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	112.7		%	10	10	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	130		UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0685-007.0-20210412	GW	04/12/2021	15:40	5	9	AECOM032921-W177	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.9		%	2	2	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0685-011.0-20210412	GW	04/12/2021	15:55	9	13	AECOM032921-W178	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.7		%	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
041321BLK1	GW	01/01/1900	00:00	-9999	-9999	041321BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.4		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	106.4		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	109.1		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	109.7		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	103.3		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	104.4		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	103.0		%	1	1	100	
041321CCV1	GW	01/01/1900	00:00	-9999	-9999	041321CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.0		%	1	1	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2	U	UG/L	2	2	100	High levels of sulfides
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.3		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	97.1		%	2	2	100	High levels of sulfides
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	97.1		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	93.8		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	98.6		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	98.7		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	98.6		%	2	2	100	
MLPV-DPT0686-045.0-20210413	GW	04/13/2021	08:30	43	47	AECOM032921-W179MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.7		%	2	2	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5900		UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	8100		UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	200	U	UG/L	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.0		%	200	200	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	5700		UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	7700		UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	100	U	UG/L	100	100	100	
MLPV-DPT0686-050.0-20210413	GW	04/13/2021	08:50	48	52	AECOM032921-W180DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.4		%	100	100	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	51		UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	850		UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	20	U	UG/L	20	20	100	
MLPV-DPT0686-056.0-20210413	GW	04/13/2021	09:12	54	58	AECOM032921-W181	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.4		%	20	20	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	9		UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	250		UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-007.0-20210413	GW	04/13/2021	10:00	5	9	AECOM032921-W182	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.6		%	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	7		UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	10		UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	190		UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0687-011.0-20210413	GW	04/13/2021	10:20	9	13	AECOM032921-W183	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.6		%	3	3	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-007.0-20210413	GW	04/13/2021	11:00	5	9	AECOM032921-W184	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.6		%	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0688-011.0-20210413	GW	04/13/2021	11:20	9	13	AECOM032921-W185	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	90.7		%	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-007.0-20210413	GW	04/13/2021	11:40	5	9	AECOM032921-W186	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.0		%	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0689-011.0-20210413	GW	04/13/2021	11:50	9	13	AECOM032921-W187	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.8		%	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	5		UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-045.0-20210413	GW	04/13/2021	13:05	43	47	AECOM032921-W188	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.8		%	1	1	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	260		UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	800		UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0690-050.0-20210413	GW	04/13/2021	13:25	48	52	AECOM032921-W189	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.8		%	10	10	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	14		UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	49		UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0690-056.0-20210413	GW	04/13/2021	13:45	54	58	AECOM032921-W190	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.1		%	2	2	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0690-063.0-20210413	GW	04/13/2021	14:35	61	65	AECOM032921-W191	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.6		%	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-007.0-20210413	GW	04/13/2021	15:15	5	9	AECOM032921-W192	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.3		%	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-011.0-20210413	GW	04/13/2021	15:35	9	13	AECOM032921-W193	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.7		%	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-016.0-20210413	GW	04/13/2021	16:15	14	18	AECOM032921-W194	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.6		%	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0691-022.0-20210413	GW	04/13/2021	16:30	20	24	AECOM032921-W195	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.6		%	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
041421BLK1	GW	01/01/1900	00:00	-9999	-9999	041421BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.3		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	84.5		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	97.3		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	99.2		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	103.7		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	97.6		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	118.5		%	1	1	100	
041421CCV1	GW	01/01/1900	00:00	-9999	-9999	041421CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.9		%	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	280	J	UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	12		UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.5		%	1	1	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	290		UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	11		UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-007.0-20210414	GW	04/14/2021	08:10	5	9	AECOM032921-W196DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.4		%	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	440		UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	6		UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0692-011.0-20210414	GW	04/14/2021	08:25	9	13	AECOM032921-W197	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.6		%	2	2	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.9		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	113.1		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	98.4		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	98.0		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	104.5		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	98.8		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	117.3		%	1	1	100	
MLPV-DPT0692-016.0-20210414	GW	04/14/2021	08:35	14	18	AECOM032921-W198MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.7		%	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1		UG/L	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0692-022.0-20210414	GW	04/14/2021	08:45	20	24	AECOM032921-W199	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.1		%	1	1	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	130		UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	4		UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0693-007.0-20210414	GW	04/14/2021	09:10	5	9	AECOM032921-W200	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.2		%	3	3	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	11		UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-011.0-20210414	GW	04/14/2021	09:20	9	13	AECOM032921-W201	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.2		%	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-016.0-20210414	GW	04/14/2021	09:30	14	18	AECOM032921-W202	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.8		%	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0693-022.0-20210414	GW	04/14/2021	09:45	20	24	AECOM032921-W203	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.8		%	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-016.0-20210414	GW	04/14/2021	10:05	14	18	AECOM032921-W204	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.0		%	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0682-022.0-20210414	GW	04/14/2021	10:15	20	24	AECOM032921-W205	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.3		%	1	1	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	11000		UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1000	U	UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1000	U	UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	49000		UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	100000		UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1000	U	UG/L	1000	1000	100	
MLPV-DPT0683-016.0-20210414	GW	04/14/2021	10:35	14	18	AECOM032921-W206	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.8		%	1000	1000	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	7		UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	22		UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	37		UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0683-022.0-20210414	GW	04/14/2021	10:45	20	24	AECOM032921-W207	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.0		%	3	3	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0650-007.0-20210414	GW	04/14/2021	11:30	5	9	AECOM032921-W208	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.6		%	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-045.0-20210414	GW	04/14/2021	11:55	43	47	AECOM032921-W209	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	87.1		%	1	1	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	350		UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	270		UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0694-050.0-20210414	GW	04/14/2021	12:55	48	52	AECOM032921-W210	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.3		%	10	10	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0694-056.0-20210414	GW	04/14/2021	13:10	54	58	AECOM032921-W211	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.4		%	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	5		UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-045.0-20210414	GW	04/14/2021	13:40	43	47	AECOM032921-W212	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.3		%	1	1	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	420		UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	640		UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0695-050.0-20210414	GW	04/14/2021	14:00	48	52	AECOM032921-W213	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.6		%	10	10	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0695-056.0-20210414	GW	04/14/2021	14:20	54	58	AECOM032921-W214	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	92.5		%	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0696-045.0-20210414	GW	04/14/2021	14:45	43	47	AECOM032921-W215	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	89.6		%	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
041521BLK1	GW	01/01/1900	00:00	-9999	-9999	041521BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.8		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	94.3		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	116.5		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	112.5		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	106.2		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	115.3		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	108.9		%	1	1	100	
041521CCV1	GW	01/01/1900	00:00	-9999	-9999	041521CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.7		%	1	1	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	250		UG/L	3	3	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	3	U	UG/L	3	3	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	250		UG/L	3	3	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	3	U	UG/L	3	3	100	
MLPV-DPT0696-050.0-20210414	GW	04/14/2021	15:00	48	52	AECOM032921-W216	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.7		%	3	3	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	66		UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	100		UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1300	J	UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.6		%	5	5	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	59		UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	95		UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	1300		UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0696-056.0-20210414	GW	04/14/2021	15:20	54	58	AECOM032921-W217DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	101.0		%	10	10	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10		UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.4		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	125.7		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	99.6		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	95.6		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	105.4		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	106.9		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	100.9		%	1	1	100	
MLPV-DPT0697-045.0-20210415	GW	04/15/2021	08:10	43	47	AECOM032921-W218MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.4		%	1	1	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	860		UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	11		UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1500		UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0697-050.0-20210415	GW	04/15/2021	08:30	48	52	AECOM032921-W219	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.1		%	10	10	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	32		UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	84		UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	2	2	100	
MLPV-DPT0697-056.0-20210415	GW	04/15/2021	08:50	54	58	AECOM032921-W220	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.0		%	2	2	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-007.0-20210415	GW	04/15/2021	09:25	5	9	AECOM032921-W221	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.1		%	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0698-011.0-20210415	GW	04/15/2021	09:35	9	13	AECOM032921-W222	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.2		%	1	1	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	180		UG/L	2	2	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	3		UG/L	2	2	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	40		UG/L	2	2	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	2	U	UG/L	2	2	100	
MLPV-DPT0699-007.0-20210415	GW	04/15/2021	09:55	5	9	AECOM032921-W223	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.2		%	2	2	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	130		UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	19		UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0699-011.0-20210415	GW	04/15/2021	10:05	9	13	AECOM032921-W224	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.3		%	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	15		UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5		UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0700-050.0-20210415	GW	04/15/2021	10:30	48	52	AECOM032921-W225	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	104.3		%	1	1	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	330		UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	450		UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0701-050.0-20210415	GW	04/15/2021	10:55	48	52	AECOM032921-W226	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.5		%	10	10	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	73		UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	24		UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-050.0-20210415	GW	04/15/2021	11:35	48	52	AECOM032921-W227	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.4		%	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0702-056.0-20210415	GW	04/15/2021	12:00	54	58	AECOM032921-W228	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.2		%	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-033.0-20210415	GW	04/15/2021	13:45	31	35	AECOM032921-W229	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.7		%	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	25		UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	3		UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-038.0-20210415	GW	04/15/2021	14:00	36	40	AECOM032921-W230	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.8		%	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0703-043.0-20210415	GW	04/15/2021	14:30	41	45	AECOM032921-W231	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.3		%	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	8		UG/L	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1		UG/L	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0704-033.0-20210415	GW	04/15/2021	14:55	31	35	AECOM032921-W232	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.6		%	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	20		UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-038.0-20210415	GW	04/15/2021	15:15	36	40	AECOM032921-W233	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.2		%	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	11		UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0704-043.0-20210415	GW	04/15/2021	15:40	41	45	AECOM032921-W234	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	103.1		%	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1900		UG/L	20	20	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	8		UG/L	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	10		UG/L	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0705-043.0-20210415	GW	04/15/2021	16:15	41	45	AECOM032921-W235	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	102.4		%	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
041621BLK1	GW	01/01/1900	00:00	-9999	-9999	041621BLK1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	91.0		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	99.0		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	99.3		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	100.9		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	101.8		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	104.2		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	97.1		%	1	1	100	
041621CCV1	GW	01/01/1900	00:00	-9999	-9999	041621CCV1	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.7		%	1	1	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1600		UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	97		UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.1		%	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	VINYL CHLORIDE	1400		UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRANS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	CIS-1,2-DICHLOROETHENE	84		UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	DUP	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0705-048.0-20210415	GW	04/15/2021	16:35	46	50	AECOM032921-W236DUP	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	93.6		%	10	10	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.7		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	VINYL CHLORIDE	105.0		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	1,1-DICHLOROETHENE	98.0		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRANS-1,2-DICHLOROETHENE	99.3		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	CIS-1,2-DICHLOROETHENE	103.5		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	TRICHLOROETHENE	100.3		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SPK	PERCHLOROETHENE	96.5		%	1	1	100	
MLPV-DPT0706-033.0-20210416	GW	04/16/2021	07:45	31	35	AECOM032921-W237MS	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.4		%	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-038.0-20210416	GW	04/16/2021	08:00	36	40	AECOM032921-W238	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.7		%	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0706-043.0-20210416	GW	04/16/2021	08:15	41	45	AECOM032921-W239	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.0		%	1	1	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	850		UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	15		UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	10	U	UG/L	10	10	100	
MLPV-DPT0706-048.0-20210416	GW	04/16/2021	08:30	46	50	AECOM032921-W240	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.4		%	10	10	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	4		UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-033.0-20210416	GW	04/16/2021	09:20	31	35	AECOM032921-W241	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	99.0		%	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-038.0-20210416	GW	04/16/2021	09:35	36	40	AECOM032921-W242	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.3		%	1	1	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	240		UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	8		UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	14		UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	5	U	UG/L	5	5	100	
MLPV-DPT0707-043.0-20210416	GW	04/16/2021	09:50	41	45	AECOM032921-W243	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.8		%	5	5	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	15		UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0707-048.0-20210416	GW	04/16/2021	10:10	46	50	AECOM032921-W244	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.1		%	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-033.0-20210416	GW	04/16/2021	11:10	31	35	AECOM032921-W245	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.6		%	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	9		UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-038.0-20210416	GW	04/16/2021	11:25	36	40	AECOM032921-W246	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.2		%	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	7		UG/L	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	

sample_no	matrix	sample_date	sample_time	top_depth	bottom_depth	lab_id	laboratory	result_type	parameter	lab_result	lab_qual	units	reporting_limit	dil_factor	pct_moist	comments
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-043.0-20210416	GW	04/16/2021	11:40	41	45	AECOM032921-W247	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	94.2		%	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	200		UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	2		UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	24		UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0708-048.0-20210416	GW	04/16/2021	11:55	46	50	AECOM032921-W248	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.0		%	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	6		UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-007.0-20210416	GW	04/16/2021	13:10	5	9	AECOM032921-W249	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	100.5		%	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0709-011.0-20210416	GW	04/16/2021	13:20	9	13	AECOM032921-W250	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	98.4		%	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	3		UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	31		UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-050.0-20210416	GW	04/16/2021	13:50	48	52	AECOM032921-W251	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	97.8		%	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	2		UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0710-056.0-20210416	GW	04/16/2021	14:10	54	58	AECOM032921-W252	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.1		%	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-050.0-20210416	GW	04/16/2021	14:45	48	52	AECOM032921-W253	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	95.9		%	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	VINYL CHLORIDE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	1,1-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRANS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	CIS-1,2-DICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	TRICHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	TRG	PERCHLOROETHENE	1	U	UG/L	1	1	100	
MLPV-DPT0711-056.0-20210416	GW	04/16/2021	15:05	54	58	AECOM032921-W254	ANALYTICAL LABORATORIES OF FLORIDA, INC.	SUR	d8-TOLUENE	96.9		%	1	1	100	

APPENDIX E

FIXED LABORATORY ANALYTICAL REPORTS –

DPT GROUNDWATER SAMPLING

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10775 Central Port Drive, Orlando, FL 32824

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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
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ENCO Laboratories

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Tuesday, April 20, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02524

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 2, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02524

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

Analysis: EPA 9060A

This is an amendment to the report dated 04/14/21 to update the qualifier for the samples noted below.

Affected Samples: MLPV-DPT0644-045.0-20210401[AE02524-01],
MLPV-DPT0644-050.0-20210401[AE02524-02], MLPV-DPT0645-050.0-20210401[AE02524-04],
MLPV-DPT0646-045.0-20210401[AE02524-06], MLPV-DPT0651-011.0-20210402[AE02524-22]
The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0644-045.0-20210401 **Lab ID: AE02524-01** **Sampled: 04/01/21 09:55** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/29/21	04/06/21 09:03	04/06/21 13:42
EPA 9060A	NO PREP	04/29/21	04/07/21 13:02	04/08/21 10:44
SM 4500S2 F-2011	NO PREP	04/08/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0644-045.0-20210401 **Lab ID: AE02524-01RE1** **Sampled: 04/01/21 09:55** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/15/21	04/07/21 16:15	04/07/21 17:46

Client ID: MLPV-DPT0644-050.0-20210401 **Lab ID: AE02524-02** **Sampled: 04/01/21 10:20** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	04/29/21	04/07/21 13:02	04/08/21 11:06
RSK 175	Same	04/15/21	04/07/21 00:00	04/07/21 10:00
SM 4500S2 F-2011	NO PREP	04/08/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0644-050.0-20210401 **Lab ID: AE02524-02RE1** **Sampled: 04/01/21 10:20** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/29/21	04/06/21 09:03	04/07/21 09:07
RSK 175	Same	04/15/21	04/07/21 16:15	04/08/21 08:34

Client ID: MLPV-DPT0645-050.0-20210401 **Lab ID: AE02524-04** **Sampled: 04/01/21 11:30** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/15/21	04/07/21 00:00	04/07/21 10:16
SM 4500S2 F-2011	NO PREP	04/08/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0645-050.0-20210401 **Lab ID: AE02524-04RE1** **Sampled: 04/01/21 11:30** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/29/21	04/06/21 09:03	04/07/21 09:20
EPA 9060A	NO PREP	04/29/21	04/07/21 13:02	04/08/21 16:51
RSK 175	Same	04/15/21	04/07/21 16:15	04/08/21 09:02

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID: AE02524-06** **Sampled: 04/01/21 13:10** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	04/29/21	04/07/21 13:02	04/08/21 11:47
SM 4500S2 F-2011	NO PREP	04/08/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID: AE02524-06RE1** **Sampled: 04/01/21 13:10** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/29/21	04/06/21 09:03	04/07/21 09:33
RSK 175	Same	04/15/21	04/07/21 16:15	04/07/21 18:02

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID: AE02524-06RE2** **Sampled: 04/01/21 13:10** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/15/21	04/07/21 16:15	04/08/21 09:56

Client ID: MLPV-DPT0651-011.0-20210402 **Lab ID: AE02524-22** **Sampled: 04/02/21 14:10** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/30/21	04/06/21 09:03	04/06/21 14:34
EPA 9060A	NO PREP	04/30/21	04/07/21 13:02	04/08/21 12:10
RSK 175	Same	04/16/21	04/07/21 00:00	04/07/21 10:48
SM 4500S2 F-2011	NO PREP	04/09/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0651-011.0-20210402 **Lab ID: AE02524-22RE1** **Sampled: 04/02/21 14:10** **Received: 04/02/21 15:16**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/16/21	04/07/21 16:15	04/08/21 09:28

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0644-045.0-20210401 **Lab ID:** AE02524-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	1200000		1300	100000	ug/L	EPA 9056A	
Sulfide	5100		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	19000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0644-045.0-20210401 **Lab ID:** AE02524-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	230		4.00	5.00	ug/L	RSK 175	

Client ID: MLPV-DPT0644-050.0-20210401 **Lab ID:** AE02524-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	23.5		5.10	6.00	ug/L	RSK 175	
Sulfide	480	I	450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	12000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0644-050.0-20210401 **Lab ID:** AE02524-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	5200		140	175	ug/L	RSK 175	
Sulfate	490000		660	50000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0645-050.0-20210401 **Lab ID:** AE02524-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	1160		5.10	6.00	ug/L	RSK 175	
Sulfide	1400		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0645-050.0-20210401 **Lab ID:** AE02524-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	8590		280	350	ug/L	RSK 175	
Sulfate	370000		660	50000	ug/L	EPA 9056A	
Total Organic Carbon	11000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID:** AE02524-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	120000		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	31000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID:** AE02524-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	570000		660	50000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0646-045.0-20210401 **Lab ID:** AE02524-06RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	5490		265	312	ug/L	RSK 175	
Methane	10200		208	260	ug/L	RSK 175	

Client ID: MLPV-DPT0651-011.0-20210402 **Lab ID:** AE02524-22

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	123		5.10	6.00	ug/L	RSK 175	
Ethene	65.3		5.10	6.00	ug/L	RSK 175	
Sulfate	17000		66	5000	ug/L	EPA 9056A	
Sulfide	800	I	450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	22000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0651-011.0-20210402 **Lab ID:** AE02524-22RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	16400		168	210	ug/L	RSK 175	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0644-045.0-20210401 **Lab Sample ID:** AE02524-01 **Received:** 04/02/21 15:16
Matrix: Ground Water **Sampled:** 04/01/21 09:55 **Work Order:** AE02524
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/07/21 17:46	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/07/21 17:46	JMW	
Methane [74-82-8]^	**230**		ug/L	1	4.00	5.00	1D07039	RSK 175	04/07/21 17:46	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1200000**		ug/L	20	1300	100000	1D06014	EPA 9056A	04/06/21 13:42	DFC	
Sulfide [18496-25-8]	**5100**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**19000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 10:44	ASR	QB-06

Description: MLPV-DPT0644-050.0-20210401 **Lab Sample ID:** AE02524-02 **Received:** 04/02/21 15:16
Matrix: Ground Water **Sampled:** 04/01/21 10:20 **Work Order:** AE02524
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:00	JMW	
Ethene [74-85-1]^	**23.5**		ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:00	JMW	
Methane [74-82-8]^	**5200**		ug/L	35	140	175	1D07039	RSK 175	04/08/21 08:34	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**490000**		ug/L	10	660	50000	1D06014	EPA 9056A	04/07/21 09:07	DFC	
Sulfide [18496-25-8]	**480**	I	ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**12000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 11:06	ASR	QB-06

Description: MLPV-DPT0645-050.0-20210401 **Lab Sample ID:** AE02524-04 **Received:** 04/02/21 15:16
Matrix: Ground Water **Sampled:** 04/01/21 11:30 **Work Order:** AE02524
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:16	JMW	
Ethene [74-85-1]^	**1160**		ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:16	JMW	
Methane [74-82-8]^	**8590**		ug/L	70	280	350	1D07039	RSK 175	04/08/21 09:02	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**370000**		ug/L	10	660	50000	1D06014	EPA 9056A	04/07/21 09:20	DFC	
Sulfide [18496-25-8]	**1400**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**11000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 16:51	ASR	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0646-045.0-20210401 **Lab Sample ID:** AE02524-06 **Received:** 04/02/21 15:16
Matrix: Ground Water **Sampled:** 04/01/21 13:10 **Work Order:** AE02524
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/07/21 18:02	JMW	
Ethene [74-85-1]^	**5490**		ug/L	52	265	312	1D07039	RSK 175	04/08/21 09:56	JMW	
Methane [74-82-8]^	**10200**		ug/L	52	208	260	1D07039	RSK 175	04/08/21 09:56	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**570000**		ug/L	10	660	50000	1D06014	EPA 9056A	04/07/21 09:33	DFC	
Sulfide [18496-25-8]	**120000**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**31000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 11:47	ASR	QB-06

Description: MLPV-DPT0651-011.0-20210402 **Lab Sample ID:** AE02524-22 **Received:** 04/02/21 15:16
Matrix: Ground Water **Sampled:** 04/02/21 14:10 **Work Order:** AE02524
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**123**		ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:48	JMW	
Ethene [74-85-1]^	**65.3**		ug/L	1	5.10	6.00	1D07012	RSK 175	04/07/21 10:48	JMW	
Methane [74-82-8]^	**16400**		ug/L	42	168	210	1D07039	RSK 175	04/08/21 09:28	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**17000**		ug/L	1	66	5000	1D06014	EPA 9056A	04/06/21 14:34	DFC	
Sulfide [18496-25-8]	**800**	I	ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**22000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 12:10	ASR	QB-06

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D07012 - Same

Blank (1D07012-BLK1) Prepared: 04/07/2021 00:00 Analyzed: 04/07/2021 09:28

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D07012-BS1) Prepared: 04/07/2021 00:00 Analyzed: 04/07/2021 08:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	323		6.00	ug/L	323		100	70-130			
Ethene	313		6.00	ug/L	302		104	70-130			
Methane	176		5.00	ug/L	172		102	70-130			

LCS Dup (1D07012-BSD1) Prepared: 04/07/2021 00:00 Analyzed: 04/07/2021 09:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	322		6.00	ug/L	323		100	70-130	0.6	30	
Ethene	317		6.00	ug/L	302		105	70-130	1	30	
Methane	176		5.00	ug/L	172		103	70-130	0.2	30	

Duplicate (1D07012-DUP1) Prepared: 04/07/2021 00:00 Analyzed: 04/07/2021 15:34

Source: AE02752-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	I	5.00	ug/L		36.6				30	

Batch 1D07039 - Same

Blank (1D07039-BLK1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 17:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D07039-BS1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 16:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	326		6.00	ug/L	323		101	70-130			
Ethene	317		6.00	ug/L	302		105	70-130			
Methane	177		5.00	ug/L	172		103	70-130			

LCS Dup (1D07039-BSD1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 17:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	325		6.00	ug/L	323		101	70-130	0.4	30	
Ethene	319		6.00	ug/L	302		106	70-130	0.4	30	
Methane	177		5.00	ug/L	172		103	70-130	0.2	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D07039 - Same - Continued

Duplicate (1D07039-DUP1) Prepared: 04/07/2021 16:15 Analyzed: 04/08/2021 13:29

Source: AE02524-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	239		5.00	ug/L		230			4	30	

Classical Chemistry Parameters - Quality Control

Batch 1D06014 - NO PREP

Blank (1D06014-BLK1) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 11:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D06014-BS1) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 11:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	47000		5000	ug/L	50000		94	80-120			

Matrix Spike (1D06014-MS1) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 11:53

Source: AE02697-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	53000		5000	ug/L	50000	66 U	105	80-120			

Matrix Spike (1D06014-MS2) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 15:00

Source: AE02735-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	49000		5000	ug/L	50000	570	98	80-120			

Matrix Spike Dup (1D06014-MSD1) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 12:06

Source: AE02697-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	51000		5000	ug/L	50000	66 U	102	80-120	4	15	

Matrix Spike Dup (1D06014-MSD2) Prepared: 04/06/2021 09:03 Analyzed: 04/06/2021 15:13

Source: AE02735-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	50000		5000	ug/L	50000	570	99	80-120	0.8	15	

Batch 1D07035 - NO PREP

Blank (1D07035-BLK1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D07035 - NO PREP - Continued

LCS (1D07035-BS1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 10:21

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	48000		1000	ug/L	50000		97	85-115			

Matrix Spike (1D07035-MS1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 19:22

Source: AE02702-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	2300	96	85-115			

Matrix Spike Dup (1D07035-MSD1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 19:47

Source: AE02702-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	2300	93	85-115	3	21	

Batch 1D07053 - NO PREP

Blank (1D07053-BLK1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D07053-BS1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		88	84-106			

Matrix Spike (1D07053-MS1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3400		1000	ug/L	4010	450 U	84	84-106			

Matrix Spike Dup (1D07053-MSD1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	88	84-106	5	10	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.
QB-02	The method blank contains analyte at a concentration above the MDL and/or greater than one-half the MRL. The analyte was not detected in the sample.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02524 1 of 2

run 5, cancel 19

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: MLP/VAB Hot Spot 3		PO No	Project No. 60615493.4 Phase:
TO No: 80KSC019D0010	AECOM Project Manager: Linnea King Clark	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Arnett Jennings
Sampler/Phone #: Shaun McGuire 919-757-5306 / JAMES BRADFORD		Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando	Report to: Jennifer Chastain Cc: Teresa Arnett Jennings
Lab Name: ENCO	Turnaround Time(specify): Standard 14 day	Deliver Samples To:	Site Specific WS#15 from QAPP 15-15

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW 846 9060A	4 DEG C Sulfide by SM 4500 S	Comments
run	MLPV-DPT0644-035-20210401	MLPV-DPT0644	20210401	0955	WG	N	G	7	3	1	2	1	
run	MLPV-DPT0644-050-20210401	MLPV-DPT0644	20210401	1020	WG	N	G	7	3	1	2	1	
	MLPV-DPT0645-045-20210401	MLPV-DPT0645	20210401	1105	WG	N	G	7	3	1	2	1	
run	MLPV-DPT-030-2021	MLPV-DPT	2021	1130	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050-2021	MLPV-DPT	2021	1200	WG	N	G	7	3	1	2	1	
run	MLPV-DPT0646-045-2021	MLPV-DPT0646	2021	1310	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050-2021	MLPV-DPT	2021	1355	WG	N	G	7	3	1	2	1	
	MLPV-DPT0647-030-2021	MLPV-DPT0647	2021	1440	WG	N	G	7	3	1	2	1	
	MLPV-DPT-045-2021	MLPV-DPT	2021	1500	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050-2021	MLPV-DPT	2021	1525	WG	N	G	7	3	1	2	1	
	MLPV-DPT0646-045-2021	MLPV-DPT0646	2021	1630	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050-20210402	MLPV-DPT	2021 0402	0735	WG	N	G	7	3	1	2	1	

***Field* Comments:** Report only per QAPP WS #15-14

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	03/30/21	14:30	1	4/2/21	1516
2			2		
3			3		

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes____ No____

Shipping Company: 69673 2.5°C

Tracking No: 8852769 0.4°C

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 1 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

AEO23524

2 of 2

run 5, cancel 19

DY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 1

PO No. | Project No. 60615493.4 | Phase:

Send Invoice To: Instructions in MSA # | EDD to: Jennifer Chastain Cc: Teresa Arendt Jennings

Linnea King Clark | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to: Jennifer Chastain Cc: Teresa Arendt Jennings

SOLD | Deliver Samples To: | Site-Specific WS #15 from QAPP 15-15

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 (Sys_loc_code)	Time (Military) (hhmm)	Matrix Code (1)	Sample Type (2)	G=Grab C=Comp	(3) Total No. of Containers	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S	Comments
	MLPV-DPT~~0348-056-2021~~	MLPV-DPT~~0348~~	2021~~0402~~	0505	WG	N	G	7	3	1	2	1
	MLPV-DPT~~0651-036-2021~~	MLPV-DPT~~0619~~	2021	0910	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-045-2021~~	MLPV-DPT	2021	0935	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-050-2021~~	MLPV-DPT	2021	1000	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-056-2021~~	MLPV-DPT	2021	1025	WG	N	G	7	3	1	2	1
	MLPV-DPT~~0656-011.6-2021~~	MLPV-DPT~~0650~~	2021	1102	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-011.6-2021~~	MLPV-DPT	2021	1115	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-036-2021~~	MLPV-DPT	2021	1110	WG	N	G	7	3	1	2	1
	MLPV-DPT~~0651-009.0-2021~~	MLPV-DPT~~0651~~	2021	1305	WG	N	G	7	3	1	2	1
run	MLPV-DPT~~-011.6-2021~~	MLPV-DPT	2021	1410	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-046-2021~~	MLPV-DPT	2021	1425	WG	N	G	7	3	1	2	1
	MLPV-DPT~~-921.0-2021~~	MLPV-DPT	2021	1445	WG	N	G	7	3	1	2	1

***Field* Comments:**

Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

Samples Iced?(check) Yes ____ No

Shipping Company: 1Z6723 2.5°C

Tracking No: C-22208 8.4°C

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		04/30/21	14:30		4/30/21	1514
2						
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**=Phosphonic acid, **H3PO4 <2**=Adjust to pH <2 with phosphonic 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

Tuesday, April 20, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02758

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, April 5, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02758

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0651-038.0-20210402[AE02758-01],
MLPV-DPT0651-045.0-20210402[AE02758-02], MLPV-DPT0651-050.0-20210402[AE02758-03],
MLPV-DPT0653-011.0-20210405[AE02758-04], MLPV-DPT0654-011.0-20210405[AE02758-05],
MLPV-DPT0654-016.0-20210405[AE02758-06], MLPV-DPT0654-038.0-20210405[AE02758-07],
MLPV-DPT0655-011.0-20210405[AE02758-08], MLPV-DPT0655-016.0-20210405[AE02758-09],
MLPV-DPT0655-022.0-20210405[AE02758-10], MLPV-DPT0656-050.0-20210405[AE02758-12],
MLPV-DPT0656-056.0-20210405[AE02758-13]
The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0651-038.0-20210402 **Lab ID: AE02758-01** **Sampled: 04/02/21 15:40** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/16/21	04/07/21 16:15	04/08/21 11:22
SM 4500S2 F-2011	NO PREP	04/09/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0651-038.0-20210402 **Lab ID: AE02758-01RE1** **Sampled: 04/02/21 15:40** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/30/21	04/06/21 11:54	04/07/21 09:46
EPA 9060A	NO PREP	04/30/21	04/07/21 13:02	04/08/21 22:58
RSK 175	Same	04/16/21	04/12/21 00:00	04/12/21 08:59

Client ID: MLPV-DPT0651-045.0-20210402 **Lab ID: AE02758-02** **Sampled: 04/02/21 16:00** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/16/21	04/07/21 16:15	04/08/21 11:38
SM 4500S2 F-2011	NO PREP	04/09/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0651-045.0-20210402 **Lab ID: AE02758-02RE1** **Sampled: 04/02/21 16:00** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/30/21	04/06/21 11:54	04/07/21 09:59
EPA 9060A	NO PREP	04/30/21	04/07/21 13:02	04/08/21 23:24
RSK 175	Same	04/16/21	04/12/21 00:00	04/12/21 09:15

Client ID: MLPV-DPT0651-050.0-20210402 **Lab ID: AE02758-03** **Sampled: 04/02/21 16:25** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	04/30/21	04/07/21 13:02	04/08/21 13:38
RSK 175	Same	04/16/21	04/07/21 16:15	04/08/21 11:54
SM 4500S2 F-2011	NO PREP	04/09/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0651-050.0-20210402 **Lab ID: AE02758-03RE1** **Sampled: 04/02/21 16:25** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	04/30/21	04/06/21 11:54	04/07/21 10:27
RSK 175	Same	04/16/21	04/12/21 00:00	04/12/21 09:31

Client ID: MLPV-DPT0653-011.0-20210405 **Lab ID: AE02758-04** **Sampled: 04/05/21 09:30** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/06/21 23:30
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 15:04
RSK 175	Same	04/19/21	04/07/21 16:15	04/08/21 12:31
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0653-011.0-20210405 **Lab ID: AE02758-04RE1** **Sampled: 04/05/21 09:30** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 09:47

Client ID: MLPV-DPT0654-011.0-20210405 **Lab ID: AE02758-05** **Sampled: 04/05/21 10:30** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/06/21 23:43
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 15:25
RSK 175	Same	04/19/21	04/07/21 16:15	04/08/21 12:47
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0654-011.0-20210405 **Lab ID: AE02758-05RE2** **Sampled: 04/05/21 10:30** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 10:10

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0654-016.0-20210405 **Lab ID: AE02758-06** **Sampled: 04/05/21 10:50** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/06/21 23:56
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 17:36
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 10:18
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0654-038.0-20210405 **Lab ID: AE02758-07** **Sampled: 04/05/21 11:10** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/07/21 00:09
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 17:56
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 10:34
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0654-038.0-20210405 **Lab ID: AE02758-07RE1** **Sampled: 04/05/21 11:10** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 10:26

Client ID: MLPV-DPT0655-011.0-20210405 **Lab ID: AE02758-08** **Sampled: 04/05/21 12:35** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/07/21 00:23
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 18:17
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 10:50
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0655-011.0-20210405 **Lab ID: AE02758-08RE1** **Sampled: 04/05/21 12:35** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 10:42

Client ID: MLPV-DPT0655-016.0-20210405 **Lab ID: AE02758-09** **Sampled: 04/05/21 12:55** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/07/21 00:36
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 18:39
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 11:06
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0655-016.0-20210405 **Lab ID: AE02758-09RE1** **Sampled: 04/05/21 12:55** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 10:58

Client ID: MLPV-DPT0655-022.0-20210405 **Lab ID: AE02758-10** **Sampled: 04/05/21 13:10** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/06/21 11:54	04/07/21 00:49
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 21:16
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 11:22
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0655-022.0-20210405 **Lab ID: AE02758-10RE1** **Sampled: 04/05/21 13:10** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 11:14

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID: AE02758-11** **Sampled: 04/05/21 13:50** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/07/21 09:45	04/07/21 12:14
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 11:38
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID: AE02758-11RE1** **Sampled: 04/05/21 13:50** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 11:30

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID: AE02758-11RE2** **Sampled: 04/05/21 13:50** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/03/21	04/15/21 12:33	04/16/21 00:09

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID: AE02758-12** **Sampled: 04/05/21 14:15** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/07/21 09:45	04/07/21 12:26
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 22:07
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID: AE02758-12RE1** **Sampled: 04/05/21 14:15** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 09:39

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID: AE02758-12RE3** **Sampled: 04/05/21 14:15** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 14:40

Client ID: MLPV-DPT0656-056.0-20210405 **Lab ID: AE02758-13** **Sampled: 04/05/21 14:35** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/03/21	04/07/21 09:45	04/07/21 12:39
EPA 9060A	NO PREP	05/03/21	04/07/21 13:02	04/08/21 22:34
RSK 175	Same	04/19/21	04/12/21 00:00	04/12/21 12:09
SM 4500S2 F-2011	NO PREP	04/12/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0656-056.0-20210405 **Lab ID: AE02758-13RE1** **Sampled: 04/05/21 14:35** **Received: 04/05/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/19/21	04/13/21 00:00	04/13/21 11:46

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0651-038.0-20210402 **Lab ID:** AE02758-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	13.2		5.10	6.00	ug/L	RSK 175	
Sulfide	39000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0651-038.0-20210402 **Lab ID:** AE02758-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	9200		208	260	ug/L	RSK 175	
Sulfate	73000		66	5000	ug/L	EPA 9056A	
Total Organic Carbon	150000		1100	2000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0651-045.0-20210402 **Lab ID:** AE02758-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	409		5.10	6.00	ug/L	RSK 175	
Sulfide	78000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0651-045.0-20210402 **Lab ID:** AE02758-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7690		120	150	ug/L	RSK 175	
Sulfate	9800	I	260	20000	ug/L	EPA 9056A	R-05
Total Organic Carbon	850000		5400	10000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0651-050.0-20210402 **Lab ID:** AE02758-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	2100		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	28000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0651-050.0-20210402 **Lab ID:** AE02758-03RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7120		84.0	105	ug/L	RSK 175	
Sulfate	3200	I	260	20000	ug/L	EPA 9056A	R-05

Client ID: MLPV-DPT0653-011.0-20210405 **Lab ID:** AE02758-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	648		5.10	6.00	ug/L	RSK 175	
Ethene	791		5.10	6.00	ug/L	RSK 175	
Sulfate	1800	I	66	5000	ug/L	EPA 9056A	
Total Organic Carbon	22000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0653-011.0-20210405 **Lab ID:** AE02758-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7970	J	208	260	ug/L	RSK 175	QM-12

Client ID: MLPV-DPT0654-011.0-20210405 **Lab ID:** AE02758-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	100		5.10	6.00	ug/L	RSK 175	
Ethene	16.0		5.10	6.00	ug/L	RSK 175	
Sulfate	1900	I	66	5000	ug/L	EPA 9056A	
Sulfide	2100		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	28000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0654-011.0-20210405 **Lab ID:** AE02758-05RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	10600		420	525	ug/L	RSK 175	

Client ID: MLPV-DPT0654-016.0-20210405 **Lab ID:** AE02758-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	602		4.00	5.00	ug/L	RSK 175	
Sulfate	1500	I	66	5000	ug/L	EPA 9056A	
Sulfide	2400		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	19000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0654-038.0-20210405 **Lab ID:** AE02758-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	18000		66	5000	ug/L	EPA 9056A	
Sulfide	4300		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	12000		540	1000	ug/L	EPA 9060A	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0654-038.0-20210405 **Lab ID:** AE02758-07RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7490		208	260	ug/L	RSK 175	

Client ID: MLPV-DPT0655-011.0-20210405 **Lab ID:** AE02758-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	115		5.10	6.00	ug/L	RSK 175	
Ethene	386		5.10	6.00	ug/L	RSK 175	
Sulfate	2200	I	66	5000	ug/L	EPA 9056A	
Sulfide	2400		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	16000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0655-011.0-20210405 **Lab ID:** AE02758-08RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	12300		280	350	ug/L	RSK 175	

Client ID: MLPV-DPT0655-016.0-20210405 **Lab ID:** AE02758-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	451		5.10	6.00	ug/L	RSK 175	
Ethene	620		5.10	6.00	ug/L	RSK 175	
Sulfate	3400	I	66	5000	ug/L	EPA 9056A	
Sulfide	3400		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	51000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0655-016.0-20210405 **Lab ID:** AE02758-09RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	9820		280	350	ug/L	RSK 175	

Client ID: MLPV-DPT0655-022.0-20210405 **Lab ID:** AE02758-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	15000		66	5000	ug/L	EPA 9056A	
Sulfide	17000		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	7100		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0655-022.0-20210405 **Lab ID:** AE02758-10RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	13400		120	150	ug/L	RSK 175	

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID:** AE02758-11

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	97.9		5.10	6.00	ug/L	RSK 175	
Sulfate	7900	I	330	25000	ug/L	EPA 9056A	R-05
Sulfide	130000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID:** AE02758-11RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	6060		265	312	ug/L	RSK 175	
Methane	6400		208	260	ug/L	RSK 175	

Client ID: MLPV-DPT0656-045.0-20210405 **Lab ID:** AE02758-11RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	370000	V	2700	5000	ug/L	EPA 9060A	QB-01

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID:** AE02758-12

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	2700		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	81000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID:** AE02758-12RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	13.9		5.10	6.00	ug/L	RSK 175	
Ethene	26.9		5.10	6.00	ug/L	RSK 175	

Client ID: MLPV-DPT0656-050.0-20210405 **Lab ID:** AE02758-12RE3

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	6370		420	525	ug/L	RSK 175	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0656-056.0-20210405 **Lab ID:** AE02758-13

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	1100		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	28000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0656-056.0-20210405 **Lab ID:** AE02758-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	10200		420	525	ug/L	RSK 175	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0651-038.0-20210402 **Lab Sample ID:** AE02758-01 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/02/21 15:40 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:22	JMW	
Ethene [74-85-1]^	**13.2**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:22	JMW	
Methane [74-82-8]^	**9200**		ug/L	52	208	260	1D12002	RSK 175	04/12/21 08:59	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**73000**		ug/L	1	66	5000	1D06041	EPA 9056A	04/07/21 09:46	DFC	
Sulfide [18496-25-8]	**39000**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**150000**		ug/L	2	1100	2000	1D07035	EPA 9060A	04/08/21 22:58	ASR	QB-06

Description: MLPV-DPT0651-045.0-20210402 **Lab Sample ID:** AE02758-02 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/02/21 16:00 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:38	JMW	
Ethene [74-85-1]^	**409**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:38	JMW	
Methane [74-82-8]^	**7690**		ug/L	30	120	150	1D12002	RSK 175	04/12/21 09:15	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**9800**	I	ug/L	4	260	20000	1D06041	EPA 9056A	04/07/21 09:59	DFC	R-05
Sulfide [18496-25-8]	**78000**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**850000**		ug/L	10	5400	10000	1D07035	EPA 9060A	04/08/21 23:24	ASR	QB-06

Description: MLPV-DPT0651-050.0-20210402 **Lab Sample ID:** AE02758-03 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/02/21 16:25 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:54	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 11:54	JMW	
Methane [74-82-8]^	**7120**		ug/L	21	84.0	105	1D12002	RSK 175	04/12/21 09:31	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**3200**	I	ug/L	4	260	20000	1D06041	EPA 9056A	04/07/21 10:27	DFC	R-05
Sulfide [18496-25-8]	**2100**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**28000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 13:38	ASR	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0653-011.0-20210405 **Lab Sample ID:** AE02758-04 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 09:30 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**648**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 12:31	JMW	
Ethene [74-85-1]^	**791**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 12:31	JMW	
Methane [74-82-8]^	**7970**	J	ug/L	52	208	260	1D12002	RSK 175	04/12/21 09:47	JMW	QM-12

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1800**	I	ug/L	1	66	5000	1D06041	EPA 9056A	04/06/21 23:30	DFC	
Sulfide [18496-25-8]	450	U	ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**22000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 15:04	ASR	QB-06

Description: MLPV-DPT0654-011.0-20210405 **Lab Sample ID:** AE02758-05 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 10:30 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**100**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 12:47	JMW	
Ethene [74-85-1]^	**16.0**		ug/L	1	5.10	6.00	1D07039	RSK 175	04/08/21 12:47	JMW	
Methane [74-82-8]^	**10600**		ug/L	105	420	525	1D13004	RSK 175	04/13/21 10:10	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1900**	I	ug/L	1	66	5000	1D06041	EPA 9056A	04/06/21 23:43	DFC	
Sulfide [18496-25-8]	**2100**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**28000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 15:25	ASR	QB-06

Description: MLPV-DPT0654-016.0-20210405 **Lab Sample ID:** AE02758-06 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 10:50 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:18	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:18	JMW	
Methane [74-82-8]^	**602**		ug/L	1	4.00	5.00	1D12002	RSK 175	04/12/21 10:18	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1500**	I	ug/L	1	66	5000	1D06041	EPA 9056A	04/06/21 23:56	DFC	
Sulfide [18496-25-8]	**2400**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**19000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 17:36	ASR	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0654-038.0-20210405 **Lab Sample ID:** AE02758-07 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 11:10 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:34	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:34	JMW	
Methane [74-82-8]^	**7490**		ug/L	52	208	260	1D13004	RSK 175	04/13/21 10:26	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**18000**		ug/L	1	66	5000	1D06041	EPA 9056A	04/07/21 00:09	DFC	
Sulfide [18496-25-8]	**4300**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**12000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 17:56	ASR	QB-06

Description: MLPV-DPT0655-011.0-20210405 **Lab Sample ID:** AE02758-08 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 12:35 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**115**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:50	JMW	
Ethene [74-85-1]^	**386**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 10:50	JMW	
Methane [74-82-8]^	**12300**		ug/L	70	280	350	1D13004	RSK 175	04/13/21 10:42	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**2200**	I	ug/L	1	66	5000	1D06041	EPA 9056A	04/07/21 00:23	DFC	
Sulfide [18496-25-8]	**2400**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**16000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 18:17	ASR	QB-06

Description: MLPV-DPT0655-016.0-20210405 **Lab Sample ID:** AE02758-09 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 12:55 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**451**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 11:06	JMW	
Ethene [74-85-1]^	**620**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 11:06	JMW	
Methane [74-82-8]^	**9820**		ug/L	70	280	350	1D13004	RSK 175	04/13/21 10:58	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**3400**	I	ug/L	1	66	5000	1D06041	EPA 9056A	04/07/21 00:36	DFC	
Sulfide [18496-25-8]	**3400**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**51000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 18:39	ASR	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0655-022.0-20210405 **Lab Sample ID:** AE02758-10 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 13:10 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 11:22	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 11:22	JMW	
Methane [74-82-8]^	**13400**		ug/L	30	120	150	1D13004	RSK 175	04/13/21 11:14	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**15000**		ug/L	1	66	5000	1D06041	EPA 9056A	04/07/21 00:49	DFC	
Sulfide [18496-25-8]	**17000**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**7100**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 21:16	ASR	QB-06

Description: MLPV-DPT0656-045.0-20210405 **Lab Sample ID:** AE02758-11 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 13:50 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**97.9**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 11:38	JMW	
Ethene [74-85-1]^	**6060**		ug/L	52	265	312	1D13004	RSK 175	04/13/21 11:30	JMW	
Methane [74-82-8]^	**6400**		ug/L	52	208	260	1D13004	RSK 175	04/13/21 11:30	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**7900**	I	ug/L	5	330	25000	1D07024	EPA 9056A	04/07/21 12:14	DFC	R-05
Sulfide [18496-25-8]	**130000**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**370000**	V	ug/L	5	2700	5000	1D15032	EPA 9060A	04/16/21 00:09	KG	QB-01

Description: MLPV-DPT0656-050.0-20210405 **Lab Sample ID:** AE02758-12 **Received:** 04/05/21 15:00
Matrix: Ground Water **Sampled:** 04/05/21 14:15 **Work Order:** AE02758
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**13.9**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 09:39	JMW	
Ethene [74-85-1]^	**26.9**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 09:39	JMW	
Methane [74-82-8]^	**6370**		ug/L	105	420	525	1D13004	RSK 175	04/13/21 14:40	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	130	U	ug/L	2	130	10000	1D07024	EPA 9056A	04/07/21 12:26	DFC	R-05
Sulfide [18496-25-8]	**2700**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**81000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 22:07	ASR	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0656-056.0-20210405 **Lab Sample ID:** AE02758-13 **Received:** 04/05/21 15:00

Matrix: Ground Water **Sampled:** 04/05/21 14:35 **Work Order:** AE02758

Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:09	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:09	JMW	
Methane [74-82-8]^	**10200**		ug/L	105	420	525	1D13004	RSK 175	04/13/21 11:46	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	66	U	ug/L	1	66	5000	1D07024	EPA 9056A	04/07/21 12:39	DFC	
Sulfide [18496-25-8]	**1100**		ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**28000**		ug/L	1	540	1000	1D07035	EPA 9060A	04/08/21 22:34	ASR	QB-06

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D07039 - Same

Blank (1D07039-BLK1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 17:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D07039-BS1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 16:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	326		6.00	ug/L	323		101	70-130			
Ethene	317		6.00	ug/L	302		105	70-130			
Methane	177		5.00	ug/L	172		103	70-130			

LCS Dup (1D07039-BSD1) Prepared: 04/07/2021 16:15 Analyzed: 04/07/2021 17:06

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	325		6.00	ug/L	323		101	70-130	0.4	30	
Ethene	319		6.00	ug/L	302		106	70-130	0.4	30	
Methane	177		5.00	ug/L	172		103	70-130	0.2	30	

Duplicate (1D07039-DUP1) Prepared: 04/07/2021 16:15 Analyzed: 04/08/2021 13:29

Source: AE02524-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	239		5.00	ug/L		230			4	30	

Batch 1D12002 - Same

Blank (1D12002-BLK1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D12002-BS1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	333		6.00	ug/L	323		103	70-130			
Ethene	331		6.00	ug/L	302		110	70-130			
Methane	185		5.00	ug/L	172		107	70-130			

LCS Dup (1D12002-BSD1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:21

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	338		6.00	ug/L	323		105	70-130	1	30	
Ethene	331		6.00	ug/L	302		110	70-130	0.04	30	
Methane	183		5.00	ug/L	172		106	70-130	0.8	30	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D12002 - Same - Continued

Duplicate (1D12002-DUP1) Prepared: 04/12/2021 00:00 Analyzed: 04/13/2021 07:17

Source: AE02758-04RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	555		312	ug/L		976			55	30	QM-12
Ethene	737		312	ug/L		1000			31	30	QM-12
Methane	4620		260	ug/L		7970			53	30	QM-12

Batch 1D13004 - Same

Blank (1D13004-BLK1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 09:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D13004-BS1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	334		6.00	ug/L	323		103	70-130			
Ethene	326		6.00	ug/L	302		108	70-130			
Methane	182		5.00	ug/L	172		106	70-130			

LCS Dup (1D13004-BSD1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	331		6.00	ug/L	323		102	70-130	0.8	30	
Ethene	326		6.00	ug/L	302		108	70-130	0.1	30	
Methane	183		5.00	ug/L	172		107	70-130	0.8	30	

Duplicate (1D13004-DUP1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 15:02

Source: AE02792-09RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	265	U	312	ug/L		265 U				30	
Ethene	4550		312	ug/L		4740			4	30	
Methane	5130		260	ug/L		5500			7	30	

Classical Chemistry Parameters - Quality Control

Batch 1D06041 - NO PREP

Blank (1D06041-BLK1) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 18:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D06041-BS1) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 18:16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	49000		5000	ug/L	50000		98	80-120			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D06041 - NO PREP - Continued

Matrix Spike (1D06041-MS1) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 18:43

Source: AE02735-08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	50000		5000	ug/L	50000	560	99	80-120			

Matrix Spike (1D06041-MS2) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 19:22

Source: AE02735-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	50000		5000	ug/L	50000	710	98	80-120			

Matrix Spike Dup (1D06041-MSD1) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 18:56

Source: AE02735-08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	50000		5000	ug/L	50000	560	99	80-120	0.3	15	

Matrix Spike Dup (1D06041-MSD2) Prepared: 04/06/2021 11:54 Analyzed: 04/06/2021 19:35

Source: AE02735-10

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	50000		5000	ug/L	50000	710	98	80-120	0.4	15	

Batch 1D07024 - NO PREP

Blank (1D07024-BLK1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 11:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D07024-BS1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 11:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	49000		5000	ug/L	50000		97	80-120			

Matrix Spike (1D07024-MS1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:13

Source: AE02326-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	8800	94	80-120			

Matrix Spike (1D07024-MS2) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:49

Source: AE02326-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	70000		5000	ug/L	50000	22000	96	80-120			

Matrix Spike Dup (1D07024-MSD1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:25

Source: AE02326-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	57000		5000	ug/L	50000	8800	97	80-120	2	15	

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D07024 - NO PREP - Continued

Matrix Spike Dup (1D07024-MSD2) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 15:01

Source: AE02326-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	70000		5000	ug/L	50000	22000	96	80-120	0.08	15	

Batch 1D07035 - NO PREP

Blank (1D07035-BLK1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 10:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D07035-BS1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 10:21

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	48000		1000	ug/L	50000		97	85-115			

Matrix Spike (1D07035-MS1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 19:22

Source: AE02702-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	2300	96	85-115			

Matrix Spike Dup (1D07035-MSD1) Prepared: 04/07/2021 13:02 Analyzed: 04/08/2021 19:47

Source: AE02702-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	2300	93	85-115	3	21	

Batch 1D07053 - NO PREP

Blank (1D07053-BLK1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D07053-BS1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		88	84-106			

Matrix Spike (1D07053-MS1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3400		1000	ug/L	4010	450 U	84	84-106			

Matrix Spike Dup (1D07053-MSD1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	88	84-106	5	10	

Batch 1D12004 - NO PREP

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D12004 - NO PREP - Continued

Blank (1D12004-BLK1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 12:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D12004-BS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000		100	85-115			

Matrix Spike (1D12004-MS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:55

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1000	92	85-115			

Matrix Spike Dup (1D12004-MSD1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 14:19

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	46000		1000	ug/L	50000	1000	91	85-115	0.7	21	

Batch 1D15032 - NO PREP

Blank (1D15032-BLK1) Prepared: 04/15/2021 12:33 Analyzed: 04/15/2021 23:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	**600**	**I**	1000	ug/L							QB-01

LCS (1D15032-BS1) Prepared: 04/15/2021 12:33 Analyzed: 04/15/2021 23:42

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	45000		1000	ug/L	50000		90	85-115			

Matrix Spike (1D15032-MS1) Prepared: 04/15/2021 12:33 Analyzed: 04/16/2021 01:58

Source: AE02921-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	2700	94	85-115			

Matrix Spike Dup (1D15032-MSD1) Prepared: 04/15/2021 12:33 Analyzed: 04/16/2021 02:22

Source: AE02921-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	43000		1000	ug/L	50000	2700	80	85-115	15	21	QM-07

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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.
QB-01	The method blank had a positive result for the analyte; however, the concentration in the method blank is less than 10% of the sample result. There is minimal impact to the data.
QB-02	The method blank contains analyte at a concentration above the MDL and/or greater than one-half the MRL. The analyte was not detected in the sample.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02758

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO	Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1	
	Site Location: MLP/VAB Hot Spot 3		PO No.	Project No. 60615493.4	Phase:
	TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #		EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Shawn McGuire 919-757-5306 / JAMES BRADFORD		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:		Site-Spicific WS#15 from QAPP: 15-15

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S	Comments
	038.0 JB			1540 JB									
	MLPV-DPT 0651-~~0510~~ 2021 0402	MLPV-DPT 0651	2021 0402	~~1520~~	WG	N	G	7	3	1	2	1	
	MLPV-DPT 0651-045.0 2021	MLPV-DPT	2021	1600	WG	N	G	7	3	1	2	1	
	MLPV-DPT -050.0 2021	MLPV-DPT	2021	1625	WG	N	G	7	3	1	2	1	
	MLPV-DPT 0653-011.0 2021 0405	MLPV-DPT 0653	2021 0405	0930	WG	N	G	7	3	1	2	1	
	MLPV-DPT 654-011.0 2021 0405	MLPV-DPT 0654	2021 0405	1030	WG	N	G	7	3	1	2	1	
	MLPV-DPT -016.0 2021	MLPV-DPT	2021	1050	WG	N	G	7	3	1	2	1	
	MLPV-DPT -038.0 2021	MLPV-DPT	2021	1110	WG	N	G	7	3	1	2	1	
	MLPV-DPT 655-011.0 2021	MLPV-DPT 0655	2021	1235	WG	N	G	7	3	1	2	1	
	MLPV-DPT -016.0 2021	MLPV-DPT	2021	1255	WG	N	G	7	3	1	2	1	
	MLPV-DPT -022.0 2021	MLPV-DPT	2021	1310	WG	N	G	7	3	1	2	1	
	MLPV-DPT 656-045.0 2021	MLPV-DPT 0656	2021	1350	WG	N	G	7	3	1	2	1	
	MLPV-DPT -050.0 2021	MLPV-DPT	2021	1415	WG	N	G	7	3	1	2	1	

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment: 1
Samples Iced?(check) Yes ✓ No ____ C-022 0.1°C
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		03/30/21	14:30	Jan J Bradford	04/05/2021	0700
2	Jan J Bradford	04/05/21	15:00		4/5/21	1500
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**

AE02758

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 1

ENCO

Project Name: NASA KSC - MLPV | PO No. | Project No. 60615493.4 | Phase:

Site Location: MLP/VAB Hot Spot 3 | Send Invoice To: Instructions in MSA # | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019D0010 | AECOM Project Manager: **Linnea King Clark** | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to: Jennifer Chastain Cc: Teresa Amentt Jennings

Sampler/Phone # | Shawn McGuire 919-757-5306 / James Bradford | Deliver Samples To: | Site-Specific WS#15 from QAPP: 15-15

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S							Comments
	MLPV-DPT0656-056.0-20210405	MLPV-DPT0656	20210405	1435	WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1							

***Field* Comments:**

Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment: 1

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	03/30/21	14:30.	[signature]	04/05/21	0700
2	[signature]	04/05/21	1500	[signature]	4/5/21	1500
3						

Samples Iced?(check) Yes ✓ No ____ LC-627 2.9°C

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**

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, April 20, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02838

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, April 7, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02838

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0662-007.0-20210407[AE02838-05]
The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0651-027.0-20210407 **Lab ID: AE02838-04** **Sampled: 04/07/21 09:30** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/05/21	04/09/21 15:57	04/12/21 10:43
EPA 9060A	NO PREP	05/05/21	04/12/21 08:40	04/12/21 22:34
SM 4500S2 F-2011	NO PREP	04/14/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0651-027.0-20210407 **Lab ID: AE02838-04RE1** **Sampled: 04/07/21 09:30** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/21/21	04/13/21 13:08	04/13/21 16:53

Client ID: MLPV-DPT0651-027.0-20210407 **Lab ID: AE02838-04RE2** **Sampled: 04/07/21 09:30** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/21/21	04/13/21 13:08	04/14/21 08:29

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID: AE02838-05** **Sampled: 04/07/21 10:10** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/05/21	04/08/21 06:43	04/09/21 14:10
RSK 175	Same	04/21/21	04/13/21 00:00	04/13/21 14:09
SM 4500S2 F-2011	NO PREP	04/14/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID: AE02838-05RE1** **Sampled: 04/07/21 10:10** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/21/21	04/13/21 13:08	04/14/21 08:45

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID: AE02838-05RE2** **Sampled: 04/07/21 10:10** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/05/21	04/15/21 11:32	04/15/21 16:40

Client ID: MLPV-DPT0663-050.0-20210407 **Lab ID: AE02838-09** **Sampled: 04/07/21 11:40** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/05/21	04/09/21 15:57	04/12/21 10:55
EPA 9060A	NO PREP	05/05/21	04/12/21 08:40	04/12/21 23:15
RSK 175	Same	04/21/21	04/13/21 00:00	04/13/21 14:24
SM 4500S2 F-2011	NO PREP	04/14/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0663-050.0-20210407 **Lab ID: AE02838-09RE1** **Sampled: 04/07/21 11:40** **Received: 04/07/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/21/21	04/14/21 10:30	04/14/21 12:35

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0651-027.0-20210407 **Lab ID:** AE02838-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	8800		66	5000	ug/L	EPA 9056A	
Sulfide	14000		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	15000		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0651-027.0-20210407 **Lab ID:** AE02838-04RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7330		208	260	ug/L	RSK 175	

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID:** AE02838-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	66.8		5.10	6.00	ug/L	RSK 175	
Ethene	32.8		5.10	6.00	ug/L	RSK 175	
Sulfate	3700	I	66	5000	ug/L	EPA 9056A	
Sulfide	920	I	450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID:** AE02838-05RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	11100		208	260	ug/L	RSK 175	

Client ID: MLPV-DPT0662-007.0-20210407 **Lab ID:** AE02838-05RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	11000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0663-050.0-20210407 **Lab ID:** AE02838-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	266		5.10	6.00	ug/L	RSK 175	
Sulfate	360000		260	20000	ug/L	EPA 9056A	
Sulfide	600	I	450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	11000		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0663-050.0-20210407 **Lab ID:** AE02838-09RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2450		84.0	105	ug/L	RSK 175	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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ANALYTICAL RESULTS

Description: MLPV-DPT0651-027.0-20210407 **Lab Sample ID:** AE02838-04 **Received:** 04/07/21 16:00
Matrix: Ground Water **Sampled:** 04/07/21 09:30 **Work Order:** AE02838
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D13035	RSK 175	04/13/21 16:53	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D13035	RSK 175	04/13/21 16:53	JMW	
Methane [74-82-8]^	**7330**		ug/L	52	208	260	1D13035	RSK 175	04/14/21 08:29	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**8800**		ug/L	1	66	5000	1D12003	EPA 9056A	04/12/21 10:43	DFC	
Sulfide [18496-25-8]	**14000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**15000**		ug/L	1	540	1000	1D12004	EPA 9060A	04/12/21 22:34	KG	

Description: MLPV-DPT0662-007.0-20210407 **Lab Sample ID:** AE02838-05 **Received:** 04/07/21 16:00
Matrix: Ground Water **Sampled:** 04/07/21 10:10 **Work Order:** AE02838
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**66.8**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 14:09	JMW	
Ethene [74-85-1]^	**32.8**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 14:09	JMW	
Methane [74-82-8]^	**11100**		ug/L	52	208	260	1D13035	RSK 175	04/14/21 08:45	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**3700**	I	ug/L	1	66	5000	1D09024	EPA 9056A	04/09/21 14:10	DFC	
Sulfide [18496-25-8]	**920**	I	ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**11000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 16:40	KG	QB-06

Description: MLPV-DPT0663-050.0-20210407 **Lab Sample ID:** AE02838-09 **Received:** 04/07/21 16:00
Matrix: Ground Water **Sampled:** 04/07/21 11:40 **Work Order:** AE02838
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 14:24	JMW	
Ethene [74-85-1]^	**266**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 14:24	JMW	
Methane [74-82-8]^	**2450**		ug/L	21	84.0	105	1D14014	RSK 175	04/14/21 12:35	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**360000**		ug/L	4	260	20000	1D12003	EPA 9056A	04/12/21 10:55	DFC	
Sulfide [18496-25-8]	**600**	I	ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**11000**		ug/L	1	540	1000	1D12004	EPA 9060A	04/12/21 23:15	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D13004 - Same

Blank (1D13004-BLK1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 09:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D13004-BS1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	334		6.00	ug/L	323		103	70-130			
Ethene	326		6.00	ug/L	302		108	70-130			
Methane	182		5.00	ug/L	172		106	70-130			

LCS Dup (1D13004-BSD1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	331		6.00	ug/L	323		102	70-130	0.8	30	
Ethene	326		6.00	ug/L	302		108	70-130	0.1	30	
Methane	183		5.00	ug/L	172		107	70-130	0.8	30	

Duplicate (1D13004-DUP1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 15:02

Source: AE02792-09RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	265	U	312	ug/L		265 U				30	
Ethene	4550		312	ug/L		4740			4	30	
Methane	5130		260	ug/L		5500			7	30	

Batch 1D13035 - Same

Blank (1D13035-BLK1) Prepared: 04/13/2021 15:00 Analyzed: 04/13/2021 16:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D13035-BS1) Prepared: 04/13/2021 15:00 Analyzed: 04/13/2021 15:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	331		6.00	ug/L	323		103	70-130			
Ethene	325		6.00	ug/L	302		108	70-130			
Methane	181		5.00	ug/L	172		105	70-130			

LCS Dup (1D13035-BSD1) Prepared: 04/13/2021 15:00 Analyzed: 04/13/2021 16:11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	335		6.00	ug/L	323		104	70-130	1	30	
Ethene	331		6.00	ug/L	302		110	70-130	2	30	
Methane	183		5.00	ug/L	172		106	70-130	1	30	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D13035 - Same - Continued

Duplicate (1D13035-DUP1) Prepared: 04/13/2021 15:00 Analyzed: 04/14/2021 09:57

Source: AE02866-09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.45	I	5.00	ug/L		71.4			177	30	QM-12

Batch 1D14014 - Same

Blank (1D14014-BLK1) Prepared: 04/14/2021 10:30 Analyzed: 04/14/2021 12:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D14014-BS1) Prepared: 04/14/2021 10:30 Analyzed: 04/14/2021 11:40

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	337		6.00	ug/L	323		104	70-130			
Ethene	328		6.00	ug/L	302		109	70-130			
Methane	182		5.00	ug/L	172		106	70-130			

LCS Dup (1D14014-BSD1) Prepared: 04/14/2021 10:30 Analyzed: 04/14/2021 11:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	334		6.00	ug/L	323		103	70-130	1	30	
Ethene	329		6.00	ug/L	302		109	70-130	0.3	30	
Methane	183		5.00	ug/L	172		106	70-130	0.3	30	

Duplicate (1D14014-DUP1) Prepared: 04/14/2021 10:30 Analyzed: 04/14/2021 18:55

Source: AE02869-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	U	5.00	ug/L		4.00 U				30	

Classical Chemistry Parameters - Quality Control

Batch 1D09024 - NO PREP

Blank (1D09024-BLK1) Prepared: 04/09/2021 08:00 Analyzed: 04/09/2021 09:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D09024-BS1) Prepared: 04/09/2021 08:00 Analyzed: 04/09/2021 09:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	51000		5000	ug/L	50000		102	80-120			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D09024 - NO PREP - Continued

Matrix Spike (1D09024-MS1) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 14:22

Source: AE02879-01

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	160000	L	5000	ug/L	50000	130000	74	80-120			QM-07

Matrix Spike (1D09024-MS2) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 14:46

Source: AE02838-05

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	3700	104	80-120			

Matrix Spike (1D09024-MS3) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 15:10

Source: AE02879-01RE1

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	180000		10000	ug/L	50000	130000	103	80-120			

Matrix Spike Dup (1D09024-MSD1) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 14:34

Source: AE02879-01

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	160000	L	5000	ug/L	50000	130000	73	80-120	0.3	15	QM-07

Matrix Spike Dup (1D09024-MSD2) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 14:58

Source: AE02838-05

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	3700	105	80-120	0.6	15	

Matrix Spike Dup (1D09024-MSD3) Prepared: 04/09/2021 12:11 Analyzed: 04/09/2021 15:22

Source: AE02879-01RE1

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	180000		10000	ug/L	50000	130000	102	80-120	0.1	15	

Batch 1D12003 - NO PREP

Blank (1D12003-BLK1) Prepared & Analyzed: 04/12/2021 07:14

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D12003-BS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 07:26

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	47000		5000	ug/L	50000		94	80-120			

Matrix Spike (1D12003-MS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:06

Source: AE02907-02

Analyte	Result	Flag	POL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	172	80-120			QM-07

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D12003 - NO PREP - Continued

Matrix Spike (1D12003-MS2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:07

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	98	80-120			

Matrix Spike Dup (1D12003-MSD1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:18

Source: AE02907-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	173	80-120	0.4	15	QM-07

Matrix Spike Dup (1D12003-MSD2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:19

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	99	80-120	0.5	15	

Batch 1D12004 - NO PREP

Blank (1D12004-BLK1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 12:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D12004-BS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000		100	85-115			

Matrix Spike (1D12004-MS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:55

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1000	92	85-115			

Matrix Spike Dup (1D12004-MSD1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 14:19

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	46000		1000	ug/L	50000	1000	91	85-115	0.7	21	

Batch 1D13003 - NO PREP

Blank (1D13003-BLK1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D13003-BS1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		87	84-106			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D13003 - NO PREP - Continued

Matrix Spike (1D13003-MS1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3200		1000	ug/L	4010	450 U	79	84-106			QM-07

Matrix Spike Dup (1D13003-MSD1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	87	84-106	10	10	

Batch 1D14042 - NO PREP

Blank (1D14042-BLK1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 12:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D14042-BS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	55000		1000	ug/L	50000		110	85-115			

Matrix Spike (1D14042-MS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:57

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	110	85-115			

Matrix Spike Dup (1D14042-MSD1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 14:21

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	109	85-115	0.6	21	

Batch 1D15007 - NO PREP

Blank (1D15007-BLK1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D15007-BS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000		112	85-115			

Matrix Spike (1D15007-MS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:21

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1800	91	85-115			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D15007 - NO PREP - Continued

Matrix Spike Dup (1D15007-MSD1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:48

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	1800	95	85-115	5	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02838

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of
Site Location: MLP/VAB Hot Spot 3		PO No.	Project No. 60615493.4 Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	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 #: Shawn McGuire 919-757-5306		Deliver Samples To:	Site-Spicific WS#15 from QAPP: 15-15
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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S	Comments
	MLPV-DPT0661-022.0-2021 0407	MLPV-DPT0661	2021 0407	0735	WG	N	G	7	3	1	2	1	
	MLPV-DPT-045.0-2021	MLPV-DPT	2021	0750	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050.0-2021	MLPV-DPT	2021	0810	WG	N	G	7	3	1	2	1	
	MLPV-DPT0651-027.0-2021	MLPV-DPT0651	2021	0930	WG	N	G	7	3	1	2	1	
	MLPV-DPT0662-007.0-2021	MLPV-DPT0662	2021	1010	WG	N	G	7	3	1	2	1	
	MLPV-DPT-011.0-2021	MLPV-DPT	2021	1025	WG	N	G	7	3	1	2	1	
	MLPV-DPT-016.0-2021	MLPV-DPT	2021	1040	WG	N	G	7	3	1	2	1	
	MLPV-DPT0663-045.0-2021	MLPV-DPT0663	2021	1125	WG	N	G	7	3	1	2	1	
	MLPV-DPT-050.0-2021	MLPV-DPT	2021	1140	WG	N	G	7	3	1	2	1	
	MLPV-DPT0664-007.0-2021	MLPV-DPT0664	2021	1255	WG	N	G	7	3	1	2	1	
	MLPV-DPT-011.0-2021	MLPV-DPT	2021	1310	WG	N	G	7	3	1	2	1	
	MLPV-DPT-016.0-2021	MLPV-DPT	2021	1345	WG	N	G	7	3	1	2	1	

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes ✓ No 3.4°C L6623
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		04/06/21	13:00		04/07/2021	0700
2		04/07/21	16:00		4/7/21	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

AE62838

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV	COC No.	Page: 1 of	
Site Location: MLP/VAB Hot Spot 3	PO No.	Project No. 60615493.4	Phase:
TO No.: 80KSC019D0010 AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings	
Sampler/Phone # Shawn McGuire 919-757-5306	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:	Site-Spicific WS#15 from QAPP: 15-15	

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S							Comments
	MLPV-DPT 066F-045.0-2021 0407	MLPV-DPT 0665	2021 0407	1425	WG	N	G	7	3	1	2	1							
	MLPV-DPT -050.0-2021	MLPV-DPT	2021	1445	WG	N	G	7	3	1	2	1							
	MLPV-DPT 666 -045.0-2021	MLPV-DPT 0666	2021	1515	WG	N	G	7	3	1	2	1							
	MLPV-DPT -- -2021	MLPV-DPT	2021	1535	WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT -2021	MLPV-DPT	2021		WG	N	G	7	3	1	2	1							

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		04/06/21	13:20		04/07/2021	0700
2		04/07/21	16:00		4/7/21	1600
3						

Samples Iced?(check) Yes ✓ No ____ 3.4°C L6623
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**

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, April 26, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02792

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, April 6, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02792

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0658-045.0-20210406[AE02792-04], MLPV-DPT0658-050.0-20210406[AE02792-05], MLPV-DPT0659-045.0-20210406[AE02792-06], MLPV-DPT0650-045.0-20210406[AE02792-09], MLPV-DPT0650-050.0-20210406[AE02792-10], MLPV-DPT0660-050.0-20210406[AE02792-13]
The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0659-050.0-20210406[AE02792-07]
The associated method blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID: AE02792-04** **Sampled: 04/06/21 09:05** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/07/21 09:45	04/07/21 17:38
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 12:25
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID: AE02792-04RE1** **Sampled: 04/06/21 09:05** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 12:02

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID: AE02792-04RE2** **Sampled: 04/06/21 09:05** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 11:32	04/15/21 14:24

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID: AE02792-05** **Sampled: 04/06/21 09:40** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/07/21 09:45	04/07/21 17:50
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 12:41
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID: AE02792-05RE1** **Sampled: 04/06/21 09:40** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 12:17

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID: AE02792-05RE2** **Sampled: 04/06/21 09:40** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 11:32	04/15/21 14:47

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID: AE02792-06** **Sampled: 04/06/21 10:15** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 12:57
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID: AE02792-06RE1** **Sampled: 04/06/21 10:15** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/07/21 09:45	04/08/21 06:00
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 12:33

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID: AE02792-06RE2** **Sampled: 04/06/21 10:15** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 11:32	04/15/21 15:08

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID: AE02792-07** **Sampled: 04/06/21 10:50** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/07/21 09:45	04/07/21 18:14
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID: AE02792-07RE1** **Sampled: 04/06/21 10:50** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 12:33	04/16/21 00:38
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 09:55

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID: AE02792-07RE2** **Sampled: 04/06/21 10:50** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 13:21

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID: AE02792-09** **Sampled: 04/06/21 12:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 13:29
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID: AE02792-09RE1** **Sampled: 04/06/21 12:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/07/21 09:45	04/08/21 06:12
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 12:49

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID: AE02792-09RE2** **Sampled: 04/06/21 12:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/23/21 07:52	04/23/21 19:04

Client ID: MLPV-DPT0650-050.0-20210406 **Lab ID: AE02792-10** **Sampled: 04/06/21 13:15** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/08/21 06:43	04/08/21 08:43
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 13:45
SM 4500S2 F-2011	NO PREP	04/13/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0650-050.0-20210406 **Lab ID: AE02792-10RE2** **Sampled: 04/06/21 13:15** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 11:32	04/15/21 15:32

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID: AE02792-13** **Sampled: 04/06/21 15:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/04/21	04/08/21 06:43	04/08/21 08:55
RSK 175	Same	04/20/21	04/12/21 00:00	04/12/21 14:01
SM 4500S2 F-2011	NO PREP	04/13/21	04/08/21 09:20	04/08/21 09:20

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID: AE02792-13RE1** **Sampled: 04/06/21 15:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/20/21	04/13/21 00:00	04/13/21 13:05

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID: AE02792-13RE2** **Sampled: 04/06/21 15:00** **Received: 04/06/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/04/21	04/15/21 11:32	04/15/21 15:55

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SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID:** AE02792-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	9.11		5.10	6.00	ug/L	RSK 175	
Ethene	167		5.10	6.00	ug/L	RSK 175	
Sulfate	9900	I	330	25000	ug/L	EPA 9056A	R-05
Sulfide	54000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID:** AE02792-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	10100		280	350	ug/L	RSK 175	

Client ID: MLPV-DPT0658-045.0-20210406 **Lab ID:** AE02792-04RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	2800000		54000	100000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID:** AE02792-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	11.5		5.10	6.00	ug/L	RSK 175	
Sulfate	230000		330	25000	ug/L	EPA 9056A	
Sulfide	1800		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID:** AE02792-05RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	8580		420	525	ug/L	RSK 175	

Client ID: MLPV-DPT0658-050.0-20210406 **Lab ID:** AE02792-05RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	13000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID:** AE02792-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	295		5.10	6.00	ug/L	RSK 175	
Sulfide	14000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID:** AE02792-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7680		120	150	ug/L	RSK 175	
Sulfate	1100000		1300	100000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0659-045.0-20210406 **Lab ID:** AE02792-06RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	23000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID:** AE02792-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	51000		330	25000	ug/L	EPA 9056A	R-05
Sulfide	16000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID:** AE02792-07RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	11.4		5.10	6.00	ug/L	RSK 175	
Total Organic Carbon	50000	V	540	1000	ug/L	EPA 9060A	QB-01

Client ID: MLPV-DPT0659-050.0-20210406 **Lab ID:** AE02792-07RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	12100		214	252	ug/L	RSK 175	
Methane	3680		168	210	ug/L	RSK 175	

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID:** AE02792-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	18.3		5.10	6.00	ug/L	RSK 175	
Sulfide	52000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID:** AE02792-09RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	4740		265	312	ug/L	RSK 175	
Methane	5500		208	260	ug/L	RSK 175	
Sulfate	1100000		1300	100000	ug/L	EPA 9056A	

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SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0650-045.0-20210406 **Lab ID:** AE02792-09RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	130000		5400	10000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0650-050.0-20210406 **Lab ID:** AE02792-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethene	128		5.10	6.00	ug/L	RSK 175	
Methane	177		4.00	5.00	ug/L	RSK 175	
Sulfate	440000		330	25000	ug/L	EPA 9056A	
Sulfide	2700		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0650-050.0-20210406 **Lab ID:** AE02792-10RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	16000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID:** AE02792-13

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	17.4		5.10	6.00	ug/L	RSK 175	
Ethene	592		5.10	6.00	ug/L	RSK 175	
Sulfate	340000		260	20000	ug/L	EPA 9056A	
Sulfide	960	I	450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID:** AE02792-13RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	6950		280	350	ug/L	RSK 175	

Client ID: MLPV-DPT0660-050.0-20210406 **Lab ID:** AE02792-13RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	14000		540	1000	ug/L	EPA 9060A	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0658-045.0-20210406 **Lab Sample ID:** AE02792-04 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 09:05 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**9.11**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:25	JMW	
Ethene [74-85-1]^	**167**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:25	JMW	
Methane [74-82-8]^	**10100**		ug/L	70	280	350	1D13004	RSK 175	04/13/21 12:02	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**9900**	I	ug/L	5	330	25000	1D07024	EPA 9056A	04/07/21 17:38	DFC	R-05
Sulfide [18496-25-8]	**54000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**2800000**		ug/L	100	54000	100000	1D15007	EPA 9060A	04/15/21 14:24	KG	QB-06

Description: MLPV-DPT0658-050.0-20210406 **Lab Sample ID:** AE02792-05 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 09:40 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:41	JMW	
Ethene [74-85-1]^	**11.5**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:41	JMW	
Methane [74-82-8]^	**8580**		ug/L	105	420	525	1D13004	RSK 175	04/13/21 12:17	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**230000**		ug/L	5	330	25000	1D07024	EPA 9056A	04/07/21 17:50	DFC	
Sulfide [18496-25-8]	**1800**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**13000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 14:47	KG	QB-06

Description: MLPV-DPT0659-045.0-20210406 **Lab Sample ID:** AE02792-06 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 10:15 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:57	JMW	
Ethene [74-85-1]^	**295**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 12:57	JMW	
Methane [74-82-8]^	**7680**		ug/L	30	120	150	1D13004	RSK 175	04/13/21 12:33	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1100000**		ug/L	20	1300	100000	1D07024	EPA 9056A	04/08/21 06:00	DFC	
Sulfide [18496-25-8]	**14000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**23000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 15:08	KG	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0659-050.0-20210406 **Lab Sample ID:** AE02792-07 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 10:50 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**11.4**		ug/L	1	5.10	6.00	1D13004	RSK 175	04/13/21 09:55	JMW	
Ethene [74-85-1]^	**12100**		ug/L	42	214	252	1D13004	RSK 175	04/13/21 13:21	JMW	
Methane [74-82-8]^	**3680**		ug/L	42	168	210	1D13004	RSK 175	04/13/21 13:21	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**51000**		ug/L	5	330	25000	1D07024	EPA 9056A	04/07/21 18:14	DFC	R-05
Sulfide [18496-25-8]	**16000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**50000**	V	ug/L	1	540	1000	1D15032	EPA 9060A	04/16/21 00:38	KG	QB-01

Description: MLPV-DPT0650-045.0-20210406 **Lab Sample ID:** AE02792-09 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 12:00 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**18.3**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 13:29	JMW	
Ethene [74-85-1]^	**4740**		ug/L	52	265	312	1D13004	RSK 175	04/13/21 12:49	JMW	
Methane [74-82-8]^	**5500**		ug/L	52	208	260	1D13004	RSK 175	04/13/21 12:49	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**1100000**		ug/L	20	1300	100000	1D07024	EPA 9056A	04/08/21 06:12	DFC	
Sulfide [18496-25-8]	**52000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**130000**		ug/L	10	5400	10000	1D23009	EPA 9060A	04/23/21 19:04	KG	

Description: MLPV-DPT0650-050.0-20210406 **Lab Sample ID:** AE02792-10 **Received:** 04/06/21 16:00
Matrix: Ground Water **Sampled:** 04/06/21 13:15 **Work Order:** AE02792
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 13:45	JMW	
Ethene [74-85-1]^	**128**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 13:45	JMW	
Methane [74-82-8]^	**177**		ug/L	1	4.00	5.00	1D12002	RSK 175	04/12/21 13:45	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**440000**		ug/L	5	330	25000	1D08007	EPA 9056A	04/08/21 08:43	DFC	
Sulfide [18496-25-8]	**2700**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**16000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 15:32	KG	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0660-050.0-20210406 **Lab Sample ID:** AE02792-13 **Received:** 04/06/21 16:00

Matrix: Ground Water **Sampled:** 04/06/21 15:00 **Work Order:** AE02792

Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**17.4**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 14:01	JMW	
Ethene [74-85-1]^	**592**		ug/L	1	5.10	6.00	1D12002	RSK 175	04/12/21 14:01	JMW	
Methane [74-82-8]^	**6950**		ug/L	70	280	350	1D13004	RSK 175	04/13/21 13:05	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**340000**		ug/L	4	260	20000	1D08007	EPA 9056A	04/08/21 08:55	DFC	
Sulfide [18496-25-8]	**960**	I	ug/L	1	450	1000	1D07053	SM 4500S2 F-2011	04/08/21 09:20	ASR	
Total Organic Carbon^	**14000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 15:55	KG	QB-06

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D12002 - Same

Blank (1D12002-BLK1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D12002-BS1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	333		6.00	ug/L	323		103	70-130			
Ethene	331		6.00	ug/L	302		110	70-130			
Methane	185		5.00	ug/L	172		107	70-130			

LCS Dup (1D12002-BSD1) Prepared: 04/12/2021 00:00 Analyzed: 04/12/2021 08:21

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	338		6.00	ug/L	323		105	70-130	1	30	
Ethene	331		6.00	ug/L	302		110	70-130	0.04	30	
Methane	183		5.00	ug/L	172		106	70-130	0.8	30	

Duplicate (1D12002-DUP1) Prepared: 04/12/2021 00:00 Analyzed: 04/13/2021 07:17

Source: AE02758-04RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	555		312	ug/L		976			55	30	QM-12
Ethene	737		312	ug/L		1000			31	30	QM-12
Methane	4620		260	ug/L		7970			53	30	QM-12

Batch 1D13004 - Same

Blank (1D13004-BLK1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 09:23

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D13004-BS1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	334		6.00	ug/L	323		103	70-130			
Ethene	326		6.00	ug/L	302		108	70-130			
Methane	182		5.00	ug/L	172		106	70-130			

LCS Dup (1D13004-BSD1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 08:59

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	331		6.00	ug/L	323		102	70-130	0.8	30	
Ethene	326		6.00	ug/L	302		108	70-130	0.1	30	
Methane	183		5.00	ug/L	172		107	70-130	0.8	30	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D13004 - Same - Continued

Duplicate (1D13004-DUP1) Prepared: 04/13/2021 00:00 Analyzed: 04/13/2021 15:02

Source: AE02792-09RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	265	U	312	ug/L		265 U				30	
Ethene	4550		312	ug/L		4740			4	30	
Methane	5130		260	ug/L		5500			7	30	

Classical Chemistry Parameters - Quality Control

Batch 1D07024 - NO PREP

Blank (1D07024-BLK1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 11:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D07024-BS1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 11:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	49000		5000	ug/L	50000		97	80-120			

Matrix Spike (1D07024-MS1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:13

Source: AE02326-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	8800	94	80-120			

Matrix Spike (1D07024-MS2) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:49

Source: AE02326-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	70000		5000	ug/L	50000	22000	96	80-120			

Matrix Spike Dup (1D07024-MSD1) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 14:25

Source: AE02326-03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	57000		5000	ug/L	50000	8800	97	80-120	2	15	

Matrix Spike Dup (1D07024-MSD2) Prepared: 04/07/2021 09:45 Analyzed: 04/07/2021 15:01

Source: AE02326-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	70000		5000	ug/L	50000	22000	96	80-120	0.08	15	

Batch 1D07053 - NO PREP

Blank (1D07053-BLK1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D07053 - NO PREP - Continued

LCS (1D07053-BS1) Prepared & Analyzed: 04/08/2021 09:20

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		88	84-106			

Matrix Spike (1D07053-MS1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3400		1000	ug/L	4010	450 U	84	84-106			

Matrix Spike Dup (1D07053-MSD1) Prepared & Analyzed: 04/08/2021 09:20

Source: AE02739-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	88	84-106	5	10	

Batch 1D08007 - NO PREP

Blank (1D08007-BLK1) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 08:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D08007-BS1) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 08:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	49000		5000	ug/L	50000		99	80-120			

Matrix Spike (1D08007-MS1) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 14:42

Source: AE02328-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	52000		5000	ug/L	50000	2900	99	80-120			

Matrix Spike (1D08007-MS2) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 15:42

Source: AE02328-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	6600	99	80-120			

Matrix Spike Dup (1D08007-MSD1) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 14:54

Source: AE02328-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	53000		5000	ug/L	50000	2900	100	80-120	0.8	15	

Matrix Spike Dup (1D08007-MSD2) Prepared: 04/08/2021 06:43 Analyzed: 04/08/2021 15:54

Source: AE02328-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	55000		5000	ug/L	50000	6600	97	80-120	2	15	

Batch 1D12004 - NO PREP

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D12004 - NO PREP - Continued

Blank (1D12004-BLK1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 12:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D12004-BS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000		100	85-115			

Matrix Spike (1D12004-MS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:55

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1000	92	85-115			

Matrix Spike Dup (1D12004-MSD1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 14:19

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	46000		1000	ug/L	50000	1000	91	85-115	0.7	21	

Batch 1D13003 - NO PREP

Blank (1D13003-BLK1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D13003-BS1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		87	84-106			

Matrix Spike (1D13003-MS1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3200		1000	ug/L	4010	450 U	79	84-106			QM-07

Matrix Spike Dup (1D13003-MSD1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	87	84-106	10	10	

Batch 1D14042 - NO PREP

Blank (1D14042-BLK1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 12:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D14042 - NO PREP - Continued

LCS (1D14042-BS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	55000		1000	ug/L	50000		110	85-115			

Matrix Spike (1D14042-MS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:57

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	110	85-115			

Matrix Spike Dup (1D14042-MSD1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 14:21

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	109	85-115	0.6	21	

Batch 1D15007 - NO PREP

Blank (1D15007-BLK1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D15007-BS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000		112	85-115			

Matrix Spike (1D15007-MS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:21

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1800	91	85-115			

Matrix Spike Dup (1D15007-MSD1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:48

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	1800	95	85-115	5	21	

Batch 1D15032 - NO PREP

Blank (1D15032-BLK1) Prepared: 04/15/2021 12:33 Analyzed: 04/15/2021 23:22

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	**600**	**I**	1000	ug/L							QB-01

LCS (1D15032-BS1) Prepared: 04/15/2021 12:33 Analyzed: 04/15/2021 23:42

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	45000		1000	ug/L	50000		90	85-115			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D15032 - NO PREP - Continued

Matrix Spike (1D15032-MS1) Prepared: 04/15/2021 12:33 Analyzed: 04/16/2021 01:58

Source: AE02921-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	2700	94	85-115			

Matrix Spike Dup (1D15032-MSD1) Prepared: 04/15/2021 12:33 Analyzed: 04/16/2021 02:22

Source: AE02921-05

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	43000		1000	ug/L	50000	2700	80	85-115	15	21	QM-07

Batch 1D23009 - NO PREP

Blank (1D23009-BLK1) Prepared: 04/23/2021 07:52 Analyzed: 04/23/2021 09:18

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D23009-BS1) Prepared: 04/23/2021 07:52 Analyzed: 04/23/2021 09:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	44000		1000	ug/L	50000		88	85-115			

Matrix Spike (1D23009-MS1) Prepared: 04/23/2021 07:52 Analyzed: 04/23/2021 10:19

Source: AE03124-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	60000		1000	ug/L	50000	18000	84	85-115			QM-07

Matrix Spike Dup (1D23009-MSD1) Prepared: 04/23/2021 07:52 Analyzed: 04/23/2021 10:43

Source: AE03124-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	60000		1000	ug/L	50000	18000	85	85-115	0.8	21	QM-07

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.
QB-01	The method blank had a positive result for the analyte; however, the concentration in the method blank is less than 10% of the sample result. There is minimal impact to the data.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE027492

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No.		Page: 1 of 1	
Project Name: NASA KSC - MLP/	PO No.	Project No. 60615493.4	Phase:
Site Location: MLP/VAB Hot Spot 3	Send Invoice To: Instructions in MSA #		EDD to: Jennifer Chastain Cc: Teresa Amarit Jennings
TO No.: 80KSC019D0010 / AECOM Project Manager: Linnea King Clark	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando		Report to: Jennifer Chastain Cc: Teresa Amarit Jennings
Samples/Phone # Shawn McGuire 919-757-5306 / James BRADFORD	Deliver Samples To:		Site Specific WS# 15 from QAPP: 15-15
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	HCl RSK 175 (MEE)	4 DEG C Sulfide by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S	Comments
	~~MLPV-DPT0657-0810-2021-0406~~	~~MLPV-DPT0657~~	~~2021-0406~~	~~7:40~~	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
	~~MLPV-DPT-0840-2021~~	~~MLPV-DPT~~	~~2021~~	~~8:05~~	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
	~~MLPV-DPT-0820-2021~~	~~MLPV-DPT~~	~~2021~~	~~8:25~~	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
run	MLPV-DPT0658-0845-2021	MLPV-DPT0658	2021	9:05	WG	N	G	7	3	1	2	1	
run	MLPV-DPT-0850-2021	MLPV-DPT	2021	9:40	WG	N	G	7	3	1	2	1	
run	MLPV-DPT0659-0845-2021	MLPV-DPT0659	2021	10:15	WG	N	G	7	3	1	2	1	
run	MLPV-DPT-0850-2021	MLPV-DPT	2021	10:50	WG	N	G	7	3	1	2	1	
	~~MLPV-DPT-0856-2021~~	~~MLPV-DPT~~	~~2021~~	~~11:15~~	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
run	MLPV-DPT0650-0845-2021	MLPV-DPT0650	2021	1200	WG	N	G	7	3	1	2	1	
run	MLPV-DPT-0850-2021	MLPV-DPT	2021	1315	WG	N	G	7	3	1	2	1	
	~~MLPV-DPT-0840-2021~~	~~MLPV-DPT~~	~~2021~~	~~1350~~	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
	~~MLPV-DPT0660-0845-2021~~	~~MLPV-DPT0660~~	~~2021~~		~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	

Field Comments: Report only per QAPP WS #15-14

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		03/30/21	14:30		04/06/21	0700
2		04/06/21	1600		4/6/21	1600
3						

(1) AA=Ambient air, AQ=Air quality control, ASB=Asbestos, CK=Caulk, DS=Storm drain sediment, GS=Soil gas, IC=IDW Concrete, IDO=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 500mL s, ZnAct 2/500=Add 2 mL of zinc acetate to 500mL s, ZnAct+NaOH >9=Zinc acetate and NaOH to pH>9; store cool at 4C If NO preservative added leave blank

Rev 8/19

AE027492

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 1

Project Name: NASA KSC - MLPV | PO No. | Project No. 60615493.4 | Phone:

Site Location: MLP/VAB Hot Spot 3 | Send Invoice To: Instructions in MSA # | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019D0010 | AECOM Project Manager: Lianne Kling Clark | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to: Jennifer Chastain Cc: Teresa Amentt Jennings

Sampler/Phone # Shawn McGuire 919-757-5306 / JAMES BRADFORD | Deliver Samples To: | Site-Specific WS#15 from QAPP: 15-15

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	HCl RSK 175 (HEE)	4 DEG C Sulfide by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S	Comments
run	MLPV-DPT0660-050-B-2021 0406	MLPV-DPT0660	20210406	1500	WG	N	G	7	3	1	2	1	
	~~MLPV-DPT_____-2021_____~~	~~MLPV-DPT_____~~	~~2021~~	1535	~~WG~~	~~N~~	~~G~~	~~7~~	~~3~~	~~1~~	~~2~~	~~1~~	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	
	MLPV-DPT_____-_____-2021_____	MLPV-DPT_____	2021		WG	N	G	7	3	1	2	1	

Field Comments:

Report only per QAPP WS #15-14

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		03/30/21	14:30		04/06/2021	0700
2		04/06/21	1600		4/6/21	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, TF=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

Tuesday, April 27, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02713

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Friday, April 9, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02713

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

Affected Samples: MLPV-DPT0672-022.0-20210409[AE02713-01]

This is an amendment to the report dataed 04/20/21 to update the above noted sample ID to match the Chain of Custody.

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0672-022.0-20210409[AE02713-01]
The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID: AE02713-01** **Sampled: 04/09/21 07:40** **Received: 04/09/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/07/21	04/09/21 15:57	04/12/21 10:30
RSK 175	Same	04/23/21	04/14/21 19:00	04/14/21 23:56
SM 4500S2 F-2011	NO PREP	04/16/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID: AE02713-01RE1** **Sampled: 04/09/21 07:40** **Received: 04/09/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/23/21	04/15/21 07:00	04/15/21 09:25

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID: AE02713-01RE2** **Sampled: 04/09/21 07:40** **Received: 04/09/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/07/21	04/15/21 11:32	04/15/21 14:04

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID:** AE02713-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	17.4		5.10	6.00	ug/L	RSK 175	
Sulfate	24000		66	5000	ug/L	EPA 9056A	
Sulfide	10000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID:** AE02713-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	14200		420	525	ug/L	RSK 175	

Client ID: MLPV-DPT0672-022.0-20210409 **Lab ID:** AE02713-01RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	9200		540	1000	ug/L	EPA 9060A	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0672-022.0-20210409 **Lab Sample ID:** AE02713-01 **Received:** 04/09/21 15:00

Matrix: Ground Water **Sampled:** 04/09/21 07:40 **Work Order:** AE02713

Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**17.4**		ug/L	1	5.10	6.00	1D14048	RSK 175	04/14/21 23:56	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D14048	RSK 175	04/14/21 23:56	JMW	
Methane [74-82-8]^	**14200**		ug/L	105	420	525	1D15009	RSK 175	04/15/21 09:25	KG	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**24000**		ug/L	1	66	5000	1D12003	EPA 9056A	04/12/21 10:30	DFC	
Sulfide [18496-25-8]	**10000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**9200**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 14:04	KG	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D14048 - Same

Blank (1D14048-BLK1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:46

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D14048-BS1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	327		6.00	ug/L	323		101	70-130			
Ethene	321		6.00	ug/L	302		106	70-130			
Methane	176		5.00	ug/L	172		102	70-130			

LCS Dup (1D14048-BSD1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	329		6.00	ug/L	323		102	70-130	0.5	30	
Ethene	324		6.00	ug/L	302		107	70-130	0.9	30	
Methane	178		5.00	ug/L	172		104	70-130	1	30	

Duplicate (1D14048-DUP1) Prepared: 04/14/2021 19:00 Analyzed: 04/15/2021 06:52

Source: AE02865-11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	9.12		5.00	ug/L		14.5			46	30	QM-12

Batch 1D15009 - Same

Blank (1D15009-BLK1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 09:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D15009-BS1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 08:24

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	298		6.00	ug/L	323		92	70-130			
Ethene	291		6.00	ug/L	302		96	70-130			
Methane	160		5.00	ug/L	172		93	70-130			

LCS Dup (1D15009-BSD1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 08:40

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	326		6.00	ug/L	323		101	70-130	9	30	
Ethene	319		6.00	ug/L	302		106	70-130	9	30	
Methane	176		5.00	ug/L	172		102	70-130	10	30	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D15009 - Same - Continued

Duplicate (1D15009-DUP1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 14:44

Source: AE02925-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	U	5.00	ug/L		4.00 U				30	

Classical Chemistry Parameters - Quality Control

Batch 1D12003 - NO PREP

Blank (1D12003-BLK1) Prepared & Analyzed: 04/12/2021 07:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D12003-BS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 07:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	47000		5000	ug/L	50000		94	80-120			

Matrix Spike (1D12003-MS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:06

Source: AE02907-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	172	80-120			QM-07

Matrix Spike (1D12003-MS2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:07

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	98	80-120			

Matrix Spike Dup (1D12003-MSD1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:18

Source: AE02907-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	173	80-120	0.4	15	QM-07

Matrix Spike Dup (1D12003-MSD2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:19

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	99	80-120	0.5	15	

Batch 1D12004 - NO PREP

Blank (1D12004-BLK1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 12:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D12004 - NO PREP - Continued

LCS (1D12004-BS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:13

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000		100	85-115			

Matrix Spike (1D12004-MS1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 13:55

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1000	92	85-115			

Matrix Spike Dup (1D12004-MSD1) Prepared: 04/12/2021 08:40 Analyzed: 04/12/2021 14:19

Source: AE02921-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	46000		1000	ug/L	50000	1000	91	85-115	0.7	21	

Batch 1D13003 - NO PREP

Blank (1D13003-BLK1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D13003-BS1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		87	84-106			

Matrix Spike (1D13003-MS1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3200		1000	ug/L	4010	450 U	79	84-106			QM-07

Matrix Spike Dup (1D13003-MSD1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	87	84-106	10	10	

Batch 1D14042 - NO PREP

Blank (1D14042-BLK1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 12:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D14042-BS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	55000		1000	ug/L	50000		110	85-115			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D14042 - NO PREP - Continued

Matrix Spike (1D14042-MS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:57

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	110	85-115			

Matrix Spike Dup (1D14042-MSD1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 14:21

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	109	85-115	0.6	21	

Batch 1D15007 - NO PREP

Blank (1D15007-BLK1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D15007-BS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000		112	85-115			

Matrix Spike (1D15007-MS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:21

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1800	91	85-115			

Matrix Spike Dup (1D15007-MSD1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:48

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	1800	95	85-115	5	21	

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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.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
QV-01	The associated continuing calibration verification standard exhibited high bias; since the result is ND, there is no impact.

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~~AE02719~~ AE02713

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 1

Project Name: NASA KSC - MLPV | PO No. | Project No. 60615493.4 | Phase:

Site Location: MLP/VAB Hot Spot 3 | Send Invoice To: Instructions in MSA # | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019D0010 | AECOM Project Manager: **Linnea King Clark** | Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando | Report to: Jennifer Chastain Cc: Teresa Amentt Jennings

Sampler/Phone # | Shawn McGuire 919-757-5306 / James Bradford | Deliver Samples To: | Site-Spicific WS#15 from QAPP: 15-15

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) HCl Total No. of Containers	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S							Comments
	MLPV-DPT0672-022.0-20210409	MLPV-DPT0672	20210409	0740	WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							

***Field* Comments:**

Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment: 1

Samples Iced?(check) Yes_____ No_____

Shipping Company:

Tracking No: C-777

Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		04/06/21	13:20		04/09/21	0700
2		04/09/21	15:00		4/9/21	1500
3						

3.7°C

(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

Tuesday, April 27, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02815

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Tuesday, April 13, 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: MLPV-DPT0683-007.0-20210412 **Lab ID: AE02815-01** **Sampled: 04/12/21 13:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/10/21	04/14/21 09:43	04/14/21 15:36
EPA 9060A	NO PREP	05/10/21	04/26/21 08:12	04/26/21 11:41
RSK 175	Same	04/26/21	04/15/21 15:31	04/15/21 20:17
SM 4500S2 F-2011	NO PREP	04/19/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0683-007.0-20210412 **Lab ID: AE02815-01RE1** **Sampled: 04/12/21 13:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/26/21	04/16/21 08:00	04/16/21 14:06

Client ID: MLPV-DPT0684-007.0-20210412 **Lab ID: AE02815-02** **Sampled: 04/12/21 13:55** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/10/21	04/14/21 09:43	04/14/21 15:48
RSK 175	Same	04/26/21	04/15/21 15:31	04/15/21 20:33
SM 4500S2 F-2011	NO PREP	04/19/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0684-007.0-20210412 **Lab ID: AE02815-02RE1** **Sampled: 04/12/21 13:55** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/10/21	04/26/21 08:12	04/26/21 15:51
RSK 175	Same	04/26/21	04/16/21 08:00	04/16/21 14:22

Client ID: MLPV-DPT0685-007.0-20210412 **Lab ID: AE02815-03** **Sampled: 04/12/21 15:40** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/10/21	04/14/21 09:43	04/14/21 16:00
EPA 9060A	NO PREP	05/10/21	04/26/21 08:12	04/26/21 12:17
RSK 175	Same	04/26/21	04/16/21 08:00	04/16/21 15:28
SM 4500S2 F-2011	NO PREP	04/19/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0685-007.0-20210412 **Lab ID: AE02815-03RE1** **Sampled: 04/12/21 15:40** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/26/21	04/19/21 00:00	04/19/21 09:32

Client ID: MLPV-DPT0686-050.0-20210413 **Lab ID: AE02815-04** **Sampled: 04/13/21 08:50** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 13:43
RSK 175	Same	04/27/21	04/16/21 08:00	04/16/21 15:44
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0686-050.0-20210413 **Lab ID: AE02815-04RE1** **Sampled: 04/13/21 08:50** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/15/21 08:56
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 09:48

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID: AE02815-05** **Sampled: 04/13/21 10:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 16:24
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID: AE02815-05RE1** **Sampled: 04/13/21 10:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 16:11
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 10:03

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID: AE02815-05RE2** **Sampled: 04/13/21 10:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 14:02

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0687-011.0-20210413 **Lab ID: AE02815-06** **Sampled: 04/13/21 10:20** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 16:36
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 10:19
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0687-011.0-20210413 **Lab ID: AE02815-06RE1** **Sampled: 04/13/21 10:20** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 17:38
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 14:17

Client ID: MLPV-DPT0688-007.0-20210413 **Lab ID: AE02815-07** **Sampled: 04/13/21 11:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 16:48
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 10:35
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0688-007.0-20210413 **Lab ID: AE02815-07RE1** **Sampled: 04/13/21 11:00** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 17:59

Client ID: MLPV-DPT0688-011.0-20210413 **Lab ID: AE02815-08** **Sampled: 04/13/21 11:20** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 17:00
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0688-011.0-20210413 **Lab ID: AE02815-08RE1** **Sampled: 04/13/21 11:20** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 18:17

Client ID: MLPV-DPT0688-011.0-20210413 **Lab ID: AE02815-08RE2** **Sampled: 04/13/21 11:20** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/27/21	04/20/21 00:00	04/20/21 09:55

Client ID: MLPV-DPT0691-007.0-20210413 **Lab ID: AE02815-09** **Sampled: 04/13/21 15:15** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 17:37
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 15:13
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 11:07
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0691-007.0-20210413 **Lab ID: AE02815-09RE1** **Sampled: 04/13/21 15:15** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/27/21	04/20/21 00:00	04/20/21 11:31

Client ID: MLPV-DPT0691-011.0-20210413 **Lab ID: AE02815-10** **Sampled: 04/13/21 15:35** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/11/21	04/14/21 09:43	04/14/21 17:49
RSK 175	Same	04/27/21	04/19/21 00:00	04/19/21 11:23
SM 4500S2 F-2011	NO PREP	04/20/21	04/19/21 12:30	04/19/21 12:30

Client ID: MLPV-DPT0691-011.0-20210413 **Lab ID: AE02815-10RE1** **Sampled: 04/13/21 15:35** **Received: 04/13/21 16:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/11/21	04/26/21 08:12	04/26/21 18:36
RSK 175	Same	04/27/21	04/20/21 00:00	04/20/21 11:47

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0683-007.0-20210412 **Lab ID:** AE02815-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	75.1		5.10	6.00	ug/L	RSK 175	
Ethene	25.1		5.10	6.00	ug/L	RSK 175	
Sulfate	11000		66	5000	ug/L	EPA 9056A	
Total Organic Carbon	14000		5400	10000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0683-007.0-20210412 **Lab ID:** AE02815-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	4090		140	175	ug/L	RSK 175	

Client ID: MLPV-DPT0684-007.0-20210412 **Lab ID:** AE02815-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	10000		66	5000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0684-007.0-20210412 **Lab ID:** AE02815-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	9150		84.0	105	ug/L	RSK 175	
Total Organic Carbon	2800		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0685-007.0-20210412 **Lab ID:** AE02815-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	198		5.10	6.00	ug/L	RSK 175	
Ethene	34.2		5.10	6.00	ug/L	RSK 175	
Sulfate	2600	I	66	5000	ug/L	EPA 9056A	
Total Organic Carbon	12000		5400	10000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0685-007.0-20210412 **Lab ID:** AE02815-03RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	9230		420	525	ug/L	RSK 175	

Client ID: MLPV-DPT0686-050.0-20210413 **Lab ID:** AE02815-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	13.3		5.10	6.00	ug/L	RSK 175	
Ethene	1150		5.10	6.00	ug/L	RSK 175	
Sulfide	1100		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	10000		5400	10000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0686-050.0-20210413 **Lab ID:** AE02815-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	2250		120	150	ug/L	RSK 175	
Sulfate	400000		530	40000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID:** AE02815-05

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	84000		66	5000	ug/L	EPA 9056A	
Sulfide	480	I	450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID:** AE02815-05RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	7.33		5.10	6.00	ug/L	RSK 175	
Total Organic Carbon	4400		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0687-007.0-20210413 **Lab ID:** AE02815-05RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7720		60.0	75.0	ug/L	RSK 175	

Client ID: MLPV-DPT0687-011.0-20210413 **Lab ID:** AE02815-06

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	50.6		5.10	6.00	ug/L	RSK 175	
Ethene	11.4		5.10	6.00	ug/L	RSK 175	
Sulfate	10000		66	5000	ug/L	EPA 9056A	
Sulfide	2900		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0687-011.0-20210413 **Lab ID:** AE02815-06RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	11200		420	525	ug/L	RSK 175	
Total Organic Carbon	7500		540	1000	ug/L	EPA 9060A	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0688-007.0-20210413 **Lab ID:** AE02815-07

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	88.8		4.00	5.00	ug/L	RSK 175	
Sulfate	7200		66	5000	ug/L	EPA 9056A	

Client ID: MLPV-DPT0688-007.0-20210413 **Lab ID:** AE02815-07RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	1500		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0688-011.0-20210413 **Lab ID:** AE02815-08

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	5800		66	5000	ug/L	EPA 9056A	
Sulfide	2700		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0688-011.0-20210413 **Lab ID:** AE02815-08RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	5500		540	1000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0691-007.0-20210413 **Lab ID:** AE02815-09

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	10000		66	5000	ug/L	EPA 9056A	
Sulfide	1400		450	1000	ug/L	SM 4500S2 F-2011	
Total Organic Carbon	43000		5400	10000	ug/L	EPA 9060A	

Client ID: MLPV-DPT0691-007.0-20210413 **Lab ID:** AE02815-09RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1820		84.0	105	ug/L	RSK 175	

Client ID: MLPV-DPT0691-011.0-20210413 **Lab ID:** AE02815-10

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfate	11000		66	5000	ug/L	EPA 9056A	
Sulfide	2600		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0691-011.0-20210413 **Lab ID:** AE02815-10RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	1490		84.0	105	ug/L	RSK 175	
Total Organic Carbon	38000		540	1000	ug/L	EPA 9060A	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0683-007.0-20210412 **Lab Sample ID:** AE02815-01 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/12/21 13:00 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**75.1**		ug/L	1	5.10	6.00	1D15045	RSK 175	04/15/21 20:17	JMW	
Ethene [74-85-1]^	**25.1**		ug/L	1	5.10	6.00	1D15045	RSK 175	04/15/21 20:17	JMW	
Methane [74-82-8]^	**4090**		ug/L	35	140	175	1D16017	RSK 175	04/16/21 14:06	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**11000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 15:36	DFC	
Sulfide [18496-25-8]	450	U	ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**14000**		ug/L	10	5400	10000	1D26011	EPA 9060A	04/26/21 11:41	KG	

Description: MLPV-DPT0684-007.0-20210412 **Lab Sample ID:** AE02815-02 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/12/21 13:55 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D15045	RSK 175	04/15/21 20:33	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D15045	RSK 175	04/15/21 20:33	JMW	
Methane [74-82-8]^	**9150**		ug/L	21	84.0	105	1D16017	RSK 175	04/16/21 14:22	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**10000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 15:48	DFC	
Sulfide [18496-25-8]	450	U	ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**2800**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 15:51	KG	

Description: MLPV-DPT0685-007.0-20210412 **Lab Sample ID:** AE02815-03 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/12/21 15:40 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**198**		ug/L	1	5.10	6.00	1D16017	RSK 175	04/16/21 15:28	JMW	
Ethene [74-85-1]^	**34.2**		ug/L	1	5.10	6.00	1D16017	RSK 175	04/16/21 15:28	JMW	
Methane [74-82-8]^	**9230**		ug/L	105	420	525	1D19006	RSK 175	04/19/21 09:32	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**2600**	I	ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 16:00	DFC	
Sulfide [18496-25-8]	450	U	ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**12000**		ug/L	10	5400	10000	1D26011	EPA 9060A	04/26/21 12:17	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0686-050.0-20210413 **Lab Sample ID:** AE02815-04 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 08:50 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**13.3**		ug/L	1	5.10	6.00	1D16017	RSK 175	04/16/21 15:44	JMW	
Ethene [74-85-1]^	**1150**		ug/L	1	5.10	6.00	1D16017	RSK 175	04/16/21 15:44	JMW	
Methane [74-82-8]^	**2250**		ug/L	30	120	150	1D19006	RSK 175	04/19/21 09:48	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**400000**		ug/L	8	530	40000	1D14026	EPA 9056A	04/15/21 08:56	DFC	
Sulfide [18496-25-8]	**1100**		ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**10000**		ug/L	10	5400	10000	1D26011	EPA 9060A	04/26/21 13:43	KG	

Description: MLPV-DPT0687-007.0-20210413 **Lab Sample ID:** AE02815-05 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 10:00 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**7.33**		ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:03	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:03	JMW	
Methane [74-82-8]^	**7720**		ug/L	15	60.0	75.0	1D19006	RSK 175	04/19/21 14:02	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**84000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 16:24	DFC	
Sulfide [18496-25-8]	**480**	I	ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**4400**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 16:11	KG	

Description: MLPV-DPT0687-011.0-20210413 **Lab Sample ID:** AE02815-06 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 10:20 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**50.6**		ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:19	JMW	
Ethene [74-85-1]^	**11.4**		ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:19	JMW	
Methane [74-82-8]^	**11200**		ug/L	105	420	525	1D19006	RSK 175	04/19/21 14:17	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**10000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 16:36	DFC	
Sulfide [18496-25-8]	**2900**		ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**7500**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 17:38	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0688-007.0-20210413 **Lab Sample ID:** AE02815-07 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 11:00 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:35	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 10:35	JMW	
Methane [74-82-8]^	**88.8**		ug/L	1	4.00	5.00	1D19006	RSK 175	04/19/21 10:35	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**7200**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 16:48	DFC	
Sulfide [18496-25-8]	450	U	ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**1500**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 17:59	KG	

Description: MLPV-DPT0688-011.0-20210413 **Lab Sample ID:** AE02815-08 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 11:20 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D20005	RSK 175	04/20/21 09:55	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D20005	RSK 175	04/20/21 09:55	JMW	
Methane [74-82-8]^	4.00	U	ug/L	1	4.00	5.00	1D20005	RSK 175	04/20/21 09:55	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**5800**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 17:00	DFC	
Sulfide [18496-25-8]	**2700**		ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**5500**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 18:17	KG	

Description: MLPV-DPT0691-007.0-20210413 **Lab Sample ID:** AE02815-09 **Received:** 04/13/21 16:00
Matrix: Ground Water **Sampled:** 04/13/21 15:15 **Work Order:** AE02815
Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 11:07	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 11:07	JMW	
Methane [74-82-8]^	**1820**		ug/L	21	84.0	105	1D20005	RSK 175	04/20/21 11:31	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**10000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 17:37	DFC	
Sulfide [18496-25-8]	**1400**		ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**43000**		ug/L	10	5400	10000	1D26011	EPA 9060A	04/26/21 15:13	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0691-011.0-20210413 **Lab Sample ID:** AE02815-10 **Received:** 04/13/21 16:00

Matrix: Ground Water **Sampled:** 04/13/21 15:35 **Work Order:** AE02815

Project: NASA KSC - MLPV **Sampled By:**

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 11:23	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D19006	RSK 175	04/19/21 11:23	JMW	
Methane [74-82-8]^	**1490**		ug/L	21	84.0	105	1D20005	RSK 175	04/20/21 11:47	JMW	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**11000**		ug/L	1	66	5000	1D14026	EPA 9056A	04/14/21 17:49	DFC	
Sulfide [18496-25-8]	**2600**		ug/L	1	450	1000	1D16042	SM 4500S2 F-2011	04/19/21 12:30	ASR	
Total Organic Carbon^	**38000**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 18:36	KG	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D15045 - Same

Blank (1D15045-BLK1) Prepared: 04/15/2021 14:45 Analyzed: 04/15/2021 16:51

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D15045-BS1) Prepared: 04/15/2021 14:45 Analyzed: 04/15/2021 16:09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	333		6.00	ug/L	323		103	70-130			
Ethene	323		6.00	ug/L	302		107	70-130			
Methane	181		5.00	ug/L	172		105	70-130			

LCS Dup (1D15045-BSD1) Prepared: 04/15/2021 14:45 Analyzed: 04/15/2021 16:25

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	326		6.00	ug/L	323		101	70-130	2	30	
Ethene	320		6.00	ug/L	302		106	70-130	0.9	30	
Methane	180		5.00	ug/L	172		105	70-130	0.6	30	

Duplicate (1D15045-DUP1) Prepared: 04/15/2021 14:45 Analyzed: 04/16/2021 08:04

Source: AE02928-16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	U	5.00	ug/L		4.00 U				30	

Batch 1D16017 - Same

Blank (1D16017-BLK1) Prepared: 04/16/2021 08:00 Analyzed: 04/16/2021 10:40

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D16017-BS1) Prepared: 04/16/2021 08:00 Analyzed: 04/16/2021 09:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	331		6.00	ug/L	323		103	70-130			
Ethene	326		6.00	ug/L	302		108	70-130			
Methane	181		5.00	ug/L	172		105	70-130			

LCS Dup (1D16017-BSD1) Prepared: 04/16/2021 08:00 Analyzed: 04/16/2021 10:11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	324		6.00	ug/L	323		100	70-130	2	30	
Ethene	321		6.00	ug/L	302		106	70-130	2	30	
Methane	178		5.00	ug/L	172		103	70-130	1	30	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D16017 - Same - Continued

Duplicate (1D16017-DUP1) Prepared: 04/16/2021 08:00 Analyzed: 04/16/2021 16:16

Source: AE03027-01RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	U	5.00	ug/L		4.00 U				30	

Batch 1D19006 - Same

Blank (1D19006-BLK1) Prepared: 04/19/2021 00:00 Analyzed: 04/19/2021 09:16

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D19006-BS1) Prepared: 04/19/2021 00:00 Analyzed: 04/19/2021 08:38

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	325		6.00	ug/L	323		101	70-130			
Ethene	322		6.00	ug/L	302		107	70-130			
Methane	179		5.00	ug/L	172		104	70-130			

LCS Dup (1D19006-BSD1) Prepared: 04/19/2021 00:00 Analyzed: 04/19/2021 08:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	328		6.00	ug/L	323		102	70-130	1	30	
Ethene	321		6.00	ug/L	302		106	70-130	0.4	30	
Methane	179		5.00	ug/L	172		104	70-130	0.2	30	

Duplicate (1D19006-DUP1) Prepared: 04/19/2021 00:00 Analyzed: 04/19/2021 14:49

Source: AE03028-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	8.31		5.00	ug/L		50.0			143	30	QM-12

Batch 1D20005 - Same

Blank (1D20005-BLK1) Prepared: 04/20/2021 00:00 Analyzed: 04/20/2021 09:40

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D20005-BS1) Prepared: 04/20/2021 00:00 Analyzed: 04/20/2021 09:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	325		6.00	ug/L	323		101	70-130			
Ethene	317		6.00	ug/L	302		105	70-130			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D20005 - Same - Continued

LCS (1D20005-BS1) Continued Prepared: 04/20/2021 00:00 Analyzed: 04/20/2021 09:00

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Methane	177		5.00	ug/L	172		103	70-130			

LCS Dup (1D20005-BSD1) Prepared: 04/20/2021 00:00 Analyzed: 04/20/2021 09:15

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	322		6.00	ug/L	323		100	70-130	0.9	30	
Ethene	318		6.00	ug/L	302		105	70-130	0.05	30	
Methane	175		5.00	ug/L	172		102	70-130	0.7	30	

Duplicate (1D20005-DUP1) Prepared: 04/20/2021 00:00 Analyzed: 04/20/2021 15:13

Source: AE03029-04RE1

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	265	U	312	ug/L		265 U				30	
Ethene	265	U	312	ug/L		265 U				30	
Methane	1420		260	ug/L		3410			82	30	QM-12

Classical Chemistry Parameters - Quality Control

Batch 1D14026 - NO PREP

Blank (1D14026-BLK1) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 12:44

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D14026-BS1) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 12:56

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	53000		5000	ug/L	50000		106	80-120			

Matrix Spike (1D14026-MS1) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 13:44

Source: AE03068-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	54000		5000	ug/L	50000	7000	95	80-120			

Matrix Spike (1D14026-MS2) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 14:20

Source: AE03068-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	56000		5000	ug/L	50000	9800	92	80-120			

Matrix Spike Dup (1D14026-MSD1) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 13:56

Source: AE03068-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	54000		5000	ug/L	50000	7000	94	80-120	0.2	15	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D14026 - NO PREP - Continued

Matrix Spike Dup (1D14026-MSD2) Prepared: 04/14/2021 09:43 Analyzed: 04/14/2021 14:34

Source: AE03068-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	55000		5000	ug/L	50000	9800	90	80-120	1	15	

Batch 1D16042 - NO PREP

Blank (1D16042-BLK1) Prepared & Analyzed: 04/19/2021 12:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

LCS (1D16042-BS1) Prepared & Analyzed: 04/19/2021 12:30

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3800		1000	ug/L	4010		96	84-106			

Matrix Spike (1D16042-MS1) Prepared & Analyzed: 04/19/2021 12:30

Source: AE03121-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3200		1000	ug/L	4010	450 U	80	84-106			QM-07

Matrix Spike Dup (1D16042-MSD1) Prepared & Analyzed: 04/19/2021 12:30

Source: AE03121-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	88	84-106	10	10	

Batch 1D26011 - NO PREP

Blank (1D26011-BLK1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D26011-BS1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	48000		1000	ug/L	50000		96	85-115			

Matrix Spike (1D26011-MS1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 10:35

Source: AE03416-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	980	98	85-115			

Matrix Spike Dup (1D26011-MSD1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 10:58

Source: AE03416-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	980	97	85-115	1	21	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02815

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of
Site Location: MLP/VAB Hot Spot 3		PO No.	Project No. 60615493.4 Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Shawn McGuire 919-757-5306	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:	Site-Spicific WS#15 from QAPP: 15-15

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S							Comments
	MLPV-DPT0683-007.0-20210412	MLPV-DPT0683	20210412	1300	WG	N	G	7	3	1	2	1							
	MLPV-DPT0684-007.0-20210412	MLPV-DPT0684	20210412	1355	WG	N	G	7	3	1	2	1							
	MLPV-DPT0685-007.0-20210412	MLPV-DPT0685	20210412	1540	WG	N	G	7	3	1	2	1							
	MLPV-DPT0686-050.0-20210413	MLPV-DPT0686	20210413	0850	WG	N	G	7	3	1	2	1							
	MLPV-DPT0687-007.0-20210413	MLPV-DPT0687	20210413	1000	WG	N	G	7	3	1	2	1							
	MLPV-DPT0687-011.0-20210413	MLPV-DPT0687	20210413	1020	WG	N	G	7	3	1	2	1							
	MLPV-DPT0688-007.0-20210413	MLPV-DPT0688	20210413	1100	WG	N	G	7	3	1	2	1							
	MLPV-DPT0688-011.0-20210413	MLPV-DPT0688	20210413	1120	WG	N	G	7	3	1	2	1							
	~~MLPV-DPT0689-007.0-20210413~~	~~MLPV-DPT0689~~	~~20210413~~	~~1140~~	WG	N	G	7	3	1	2	1							
	~~MLPV-DPT0689-011.0-20210413~~	~~MLPV-DPT0689~~	~~20210413~~	SN	WG	N	G	7	3	1	2	1							
	MLPV-DPT0691-007.0-20210413	MLPV-DPT0691	20210413	1515	WG	N	G	7	3	1	2	1							
	MLPV-DPT0691-011.0-20210413	MLPV-DPT0691	20210413	1535	WG	N	G	7	3	1	2	1							

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**
Lg-611 45°C

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		04/06/21	13:20		4/13/21	1320
2		04/13/21	1600		4/13/21	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

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Thursday, April 29, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02896

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Thursday, April 8, 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)

PROJECT NARRATIVE

Client: AECOM Technical Services, Inc. (SE004)
Project: NASA KSC - MLPV
ENCO Project ID: AE02896

Overview

All samples submitted were analyzed by Environmental Conservation Laboratories, Inc. in accordance with the methods referenced in the laboratory report. Any particular difficulties encountered during sample handling and processing will be discussed in the Remarks section below.

Remarks

This is an amendment to the report dated 04/27/21 for this workorder to update the sample IDs to match the chain of custody.

Analysis: EPA 9060A

Affected Samples: MLPV-DPT0667-050.0-20210408[AE02896-01], MLPV-DPT0668-050.0-20210408[AE02896-02], MLPV-DPT0670-050.0-20210408[AE02896-03] The continuing calibration blank had a positive result for total organic carbon; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.

Kaitlin Dylnicki
Project Manager

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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SAMPLE SUMMARY/LABORATORY CHRONICLE

Client ID: MLPV-DPT0667-050.0-20210408 **Lab ID: AE02896-01** **Sampled: 04/08/21 08:05** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
SM 4500S2 F-2011	NO PREP	04/15/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0667-050.0-20210408 **Lab ID: AE02896-01RE1** **Sampled: 04/08/21 08:05** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/06/21	04/09/21 15:57	04/12/21 12:43
EPA 9060A	NO PREP	05/06/21	04/15/21 11:32	04/15/21 19:50
RSK 175	Same	04/22/21	04/15/21 07:00	04/15/21 11:32

Client ID: MLPV-DPT0668-050.0-20210408 **Lab ID: AE02896-02** **Sampled: 04/08/21 09:20** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/06/21	04/09/21 15:57	04/12/21 11:43
RSK 175	Same	04/22/21	04/14/21 19:00	04/15/21 00:28
SM 4500S2 F-2011	NO PREP	04/15/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0668-050.0-20210408 **Lab ID: AE02896-02RE1** **Sampled: 04/08/21 09:20** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/06/21	04/15/21 11:32	04/15/21 20:12
RSK 175	Same	04/22/21	04/15/21 07:00	04/15/21 11:48

Client ID: MLPV-DPT0670-050.0-20210408 **Lab ID: AE02896-03** **Sampled: 04/08/21 13:50** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/06/21	04/09/21 15:57	04/12/21 11:55
RSK 175	Same	04/22/21	04/14/21 19:00	04/15/21 00:44
SM 4500S2 F-2011	NO PREP	04/15/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0670-050.0-20210408 **Lab ID: AE02896-03RE1** **Sampled: 04/08/21 13:50** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/06/21	04/15/21 11:32	04/15/21 20:37
RSK 175	Same	04/22/21	04/15/21 07:00	04/15/21 12:03

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID: AE02896-04** **Sampled: 04/08/21 14:50** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9056A	NO PREP	05/06/21	04/09/21 15:57	04/12/21 08:15
RSK 175	Same	04/22/21	04/14/21 19:00	04/15/21 01:00
SM 4500S2 F-2011	NO PREP	04/15/21	04/13/21 16:50	04/13/21 16:50

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID: AE02896-04RE1** **Sampled: 04/08/21 14:50** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
RSK 175	Same	04/22/21	04/15/21 07:00	04/15/21 12:19

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID: AE02896-04RE2** **Sampled: 04/08/21 14:50** **Received: 04/08/21 15:00**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 9060A	NO PREP	05/06/21	04/26/21 08:12	04/26/21 11:20

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-DPT0667-050.0-20210408 **Lab ID:** AE02896-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	1200		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0667-050.0-20210408 **Lab ID:** AE02896-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	200		4.00	5.00	ug/L	RSK 175	
Sulfate	530000		530	40000	ug/L	EPA 9056A	
Total Organic Carbon	14000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0668-050.0-20210408 **Lab ID:** AE02896-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	46.0		5.10	6.00	ug/L	RSK 175	
Ethene	848		5.10	6.00	ug/L	RSK 175	
Sulfate	320000		260	20000	ug/L	EPA 9056A	
Sulfide	920	I	450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0668-050.0-20210408 **Lab ID:** AE02896-02RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	7760		420	525	ug/L	RSK 175	
Total Organic Carbon	13000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0670-050.0-20210408 **Lab ID:** AE02896-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Sulfide	1200		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0670-050.0-20210408 **Lab ID:** AE02896-03RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	10400		84.0	105	ug/L	RSK 175	
Total Organic Carbon	26000		540	1000	ug/L	EPA 9060A	QB-06

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID:** AE02896-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Ethane	6.79		5.10	6.00	ug/L	RSK 175	
Sulfate	25000		66	5000	ug/L	EPA 9056A	
Sulfide	13000		450	1000	ug/L	SM 4500S2 F-2011	

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID:** AE02896-04RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Methane	5950		280	350	ug/L	RSK 175	

Client ID: MLPV-DPT0671-022.0-20210408 **Lab ID:** AE02896-04RE2

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Total Organic Carbon	7200		540	1000	ug/L	EPA 9060A	

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ANALYTICAL RESULTS

Description: MLPV-DPT0667-050.0-20210408 **Lab Sample ID:** AE02896-01 **Received:** 04/08/21 15:00
Matrix: Ground Water **Sampled:** 04/08/21 08:05 **Work Order:** AE02896
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D15009	RSK 175	04/15/21 11:32	KG	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D15009	RSK 175	04/15/21 11:32	KG	
Methane [74-82-8]^	**200**		ug/L	1	4.00	5.00	1D15009	RSK 175	04/15/21 11:32	KG	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**530000**		ug/L	8	530	40000	1D12003	EPA 9056A	04/12/21 12:43	DFC	
Sulfide [18496-25-8]	**1200**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**14000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 19:50	KG	QB-06

Description: MLPV-DPT0668-050.0-20210408 **Lab Sample ID:** AE02896-02 **Received:** 04/08/21 15:00
Matrix: Ground Water **Sampled:** 04/08/21 09:20 **Work Order:** AE02896
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**46.0**		ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 00:28	JMW	
Ethene [74-85-1]^	**848**		ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 00:28	JMW	
Methane [74-82-8]^	**7760**		ug/L	105	420	525	1D15009	RSK 175	04/15/21 11:48	KG	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**320000**		ug/L	4	260	20000	1D12003	EPA 9056A	04/12/21 11:43	DFC	
Sulfide [18496-25-8]	**920**	I	ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**13000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 20:12	KG	QB-06

Description: MLPV-DPT0670-050.0-20210408 **Lab Sample ID:** AE02896-03 **Received:** 04/08/21 15:00
Matrix: Ground Water **Sampled:** 04/08/21 13:50 **Work Order:** AE02896
Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	5.10	U	ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 00:44	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 00:44	JMW	
Methane [74-82-8]^	**10400**		ug/L	21	84.0	105	1D15009	RSK 175	04/15/21 12:03	KG	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	130	U	ug/L	2	130	10000	1D12003	EPA 9056A	04/12/21 11:55	DFC	R-05
Sulfide [18496-25-8]	**1200**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**26000**		ug/L	1	540	1000	1D15007	EPA 9060A	04/15/21 20:37	KG	QB-06

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-DPT0671-022.0-20210408 **Lab Sample ID:** AE02896-04 **Received:** 04/08/21 15:00

Matrix: Ground Water **Sampled:** 04/08/21 14:50 **Work Order:** AE02896

Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire/James Bra

Dissolved Gases by GC

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Ethane [74-84-0]^	**6.79**		ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 01:00	JMW	
Ethene [74-85-1]^	5.10	U	ug/L	1	5.10	6.00	1D14048	RSK 175	04/15/21 01:00	JMW	
Methane [74-82-8]^	**5950**		ug/L	70	280	350	1D15009	RSK 175	04/15/21 12:19	KG	

Classical Chemistry Parameters

^ - ENCO Orlando certified analyte [NELAC E83182]

Analyte [CAS Number]	Results	Flag	Units	DF	MDL	PQL	Batch	Method	Analyzed	By	Notes
Sulfate [14808-79-8]^	**25000**		ug/L	1	66	5000	1D12003	EPA 9056A	04/12/21 08:15	DFC	
Sulfide [18496-25-8]	**13000**		ug/L	1	450	1000	1D13003	SM 4500S2 F-2011	04/13/21 16:50	ASR	
Total Organic Carbon^	**7200**		ug/L	1	540	1000	1D26011	EPA 9060A	04/26/21 11:20	KG	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D14048 - Same

Blank (1D14048-BLK1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:46

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D14048-BS1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	327		6.00	ug/L	323		101	70-130			
Ethene	321		6.00	ug/L	302		106	70-130			
Methane	176		5.00	ug/L	172		102	70-130			

LCS Dup (1D14048-BSD1) Prepared: 04/14/2021 19:00 Analyzed: 04/14/2021 20:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	329		6.00	ug/L	323		102	70-130	0.5	30	
Ethene	324		6.00	ug/L	302		107	70-130	0.9	30	
Methane	178		5.00	ug/L	172		104	70-130	1	30	

Duplicate (1D14048-DUP1) Prepared: 04/14/2021 19:00 Analyzed: 04/15/2021 06:52

Source: AE02865-11

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	9.12		5.00	ug/L		14.5			46	30	QM-12

Batch 1D15009 - Same

Blank (1D15009-BLK1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 09:03

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L							
Ethene	5.10	U	6.00	ug/L							
Methane	4.00	U	5.00	ug/L							

LCS (1D15009-BS1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 08:24

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	298		6.00	ug/L	323		92	70-130			
Ethene	291		6.00	ug/L	302		96	70-130			
Methane	160		5.00	ug/L	172		93	70-130			

LCS Dup (1D15009-BSD1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 08:40

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	326		6.00	ug/L	323		101	70-130	9	30	
Ethene	319		6.00	ug/L	302		106	70-130	9	30	
Methane	176		5.00	ug/L	172		102	70-130	10	30	

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QUALITY CONTROL DATA

Dissolved Gases by GC - Quality Control

Batch 1D15009 - Same - Continued

Duplicate (1D15009-DUP1) Prepared: 04/15/2021 07:00 Analyzed: 04/15/2021 14:44

Source: AE02925-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Ethane	5.10	U	6.00	ug/L		5.10 U				30	
Ethene	5.10	U	6.00	ug/L		5.10 U				30	
Methane	4.00	U	5.00	ug/L		4.00 U				30	

Classical Chemistry Parameters - Quality Control

Batch 1D12003 - NO PREP

Blank (1D12003-BLK1) Prepared & Analyzed: 04/12/2021 07:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	66	U	5000	ug/L							

LCS (1D12003-BS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 07:26

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	47000		5000	ug/L	50000		94	80-120			

Matrix Spike (1D12003-MS1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:06

Source: AE02907-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	172	80-120			QM-07

Matrix Spike (1D12003-MS2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:07

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	98	80-120			

Matrix Spike Dup (1D12003-MSD1) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 10:18

Source: AE02907-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	86000		5000	ug/L	50000	66 U	173	80-120	0.4	15	QM-07

Matrix Spike Dup (1D12003-MSD2) Prepared: 04/12/2021 07:14 Analyzed: 04/12/2021 12:19

Source: AE02896-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfate	74000		5000	ug/L	50000	25000	99	80-120	0.5	15	

Batch 1D13003 - NO PREP

Blank (1D13003-BLK1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	450	U	1000	ug/L							

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D13003 - NO PREP - Continued

LCS (1D13003-BS1) Prepared & Analyzed: 04/13/2021 16:50

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010		87	84-106			

Matrix Spike (1D13003-MS1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3200		1000	ug/L	4010	450 U	79	84-106			QM-07

Matrix Spike Dup (1D13003-MSD1) Prepared & Analyzed: 04/13/2021 16:50

Source: AE02939-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Sulfide	3500		1000	ug/L	4010	450 U	87	84-106	10	10	

Batch 1D14042 - NO PREP

Blank (1D14042-BLK1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 12:53

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D14042-BS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:12

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	55000		1000	ug/L	50000		110	85-115			

Matrix Spike (1D14042-MS1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 13:57

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	110	85-115			

Matrix Spike Dup (1D14042-MSD1) Prepared: 04/14/2021 11:38 Analyzed: 04/14/2021 14:21

Source: AE02921-02

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000	1200	109	85-115	0.6	21	

Batch 1D15007 - NO PREP

Blank (1D15007-BLK1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D15007-BS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 12:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	56000		1000	ug/L	50000		112	85-115			

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QUALITY CONTROL DATA

Classical Chemistry Parameters - Quality Control

Batch 1D15007 - NO PREP - Continued

Matrix Spike (1D15007-MS1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:21

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	47000		1000	ug/L	50000	1800	91	85-115			

Matrix Spike Dup (1D15007-MSD1) Prepared: 04/15/2021 11:32 Analyzed: 04/15/2021 21:48

Source: AE02921-04

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	1800	95	85-115	5	21	

Batch 1D26011 - NO PREP

Blank (1D26011-BLK1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 09:37

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	540	U	1000	ug/L							

LCS (1D26011-BS1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 09:54

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	48000		1000	ug/L	50000		96	85-115			

Matrix Spike (1D26011-MS1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 10:35

Source: AE03416-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	50000		1000	ug/L	50000	980	98	85-115			

Matrix Spike Dup (1D26011-MSD1) Prepared: 04/26/2021 08:12 Analyzed: 04/26/2021 10:58

Source: AE03416-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Total Organic Carbon	49000		1000	ug/L	50000	980	97	85-115	1	21	

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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.
QB-06	The continuing calibration blank had a positive result for the analyte; however, the concentration in the continuing calibration blank is less than 10% of the sample result. There is minimal impact to the data.
QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
QM-12	Precision between duplicate samples was outside acceptance limits.
R-05	The sample was diluted due to the presence of high levels of non-target analytes resulting in elevated reporting limits.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02896

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - MLPV			COC No.	Page: 1 of	
Site Location: MLP/VAB Hot Spot 3			PO No.	Project No. 60615493.4	Phase:
TO No.: 80KSC019D0010	AECOM Project Manager:	**Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain	Cc: Teresa Amentt Jennings
Sampler/Phone #	Shawn McGuire 919-757-5306 / James BRADFORD		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:	Site-Spicific WS#15 from QAPP: 15-15	

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	HCl RSK 175 (MEE)	4 DEG C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Sulfide by SM 4500-S							Comments
	MLPV-DPT0667-0502021040[illegible]	MLPV-DPT0667	20210408	0805	WG	N	G	7	3	1	2	1							
	MLPV-DPT0668-0502021____	MLPV-DPT0668	2021	0920	WG	N	G	7	3	1	2	1							
	MLPV-DPT0670-0502021____	MLPV-DPT0670	2021	1350	WG	N	G	7	3	1	2	1							
	MLPV-DPT0671-0220-2021____	MLPV-DPT0671	2021	1450	WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							
	MLPV-DPT____-____-2021____	MLPV-DPT____	2021		WG	N	G	7	3	1	2	1							

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	04/06/21	13:20	[signature]	04/08/21	0700
2	[signature]	04/08/21	15:00	[signature] Oregon	4/8/21	1500
3						

Samples Iced?(check) Yes____ No____
Shipping Company: [illegible]
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

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, May 3, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE02998

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, April 19, 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: MLPV-IDW-20210416-03 **Lab ID:** AE02998-01RE1 **Sampled:** 04/16/21 16:00 **Received:** 04/19/21 16:55

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/30/21	04/23/21 09:08	04/23/21 10:08

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-IDW-20210416-03 **Lab ID:** AE02998-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	390		2.6	5.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	3.6	I	3.6	5.0	ug/L	EPA 8260D	
Trichloroethene	400		4.4	5.0	ug/L	EPA 8260D	
Vinyl chloride	63		3.6	5.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IDW-20210416-03 **Lab Sample ID:** AE02998-01 **Received:** 04/19/21 16:55

Matrix: Water **Sampled:** 04/16/21 16:00 **Work Order:** AE02998

Project: NASA KSC - MLPV **Sampled By:** Shawn McGuire

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	1D23015	EPA 8260D	04/23/21 10:08	kkw	
cis-1,2-Dichloroethene [156-59-2]^	**390**		ug/L	5	2.6	5.0	1D23015	EPA 8260D	04/23/21 10:08	kkw	
Tetrachloroethene [127-18-4]^	3.8	U	ug/L	5	3.8	5.0	1D23015	EPA 8260D	04/23/21 10:08	kkw	
trans-1,2-Dichloroethene [156-60-5]^	**3.6**	I	ug/L	5	3.6	5.0	1D23015	EPA 8260D	04/23/21 10:08	kkw	
Trichloroethene [79-01-6]^	**400**		ug/L	5	4.4	5.0	1D23015	EPA 8260D	04/23/21 10:08	kkw	
Vinyl chloride [75-01-4]^	**63**		ug/L	5	3.6	5.0	1D23015	EPA 8260D	04/23/21 10:08	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*107 %*	*41-142*	*1D23015*	*EPA 8260D*	*04/23/21 10:08*	*kkw*	
Dibromofluoromethane	*56*	*1*	*50.0*	*112 %*	*53-146*	*1D23015*	*EPA 8260D*	*04/23/21 10:08*	*kkw*	
Toluene-d8	*56*	*1*	*50.0*	*111 %*	*41-146*	*1D23015*	*EPA 8260D*	*04/23/21 10:08*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D22028 - EPA 5030B_MS

Blank (1D22028-BLK1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 09:35

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							
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	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

LCS (1D22028-BS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 08:39

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		104	47-139			
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		116	56-128			
Tetrachloroethene	20		1.0	ug/L	20.0		98	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		107	54-134			
Trichloroethene	18		1.0	ug/L	20.0		88	62-135			
Vinyl chloride	25		1.0	ug/L	20.0		126	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*60*			*ug/L*	*50.0*		*120*	*41-146*			

Matrix Spike (1D22028-MS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 18:50

Source: AE03132-01

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	99	47-139			
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	106	56-128			
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	100	60-147			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.73 U	106	54-134			
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	99	62-135			
Vinyl chloride	22		1.0	ug/L	20.0	0.71 U	111	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Matrix Spike Dup (1D22028-MSD1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 19:18

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	17		1.0	ug/L	20.0	0.94 U	86	47-139	14	16	
cis-1,2-Dichloroethene	19		1.0	ug/L	20.0	0.53 U	97	56-128	9	17	
Tetrachloroethene	20		1.0	ug/L	20.0	0.76 U	98	60-147	2	21	
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0	0.73 U	99	54-134	7	20	
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	100	62-135	0.2	20	
Vinyl chloride	25		1.0	ug/L	20.0	0.71 U	125	20-167	12	24	
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D22028 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D22028-MSD1) Continued Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 19:18

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

Batch 1D23015 - EPA 5030B_MS

Blank (1D23015-BLK1) Prepared: 04/23/2021 00:00 Analyzed: 04/23/2021 09:40

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							
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*		*103*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*119*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

LCS (1D23015-BS1) Prepared: 04/23/2021 00:00 Analyzed: 04/23/2021 08:45

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	40		1.0	ug/L	40.0		100	47-139			
cis-1,2-Dichloroethene	42		1.0	ug/L	40.0		104	56-128			
Tetrachloroethene	37		1.0	ug/L	40.0		92	60-147			
trans-1,2-Dichloroethene	40		1.0	ug/L	40.0		101	54-134			
Trichloroethene	38		1.0	ug/L	40.0		95	62-135			
Vinyl chloride	23		1.0	ug/L	20.0		115	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*105*	*41-142*			
Dibromofluoromethane	*57*			*ug/L*	*50.0*		*115*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*113*	*41-146*			

Matrix Spike (1D23015-MS1) Prepared: 04/23/2021 00:00 Analyzed: 04/23/2021 18:56

Source: AE03181-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	45		1.0	ug/L	40.0	0.94 U	114	47-139			
cis-1,2-Dichloroethene	45		1.0	ug/L	40.0	0.53 U	112	56-128			
Tetrachloroethene	39		1.0	ug/L	40.0	0.76 U	97	60-147			
trans-1,2-Dichloroethene	47		1.0	ug/L	40.0	0.73 U	118	54-134			
Trichloroethene	42		1.0	ug/L	40.0	0.89 U	106	62-135			
Vinyl chloride	26		1.0	ug/L	20.0	0.71 U	128	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*61*			*ug/L*	*50.0*		*122*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*113*	*41-146*			

Matrix Spike Dup (1D23015-MSD1) Prepared: 04/23/2021 00:00 Analyzed: 04/23/2021 19:24

Source: AE03181-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
1,1-Dichloroethene	44		1.0	ug/L	40.0	0.94 U	110	47-139	3	16	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D23015 - EPA 5030B_MS - Continued

Matrix Spike Dup (1D23015-MSD1) Continued Prepared: 04/23/2021 00:00 Analyzed: 04/23/2021 19:24

Source: AE03181-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	44		1.0	ug/L	40.0	0.53 U	110	56-128	1	17	
Tetrachloroethene	36		1.0	ug/L	40.0	0.76 U	89	60-147	8	21	
trans-1,2-Dichloroethene	44		1.0	ug/L	40.0	0.73 U	111	54-134	6	20	
Trichloroethene	38		1.0	ug/L	40.0	0.89 U	96	62-135	10	20	
Vinyl chloride	25		1.0	ug/L	20.0	0.71 U	126	20-167	1	24	
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*60*			*ug/L*	*50.0*		*120*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*109*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE02998

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - MLPV	COC No.	Page: 1 of 1	
Site Location: Hot Spot 3	PO No. 133847	Project No. 60615493.4	Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Shawn McGuire 919-757-5306		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:	Site-Spicific WS#15 from QAPP: 15-15

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 C Sulfate by EPA 300.0	HCl PDC by SW-846 9060A	4 DEG C Select PFAS by 537	HCl Select VOCs by SW8260B	Comments
	MLPV-DPT-IDW01-202104 16	MLPV-DPT-IDW01	202104 16	1600	IDW	IDW	G	6	1	1	3	3	

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					04-16	1658
2	Linnea King Clark	04-19-21	700		4/19/21	1035
3						

Samples Iced?(check) Yes____ No____
Shipping Company: Medlog 1.1 °C
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**

AE02998

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: Hot Spot 3		PO No. 133847	Project No. 60615493.4 Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Shawn McGuire 919-757-5306		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:	Site-Spicific WS#15 from QAPP: 15-15

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 C Sulfate by EPA 300.0	HCl TOC by SW-846 9060A	4 DEG C Select PFAS by 537	HCl Select VOCs by SW8260B	Comments
	~~MLPV-DPT-IDW01-20210416~~	~~MLPV-DPT-IDW01~~	20210416	1600	IDW	IDW	G	6	X	X	3	3	
	MLPV-IDW-20210416-03	MLPV-IDW											

MG 04/21/2021

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					04-16	1658
2	Linnea King Clark	04-19-21	700		4/19/21	1035
3						

Samples Iced?(check) Yes____ No____
Shipping Company: Medline 1.1°C
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**

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

May 18, 2021

Kaitlin Dylnicki
Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida 32824

Re: NASA PFAS - Dylnicki
Work Order: 541382
SDG: AE02998

Dear Kaitlin Dylnicki:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 20, 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,

Samuel Hogan
Project Manager

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: AE02998 GEL Work Order: 541382

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 _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company : Environmental Conservation Laboratories, Inc.
Address : 10775 Central Port Drive

Orlando, Florida 32824
Contact: Kaitlin Dylnicki
Project: NASA PFAS - Dylnicki

Client Sample ID: MLPV-IDW01-20210416-03
Sample ID: 541382001
Matrix: Water
Collect Date: 16-APR-21 16:00
Receive Date: 20-APR-21
Collector: Client

Project: ENCL00421
Client ID: ENCL001

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"												
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.000562	0.00170	ug/L	0.0170	1	JMB3	04/28/21	1839	2120902	1
Perfluorobutane sulfonic acid (PFBS)	U	ND	0.000562	0.00152	ug/L	0.0170	1					
Perfluorohexane sulfonic acid (PFHxS)		0.0171	0.000562	0.00155	ug/L	0.0170	1					
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	U	ND	0.00281	0.00802	ug/L	0.0170	5	JMB3	04/29/21	1155	2120902	2
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.00281	0.00794	ug/L	0.0170	5					
Perfluoroheptanoic acid (PFHpA)	U	ND	0.00281	0.00852	ug/L	0.0170	5					
Perfluorohexanoic acid (PFHxA)	I	0.00598	0.00341	0.00852	ug/L	0.0170	5					
Perfluorononanoic acid (PFNA)	U	ND	0.00281	0.00852	ug/L	0.0170	5					
Perfluorooctane sulfonic acid (PFOS)		0.0516	0.00341	0.00852	ug/L	0.0170	5					
Perfluorooctanoic acid (PFOA)	I	0.00545	0.00341	0.00852	ug/L	0.0170	5					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.00281	0.00852	ug/L	0.0170	5					
Perfluorodecanoic acid (PFDA)	U	ND	0.0166	0.0426	ug/L	0.0170	25	JMB3	04/29/21	1400	2120902	3
Perfluorododecanoic acid (PFDOA)	U	ND	0.0141	0.0426	ug/L	0.0170	25					
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.0170	0.0426	ug/L	0.0170	25					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.0141	0.0426	ug/L	0.0170	25					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.141	0.426	ug/L	0.0170	125	JMB3	04/29/21	1544	2120902	4
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.141	0.426	ug/L	0.0170	125					
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.0703	0.213	ug/L	0.0170	125					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl PFCs	Extraction in Liquid	TC2	04/28/21	1301	2120898

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company : Environmental Conservation Laboratories, Inc.
Address : 10775 Central Port Drive

Orlando, Florida 32824
Contact: Kaitlin Dylnicki
Project: NASA PFAS - Dylnicki

Client Sample ID: MLPV-IDW01-20210416-03 Project: ENCL00421
Sample ID: 541382001 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	
2	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
3	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
4	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

QC Summary

Report Date: May 18, 2021

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida

Contact: **Kaitlin Dylnicki**

Workorder: **541382**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2120902											
QC1204807584 LCS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0178			0.0168	ug/L		94	(59%-144%)	JMB3	04/28/21	17:13
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0189			0.0177	ug/L		94	(67%-136%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0176			0.0156	ug/L		89	(68%-135%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0189			0.0143	ug/L		76	(67%-144%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0189			0.0215	ug/L		114	(57%-139%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0189			0.0212	ug/L		112	(59%-145%)			
Perfluorobutane sulfonic acid (PFBS)	0.0167			0.0165	ug/L		98	(70%-144%)			
Perfluorodecanoic acid (PFDA)	0.0189			0.0199	ug/L		105	(65%-145%)			
Perfluorododecanoic acid (PFDOA)	0.0189			0.0183	ug/L		97	(65%-137%)			
Perfluoroheptanoic acid (PFHpA)	0.0189			0.0191	ug/L		101	(71%-133%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0172			0.0192	ug/L		111	(67%-145%)			
Perfluorohexanoic acid (PFHxA)	0.0189			0.0202	ug/L		107	(70%-138%)			
Perfluorononanoic acid (PFNA)	0.0189			0.0191	ug/L		101	(69%-133%)			
Perfluorooctane sulfonic acid (PFOS)	0.0189			0.0175	ug/L		92	(65%-133%)			

QC Summary

Workorder: **541382**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds										
Batch 2120902										
Perfluorooctanoic acid (PFOA)	0.0189			0.0174	ug/L		92	(66%-139%)	JMB3	04/28/21 17:13
Perfluorotetradecanoic acid (PFTDA)	0.0189			0.0166	ug/L		88	(66%-138%)		
Perfluorotridecanoic acid (PFTrDA)	0.0189			0.0167	ug/L		88	(58%-140%)		
Perfluoroundecanoic acid (PFUnDA)	0.0189			0.0196	ug/L		104	(63%-135%)		
QC1204807583 MB										
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)			U	ND	ug/L					04/28/21 17:02
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					
Perfluorododecanoic acid (PFDOA)			U	ND	ug/L					
Perfluoroheptanoic acid (PFHpA)			U	ND	ug/L					
Perfluorohexane sulfonic acid (PFHxS)			U	ND	ug/L					

QC Summary

Workorder: 541382

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorohexanoic acid (PFHxA)				U	ND	ug/L				JMB3	04/28/21 17:02
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					
QC1204807585 541675002 MS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0198	U	ND		0.0130	ug/L		65	(42%-138%)		04/28/21 18:08
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0210	I	0.00136		0.0230	ug/L		103	(62%-132%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0196	U	ND		0.0160	ug/L		82	(54%-139%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0210		0.00213		0.0314	ug/L		139	(51%-159%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0210		0.0239		0.0384	ug/L		69	(38%-148%)		
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0210		0.0292		0.0487	ug/L		92	(40%-144%)		
Perfluorobutane sulfonic acid (PFBS)	0.0186		0.111		0.131	ug/L		105	(52%-147%)		
Perfluorodecanoic acid (PFDA)	0.0210		0.00890		0.0274	ug/L		88	(44%-143%)		

QC Summary

Workorder: **541382**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorododecanoic acid (PFDOA)	0.0210	U	ND		0.0223	ug/L		106	(45%-142%)	JMB3	04/28/21 18:08
Perfluoroheptanoic acid (PFHpA)	0.0210		0.154		0.185	ug/L		149	(51%-149%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0192		0.229		0.239	ug/L		54	(50%-148%)		04/29/21 11:34
Perfluorohexanoic acid (PFHxA)	0.0210		0.413		0.394	ug/L		0*	(50%-150%)		
Perfluorononanoic acid (PFNA)	0.0210		0.00963		0.0271	ug/L		83	(54%-146%)		04/28/21 18:08
Perfluorooctane sulfonic acid (PFOS)	0.0210		1.04		0.853	ug/L		0*	(42%-150%)		04/29/21 13:39
Perfluorooctanoic acid (PFOA)	0.0210		0.559		0.570	ug/L		51	(50%-151%)		04/29/21 11:34
Perfluorotetradecanoic acid (PFTDA)	0.0210	U	ND		0.0199	ug/L		95	(41%-148%)		04/28/21 18:08
Perfluorotridecanoic acid (PFTrDA)	0.0210	U	ND		0.0235	ug/L		112	(41%-142%)		
Perfluoroundecanoic acid (PFUnDA)	0.0210	U	ND		0.0258	ug/L		123	(44%-141%)		
QC1204807586 541675002 MSD											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0167	U	ND		0.0113	ug/L	13	68	(0%-36%)		04/28/21 18:18
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0177	I	0.00136		0.0189	ug/L	19	99	(0%-28%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0165	U	ND		0.0155	ug/L	3	94	(0%-33%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0177		0.00213		0.0193	ug/L	48*	97	(0%-28%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0177		0.0239		0.0372	ug/L	3	75	(0%-36%)		

QC Summary

Workorder: **541382**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0177		0.0292		0.0395	ug/L	21	58	(0%-36%)	JMB3	04/28/21 18:18
Perfluorobutane sulfonic acid (PFBS)	0.0156		0.111		0.118	ug/L	10	41*	(0%-27%)		
Perfluorodecanoic acid (PFDA)	0.0177		0.00890		0.0227	ug/L	19	78	(0%-35%)		
Perfluorododecanoic acid (PFDOA)	0.0177	U	ND		0.0178	ug/L	23	101	(0%-30%)		
Perfluoroheptanoic acid (PFHpA)	0.0177		0.154		0.153	ug/L	19	0*	(0%-26%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0161		0.229		0.213	ug/L	11	0*	(0%-31%)		04/29/21 11:45
Perfluorohexanoic acid (PFHxA)	0.0177		0.413		0.459	ug/L	15	256*	(0%-26%)		
Perfluorononanoic acid (PFNA)	0.0177		0.00963		0.0229	ug/L	17	75	(0%-30%)		04/28/21 18:18
Perfluorooctane sulfonic acid (PFOS)	0.0177		1.04		0.715	ug/L	18	0*	(0%-31%)		04/29/21 13:50
Perfluorooctanoic acid (PFOA)	0.0177		0.559		0.581	ug/L	2	127	(0%-28%)		04/29/21 11:45
Perfluorotetradecanoic acid (PFTDA)	0.0177	U	ND		0.0170	ug/L	16	96	(0%-32%)		04/28/21 18:18
Perfluorotridecanoic acid (PFTrDA)	0.0177	U	ND		0.0205	ug/L	14	116	(0%-35%)		
Perfluoroundecanoic acid (PFUnDA)	0.0177	U	ND		0.0192	ug/L	30	108	(0%-34%)		

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

QC Summary

Workorder: **541382**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

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
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 #: AE02998
Work Order #: 541382

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# 11
Analytical Batches: 2120902 and 2120898

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
541382001	MLPV-IDW01-20210416-03
1204807583	Method Blank (MB)
1204807584	Laboratory Control Sample (LCS)
1204807585	541675002(NonSDG) Matrix Spike (MS)
1204807586	541675002(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

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, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS) Recovery Statement
The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte	Value
1204807585 (Non SDG 541675002MS)	Perfluorohexanoic acid (PFHxA)	0* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)
1204807586 (Non SDG 541675002MSD)	Perfluorobutane sulfonic acid (PFBS)	41* (52%-147%)
	Perfluoroheptanoic acid (PFHpA)	0* (51%-149%)
	Perfluorohexane sulfonic acid (PFHxS)	0* (50%-148%)
	Perfluorohexanoic acid (PFHxA)	256* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)

MS/MSD Relative Percent Difference (RPD) Statement
The RPD values between the MS and MSD (See Below) were not within the acceptance limits. Since all other RPD values met acceptance criteria, the noted exceptions are attributed to vagaries in the extraction process. The data are reported.

Sample	Analyte	Value
1204807585MS and 1204807586MSD (Non SDG 541675002)	Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	48* (0%-28%)

Technical Information

Sample Dilutions

The following samples were diluted to bring the over range concentrations within the calibration range. 1204807585 (Non SDG 541675002MS) and 1204807586 (Non SDG 541675002MSD). The following samples and/or QC were diluted due to the Internal Standard Recovery not within the limits. 1204807585 (Non SDG 541675002MS), 1204807586 (Non SDG 541675002MSD) and 541382001 (MLPV-IDW01-20210416-03).

Analyte	541382 001
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	5X
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	5X
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	125X
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	125X
Perfluorodecanoic acid (PFDA)	25X
Perfluorododecanoic acid (PFDOA)	25X
Perfluoroheptanoic acid (PFHpA)	5X
Perfluorohexanoic acid (PFHxA)	5X
Perfluorononanoic acid (PFNA)	5X
Perfluorooctane sulfonic acid (PFOS)	5X
Perfluorooctanoic acid (PFOA)	5X
Perfluorotetradecanoic acid (PFTDA)	25X
Perfluorotridecanoic acid (PFTrDA)	25X
Perfluoroundecanoic acid (PFUnDA)	125X
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	5X

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.

SUBCONTRACT ORDER

ENCO Orlando

AE02998 541382

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
	MLPV-DPT-IDW01-20210416	Water	16-Apr-21 16:00	

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:00	14 analyte 537 GELP21-0027. Standard TAT.
Containers Supplied:			
250mLP (A)	250mLP (B)	5mLV (C)	

Released By	Date	Received By	Date
MBrad	4/19/21	A. Allman	4-20-21 940
Released By	Date	Received By	Date

GEL Laboratories LLC

SH

SAMPLE RECEIPT & REVIEW FORM

Client: ENCL	**SDG/AR/COC/Work Order:** SU1382
Received By: AJA	**Date Received:** 4/20/21
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other 9531 6419 9000

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): 0 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: 1°
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-21 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 4/21/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

SUBCONTRACT ORDER

ENCO Orlando

AE02998

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
	MLPV-IDW-20210416-03	**Water**	**16-Apr-21 16:00**	**c12dce, t12dce, tce, vc, 11dce, pce MLPV-DPT-IDW01**

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:00	14 analyte 537 GELP21-0027. Standard TAT.
Containers Supplied:			
250mLP (A)	250mLP (B)	5mLV (C)	

Released By	Date	Received By	Date

Released By	Date	Received By	Date

List of current GEL Certifications as of 18 May 2021

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	SC000122020−34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

ENCO Laboratories

Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, May 3, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE03255

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, April 19, 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: MLPV-IDW-20210416-02 **Lab ID:** AE03255-01 **Sampled:** 04/16/21 16:30 **Received:** 04/19/21 16:55

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/30/21	04/22/21 09:08	04/22/21 17:55

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-IDW-20210416-02 **Lab ID:** AE03255-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.4		0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	2.7		0.71	1.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IDW-20210416-02 | **Lab Sample ID:** AE03255-01 | **Received:** 04/19/21 16:55

Matrix: Water | **Sampled:** 04/16/21 16:30 | **Work Order:** AE03255

Project: NASA KSC - MLPV | **Sampled By:** Shawn McGuire

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
cis-1,2-Dichloroethene [156-59-2]^	**2.4**		ug/L	1	0.53	1.0	1D22028	EPA 8260D	04/22/21 17:55	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1D22028	EPA 8260D	04/22/21 17:55	kkw	
Vinyl chloride [75-01-4]^	**2.7**		ug/L	1	0.71	1.0	1D22028	EPA 8260D	04/22/21 17:55	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1D22028*	*EPA 8260D*	*04/22/21 17:55*	*kkw*	
Dibromofluoromethane	*56*	*1*	*50.0*	*113 %*	*53-146*	*1D22028*	*EPA 8260D*	*04/22/21 17:55*	*kkw*	
Toluene-d8	*55*	*1*	*50.0*	*110 %*	*41-146*	*1D22028*	*EPA 8260D*	*04/22/21 17:55*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D22028 - EPA 5030B_MS

Blank (1D22028-BLK1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 09:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							
trans-1,2-Dichloroethene	0.73	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	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

LCS (1D22028-BS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 08:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		116	56-128			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		107	54-134			
Vinyl chloride	25		1.0	ug/L	20.0		126	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*60*			*ug/L*	*50.0*		*120*	*41-146*			

Matrix Spike (1D22028-MS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 18:50

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	106	56-128			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.73 U	106	54-134			
Vinyl chloride	22		1.0	ug/L	20.0	0.71 U	111	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Matrix Spike Dup (1D22028-MSD1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 19:18

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	19		1.0	ug/L	20.0	0.53 U	97	56-128	9	17	
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0	0.73 U	99	54-134	7	20	
Vinyl chloride	25		1.0	ug/L	20.0	0.71 U	125	20-167	12	24	
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE053255

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV	COC No.	Page: 1 of 1	
Site Location: Hot Spot 2	PO No. 133847	Project No. 60615493.4	Phase:
TO No.: 80KSC019D0010 AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings	
Sampler/Phone # Shawn McGuire 919-757-5306	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:	Site-Spicific WS#15 from QAPP: 15-15	

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 C Select PFAS by 537	HCl Select VOCs by SW8260B									Comments
	MLPV-DPT-IDW01-20210416	**MLPV-DPT-IDW01**	**202104**16	16:30	**IDW**	**IDW**	**C**	6	3	3									

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes No
Shipping Company: Mud-474 1.1°C
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					04-16	1658
2	Linnea King Clark	04-19-21	700		4/19/21	1635
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**

AE053255

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO	Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1	
	Site Location: Hot Spot 2		PO No. 133847	Project No. 60615493.4	Phase:
	TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	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 #	Shawn McGuire 919-757-5306		Deliver Samples To:	Site-Spicific WS#15 from QAPP: 15-15	
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 C Select PFAS by 537	HCl Select VOCs by SW8260B									Comments
MG 04/21/2021																			
	~~MLPV-DPT-IDW01-20210416~~ MLPV-IDW-20210416-02	~~MLPV-DPT-IDW01~~ MLPV-IDW	20210416	1630	IDW	IDW	C	6	3	3									

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes No
Shipping Company: Mud-474 1.1°C
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					04-16	1658
2	Linnea King Clark	04-19-21	700		4/19/21	1635
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**

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

May 18, 2021

Kaitlin Dylnicki
Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida 32824

Re: NASA PFAS - Dylnicki
Work Order: 541383
SDG: AE03255

Dear Kaitlin Dylnicki:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 20, 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,

Samuel Hogan
Project Manager

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: AE03255 GEL Work Order: 541383

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

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

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company : Environmental Conservation Laboratories, Inc.
Address : 10775 Central Port Drive

Orlando, Florida 32824
Contact: Kaitlin Dylnicki
Project: NASA PFAS - Dylnicki

Client Sample ID:	MLPV-IDW-20210416-02	Project:	ENCL00421
Sample ID:	541383001	Client ID:	ENCL001
Matrix:	Water		
Collect Date:	16-APR-21 16:30		
Receive Date:	20-APR-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	0.00290	0.00827	ug/L	0.0176	5	JMB3	04/29/21	1206	2120902	1
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.00290	0.00878	ug/L	0.0176	5					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.00290	0.00818	ug/L	0.0176	5					
Perfluorobutane sulfonic acid (PFBS)	U	ND	0.00290	0.00782	ug/L	0.0176	5					
Perfluorohexane sulfonic acid (PFHxS)	U	ND	0.00290	0.00799	ug/L	0.0176	5					
Perfluorononanoic acid (PFNA)	U	ND	0.00290	0.00878	ug/L	0.0176	5					
Perfluorooctane sulfonic acid (PFOS)	U	ND	0.00351	0.00878	ug/L	0.0176	5					
Perfluorooctanoic acid (PFOA)	U	ND	0.00351	0.00878	ug/L	0.0176	5					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.00290	0.00878	ug/L	0.0176	5					
Perfluorodecanoic acid (PFDA)	U	ND	0.0171	0.0439	ug/L	0.0176	25	JMB3	04/29/21	1410	2120902	2
Perfluorododecanoic acid (PFDOA)	U	ND	0.0145	0.0439	ug/L	0.0176	25					
Perfluoroheptanoic acid (PFHpA)	U	ND	0.0145	0.0439	ug/L	0.0176	25					
Perfluorohexanoic acid (PFHxA)	U	ND	0.0176	0.0439	ug/L	0.0176	25					
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.0176	0.0439	ug/L	0.0176	25					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.0145	0.0439	ug/L	0.0176	25					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.145	0.439	ug/L	0.0176	125	JMB3	04/29/21	1605	2120902	3
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.145	0.439	ug/L	0.0176	125					
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.362	1.10	ug/L	0.0176	625	JMB3	04/29/21	1554	2120902	4

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl	PFCs Extraction in Liquid	TC2	04/28/21	1301	2120898

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company : Environmental Conservation Laboratories, Inc.
Address : 10775 Central Port Drive

Orlando, Florida 32824
Contact: Kaitlin Dylnicki
Project: NASA PFAS - Dylnicki

Client Sample ID: MLPV-IDW-20210416-02 Project: ENCL00421
Sample ID: 541383001 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	
2	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
3	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
4	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	

Notes:

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Lc/LC: Critical Level
PF: Prep Factor
RL: Reporting Limit
SQL: Sample Quantitation Limit

QC Summary

Report Date: May 18, 2021

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida

Contact: **Kaitlin Dylnicki**

Workorder: **541383**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2120902											
QC1204807584 LCS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0178			0.0168	ug/L		94	(59%-144%)	JMB3	04/28/21	17:13
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0189			0.0177	ug/L		94	(67%-136%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0176			0.0156	ug/L		89	(68%-135%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0189			0.0143	ug/L		76	(67%-144%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0189			0.0215	ug/L		114	(57%-139%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0189			0.0212	ug/L		112	(59%-145%)			
Perfluorobutane sulfonic acid (PFBS)	0.0167			0.0165	ug/L		98	(70%-144%)			
Perfluorodecanoic acid (PFDA)	0.0189			0.0199	ug/L		105	(65%-145%)			
Perfluorododecanoic acid (PFDOA)	0.0189			0.0183	ug/L		97	(65%-137%)			
Perfluoroheptanoic acid (PFHpA)	0.0189			0.0191	ug/L		101	(71%-133%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0172			0.0192	ug/L		111	(67%-145%)			
Perfluorohexanoic acid (PFHxA)	0.0189			0.0202	ug/L		107	(70%-138%)			
Perfluorononanoic acid (PFNA)	0.0189			0.0191	ug/L		101	(69%-133%)			
Perfluorooctane sulfonic acid (PFOS)	0.0189			0.0175	ug/L		92	(65%-133%)			

QC Summary

Workorder: **541383**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds										
Batch 2120902										
Perfluorooctanoic acid (PFOA)	0.0189			0.0174	ug/L		92	(66%-139%)	JMB3	04/28/21 17:13
Perfluorotetradecanoic acid (PFTDA)	0.0189			0.0166	ug/L		88	(66%-138%)		
Perfluorotridecanoic acid (PFTrDA)	0.0189			0.0167	ug/L		88	(58%-140%)		
Perfluoroundecanoic acid (PFUnDA)	0.0189			0.0196	ug/L		104	(63%-135%)		
QC1204807583 MB										
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)			U	ND	ug/L					04/28/21 17:02
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					
Perfluorododecanoic acid (PFDOA)			U	ND	ug/L					
Perfluoroheptanoic acid (PFHpA)			U	ND	ug/L					
Perfluorohexane sulfonic acid (PFHxS)			U	ND	ug/L					

QC Summary

Workorder: **541383**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorohexanoic acid (PFHxA)				U	ND	ug/L				JMB3	04/28/21 17:02
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					
QC1204807585 541675002 MS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0198	U	ND		0.0130	ug/L		65	(42%-138%)		04/28/21 18:08
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0210	I	0.00136		0.0230	ug/L		103	(62%-132%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0196	U	ND		0.0160	ug/L		82	(54%-139%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0210		0.00213		0.0314	ug/L		139	(51%-159%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0210		0.0239		0.0384	ug/L		69	(38%-148%)		
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0210		0.0292		0.0487	ug/L		92	(40%-144%)		
Perfluorobutane sulfonic acid (PFBS)	0.0186		0.111		0.131	ug/L		105	(52%-147%)		
Perfluorodecanoic acid (PFDA)	0.0210		0.00890		0.0274	ug/L		88	(44%-143%)		

QC Summary

Workorder: **541383**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorododecanoic acid (PFDOA)	0.0210	U	ND		0.0223	ug/L		106	(45%-142%)	JMB3	04/28/21 18:08
Perfluoroheptanoic acid (PFHpA)	0.0210		0.154		0.185	ug/L		149	(51%-149%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0192		0.229		0.239	ug/L		54	(50%-148%)		04/29/21 11:34
Perfluorohexanoic acid (PFHxA)	0.0210		0.413		0.394	ug/L		0*	(50%-150%)		
Perfluorononanoic acid (PFNA)	0.0210		0.00963		0.0271	ug/L		83	(54%-146%)		04/28/21 18:08
Perfluorooctane sulfonic acid (PFOS)	0.0210		1.04		0.853	ug/L		0*	(42%-150%)		04/29/21 13:39
Perfluorooctanoic acid (PFOA)	0.0210		0.559		0.570	ug/L		51	(50%-151%)		04/29/21 11:34
Perfluorotetradecanoic acid (PFTDA)	0.0210	U	ND		0.0199	ug/L		95	(41%-148%)		04/28/21 18:08
Perfluorotridecanoic acid (PFTrDA)	0.0210	U	ND		0.0235	ug/L		112	(41%-142%)		
Perfluoroundecanoic acid (PFUnDA)	0.0210	U	ND		0.0258	ug/L		123	(44%-141%)		
QC1204807586 541675002 MSD											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0167	U	ND		0.0113	ug/L	13	68	(0%-36%)		04/28/21 18:18
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0177	I	0.00136		0.0189	ug/L	19	99	(0%-28%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0165	U	ND		0.0155	ug/L	3	94	(0%-33%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0177		0.00213		0.0193	ug/L	48*	97	(0%-28%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0177		0.0239		0.0372	ug/L	3	75	(0%-36%)		

QC Summary

Workorder: **541383**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0177		0.0292		0.0395	ug/L	21	58	(0%-36%)	JMB3	04/28/21 18:18
Perfluorobutane sulfonic acid (PFBS)	0.0156		0.111		0.118	ug/L	10	41*	(0%-27%)		
Perfluorodecanoic acid (PFDA)	0.0177		0.00890		0.0227	ug/L	19	78	(0%-35%)		
Perfluorododecanoic acid (PFDOA)	0.0177	U	ND		0.0178	ug/L	23	101	(0%-30%)		
Perfluoroheptanoic acid (PFHpA)	0.0177		0.154		0.153	ug/L	19	0*	(0%-26%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0161		0.229		0.213	ug/L	11	0*	(0%-31%)		04/29/21 11:45
Perfluorohexanoic acid (PFHxA)	0.0177		0.413		0.459	ug/L	15	256*	(0%-26%)		
Perfluorononanoic acid (PFNA)	0.0177		0.00963		0.0229	ug/L	17	75	(0%-30%)		04/28/21 18:18
Perfluorooctane sulfonic acid (PFOS)	0.0177		1.04		0.715	ug/L	18	0*	(0%-31%)		04/29/21 13:50
Perfluorooctanoic acid (PFOA)	0.0177		0.559		0.581	ug/L	2	127	(0%-28%)		04/29/21 11:45
Perfluorotetradecanoic acid (PFTDA)	0.0177	U	ND		0.0170	ug/L	16	96	(0%-32%)		04/28/21 18:18
Perfluorotridecanoic acid (PFTrDA)	0.0177	U	ND		0.0205	ug/L	14	116	(0%-35%)		
Perfluoroundecanoic acid (PFUnDA)	0.0177	U	ND		0.0192	ug/L	30	108	(0%-34%)		

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

QC Summary

Workorder: **541383**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

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
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 #: AE03255
Work Order #: 541383

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# 11
Analytical Batches: 2120902 and 2120898

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
541383001	MLPV-IDW-20210416-02
1204807583	Method Blank (MB)
1204807584	Laboratory Control Sample (LCS)
1204807585	541675002(NonSDG) Matrix Spike (MS)
1204807586	541675002(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

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, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS) Recovery Statement
The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte	Value
1204807585 (Non SDG 541675002MS)	Perfluorohexanoic acid (PFHxA)	0* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)
1204807586 (Non SDG 541675002MSD)	Perfluorobutane sulfonic acid (PFBS)	41* (52%-147%)
	Perfluoroheptanoic acid (PFHpA)	0* (51%-149%)
	Perfluorohexane sulfonic acid (PFHxS)	0* (50%-148%)
	Perfluorohexanoic acid (PFHxA)	256* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)

MS/MSD Relative Percent Difference (RPD) Statement
The RPD values between the MS and MSD (See Below) were not within the acceptance limits. Since all other RPD values met acceptance criteria, the noted exceptions are attributed to vagaries in the extraction process. The data are reported.

Sample	Analyte	Value
1204807585MS and 1204807586MSD (Non SDG 541675002)	Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	48* (0%-28%)

Technical Information

Sample Dilutions

The following samples were diluted to bring the over range concentrations within the calibration range. 1204807585 (Non SDG 541675002MS) and 1204807586 (Non SDG 541675002MSD). The following samples and/or QC were diluted due to the Internal Standard Recovery not within the limits. 1204807585 (Non SDG 541675002MS), 1204807586 (Non SDG 541675002MSD) and 541383001 (MLPV-IDW-20210416-02).

Analyte	541383 001
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	5X
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	5X
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	5X
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	125X
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	125X
Perfluorobutane sulfonic acid (PFBS)	5X
Perfluorodecanoic acid (PFDA)	25X
Perfluorododecanoic acid (PFDOA)	25X
Perfluoroheptanoic acid (PFHpA)	25X
Perfluorohexane sulfonic acid (PFHxS)	5X
Perfluorohexanoic acid (PFHxA)	25X
Perfluorononanoic acid (PFNA)	5X
Perfluorooctane sulfonic acid (PFOS)	5X
Perfluorooctanoic acid (PFOA)	5X
Perfluorotetradecanoic acid (PFTDA)	25X
Perfluorotridecanoic acid (PFTrDA)	25X
Perfluoroundecanoic acid (PFUnDA)	625X
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	5X

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.

SUBCONTRACT ORDER

ENCO Orlando

AE03255 541383

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
	MLPV-DPT-IDW01-20210416	Water	16-Apr-21 16:30	

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:30	14 analyte 537 GELP21-0027; Standard TAT, JAJ 4/19/21.
Containers Supplied:			
250mLP (A)	250mLP (B)	5mLV (C)	

Released By	Date	Received By	Date
[signature]	4/19/21	[signature]	4/20/21 9:40
Released By	Date	Received By	Date

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: ENCL	SDG/AR/COC/Work Order: 541383
Received By: AJA	Date Received: 4/20/21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 9531 6419 9000

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): 0 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: 1°
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-21 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 4/21/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

SUBCONTRACT ORDER

ENCO Orlando

AE03255

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
	MLPV-IDW-20210416-02	**Water**	**16-Apr-21 16:30**	**c12dce, t12dce, vc**

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:30	14 analyte 537 GELP21-0027; Standard TAT, JAJ 4/19/21.

Containers Supplied:

250mLP (A) 250mLP (B) 5mLV (C)

Released By	Date	Received By	Date
Released By	Date	Received By	Date

List of current GEL Certifications as of 18 May 2021

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	SC000122020−34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

ENCO Laboratories
Accurate. Timely. Responsive. Innovative.

10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Monday, May 3, 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE03256

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Monday, April 19, 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: MLPV-IDW-20210416-01 **Lab ID:** AE03256-01 **Sampled:** 04/16/21 16:15 **Received:** 04/19/21 16:55

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	04/30/21	04/22/21 09:08	04/22/21 18:22

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-IDW-20210416-01 **Lab ID:** AE03256-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.9		0.53	1.0	ug/L	EPA 8260D	
Trichloroethene	8.1		0.89	1.0	ug/L	EPA 8260D	
Vinyl chloride	3.8		0.71	1.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IDW-20210416-01 | **Lab Sample ID:** AE03256-01 | **Received:** 04/19/21 16:55

Matrix: Water | **Sampled:** 04/16/21 16:15 | **Work Order:** AE03256

Project: NASA KSC - MLPV | **Sampled By:** Shawn McGuire

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
cis-1,2-Dichloroethene [156-59-2]^	**2.9**		ug/L	1	0.53	1.0	1D22028	EPA 8260D	04/22/21 18:22	kkw	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1D22028	EPA 8260D	04/22/21 18:22	kkw	
Trichloroethene [79-01-6]^	**8.1**		ug/L	1	0.89	1.0	1D22028	EPA 8260D	04/22/21 18:22	kkw	
Vinyl chloride [75-01-4]^	**3.8**		ug/L	1	0.71	1.0	1D22028	EPA 8260D	04/22/21 18:22	kkw	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1D22028*	*EPA 8260D*	*04/22/21 18:22*	*kkw*	
Dibromofluoromethane	*55*	*1*	*50.0*	*110 %*	*53-146*	*1D22028*	*EPA 8260D*	*04/22/21 18:22*	*kkw*	
Toluene-d8	*53*	*1*	*50.0*	*107 %*	*41-146*	*1D22028*	*EPA 8260D*	*04/22/21 18:22*	*kkw*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1D22028 - EPA 5030B_MS

Blank (1D22028-BLK1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 09:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	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	*60*			*ug/L*	*50.0*		*121*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

LCS (1D22028-BS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 08:39

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		116	56-128			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0		107	54-134			
Trichloroethene	18		1.0	ug/L	20.0		88	62-135			
Vinyl chloride	25		1.0	ug/L	20.0		126	20-167			
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*59*			*ug/L*	*50.0*		*118*	*53-146*			
Toluene-d8	*60*			*ug/L*	*50.0*		*120*	*41-146*			

Matrix Spike (1D22028-MS1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 18:50

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	106	56-128			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.73 U	106	54-134			
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	99	62-135			
Vinyl chloride	22		1.0	ug/L	20.0	0.71 U	111	20-167			
4-Bromofluorobenzene	*51*			*ug/L*	*50.0*		*102*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*108*	*53-146*			
Toluene-d8	*56*			*ug/L*	*50.0*		*112*	*41-146*			

Matrix Spike Dup (1D22028-MSD1) Prepared: 04/22/2021 00:00 Analyzed: 04/22/2021 19:18

Source: AE03132-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	19		1.0	ug/L	20.0	0.53 U	97	56-128	9	17	
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0	0.73 U	99	54-134	7	20	
Trichloroethene	20		1.0	ug/L	20.0	0.89 U	100	62-135	0.2	20	
Vinyl chloride	25		1.0	ug/L	20.0	0.71 U	125	20-167	12	24	
4-Bromofluorobenzene	*56*			*ug/L*	*50.0*		*112*	*41-142*			
Dibromofluoromethane	*56*			*ug/L*	*50.0*		*113*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*111*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE032Blo

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: Biosparge Area		PO No. 133847	Project No. 60615493.4 Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # Shawn McGuire 919-757-5306		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:	Site-Spicific WS#15 from QAPP: 15-15

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 C HCl — Total No. of Containers	Select PFAS by 537	Select VOCs by SW8260B	Comments
	MLPV-DPT-IDW01-202104[16]	MLPV-DPT-IDW01	202104[16]	16:15	IDW	IDW	C	3/6	3	3	

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No: MD-444 1.00
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1					04-16	1650
2	Linnea King Clark	04-19-21	700		04/19/21	1655
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**

AE032Blo

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: Biosparge Area		PO No. 133847	Project No. 60615493.4 Phase:
TO No.: 80KSC019D0010	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone #	Shawn McGuire 919-757-5306	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:	Site-Spicific WS#15 from QAPP: 15-15

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 C HCl Total No. of Containers	Select PFAS by 537	Select VOCs by SW8260B	Comments
	MG 04/21/2021										
	~~MLPV-DPT-IDW01-20210416~~ MLPV-IDW-20210416-01	~~MLPV-DPT-IDW01~~ MLPV-IDW	20210416	16:15	IDW	IDW	C	3	3	3	

***Field* Comments:**
Report only per QAPP WS #15-15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:
Samples Iced?(check) Yes_____ No_____
Shipping Company:
Tracking No: MD-444 1.00
Date Shipped:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1			1	04-16	1650
2 Brianna King Clark	04-19-21	700	2	4/19/21	1655
3			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**

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
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May 18, 2021

Kaitlin Dylnicki
Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida 32824

Re: NASA PFAS - Dylnicki
Work Order: 541384
SDG: AE03256

Dear Kaitlin Dylnicki:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on April 20, 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,

Samuel Hogan
Project Manager

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: AE03256 GEL Work Order: 541384

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 _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company : Environmental Conservation Laboratories, Inc.
Address : 10775 Central Port Drive

Orlando, Florida 32824
Contact: Kaitlin Dylnicki
Project: NASA PFAS - Dylnicki

Client Sample ID: MLPV-IDW-20210416-01
Sample ID: 541384001
Matrix: GW
Collect Date: 16-APR-21 16:15
Receive Date: 20-APR-21
Collector: Client

Project: ENCL00421
Client ID: ENCL001

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	0.000566	0.00162	ug/L	0.0171	1	JMB3	04/28/21	1910	2120902	1
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.000566	0.00171	ug/L	0.0171	1					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.000566	0.00160	ug/L	0.0171	1					
Perfluorobutane sulfonic acid (PFBS)	U	ND	0.000566	0.00153	ug/L	0.0171	1					
Perfluoroheptanoic acid (PFHpA)	I	0.00142	0.000566	0.00171	ug/L	0.0171	1					
Perfluorohexane sulfonic acid (PFHxS)		0.00600	0.000566	0.00156	ug/L	0.0171	1					
Perfluorohexanoic acid (PFHxA)		0.00301	0.000686	0.00171	ug/L	0.0171	1					
Perfluorononanoic acid (PFNA)	U	ND	0.000566	0.00171	ug/L	0.0171	1					
Perfluorooctane sulfonic acid (PFOS)		0.0296	0.000686	0.00171	ug/L	0.0171	1					
Perfluorooctanoic acid (PFOA)		0.00611	0.000686	0.00171	ug/L	0.0171	1					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.000566	0.00171	ug/L	0.0171	1					
Perfluorodecanoic acid (PFDA)	U	ND	0.00334	0.00857	ug/L	0.0171	5	JMB3	04/29/21	1216	2120902	2
Perfluorododecanoic acid (PFDOA)	U	ND	0.00283	0.00857	ug/L	0.0171	5					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.0283	0.0857	ug/L	0.0171	25	JMB3	04/29/21	1421	2120902	3
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.0171	0.0429	ug/L	0.0171	25					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.0141	0.0429	ug/L	0.0171	25					
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.141	0.429	ug/L	0.0171	125	JMB3	04/29/21	1626	2120902	4
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.0707	0.214	ug/L	0.0171	125					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl	PFCs Extraction in Liquid	TC2	04/28/21	1301	2120898

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: May 18, 2021

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	MLPV-IDW-20210416-01	Project:	ENCL00421
Sample ID:	541384001	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	
2	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
3	EPA 537.1 Mod, PFAS, Compliant with QSM Table B-15	
4	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: May 18, 2021

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida

Contact: **Kaitlin Dylnicki**

Workorder: **541384**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2120902											
QC1204807584 LCS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0178			0.0168	ug/L		94	(59%-144%)	JMB3	04/28/21	17:13
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0189			0.0177	ug/L		94	(67%-136%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0176			0.0156	ug/L		89	(68%-135%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0189			0.0143	ug/L		76	(67%-144%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0189			0.0215	ug/L		114	(57%-139%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0189			0.0212	ug/L		112	(59%-145%)			
Perfluorobutane sulfonic acid (PFBS)	0.0167			0.0165	ug/L		98	(70%-144%)			
Perfluorodecanoic acid (PFDA)	0.0189			0.0199	ug/L		105	(65%-145%)			
Perfluorododecanoic acid (PFDOA)	0.0189			0.0183	ug/L		97	(65%-137%)			
Perfluoroheptanoic acid (PFHpA)	0.0189			0.0191	ug/L		101	(71%-133%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0172			0.0192	ug/L		111	(67%-145%)			
Perfluorohexanoic acid (PFHxA)	0.0189			0.0202	ug/L		107	(70%-138%)			
Perfluorononanoic acid (PFNA)	0.0189			0.0191	ug/L		101	(69%-133%)			
Perfluorooctane sulfonic acid (PFOS)	0.0189			0.0175	ug/L		92	(65%-133%)			

QC Summary

Workorder: **541384**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds										
Batch 2120902										
Perfluorooctanoic acid (PFOA)	0.0189			0.0174	ug/L		92	(66%-139%)	JMB3	04/28/21 17:13
Perfluorotetradecanoic acid (PFTDA)	0.0189			0.0166	ug/L		88	(66%-138%)		
Perfluorotridecanoic acid (PFTrDA)	0.0189			0.0167	ug/L		88	(58%-140%)		
Perfluoroundecanoic acid (PFUnDA)	0.0189			0.0196	ug/L		104	(63%-135%)		
QC1204807583 MB										
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)			U	ND	ug/L					04/28/21 17:02
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					
Perfluorododecanoic acid (PFDOA)			U	ND	ug/L					
Perfluoroheptanoic acid (PFHpA)			U	ND	ug/L					
Perfluorohexane sulfonic acid (PFHxS)			U	ND	ug/L					

QC Summary

Workorder: 541384

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorohexanoic acid (PFHxA)				U	ND	ug/L				JMB3	04/28/21 17:02
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					
QC1204807585 541675002 MS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0198	U	ND		0.0130	ug/L		65	(42%-138%)		04/28/21 18:08
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0210	I	0.00136		0.0230	ug/L		103	(62%-132%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0196	U	ND		0.0160	ug/L		82	(54%-139%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0210		0.00213		0.0314	ug/L		139	(51%-159%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0210		0.0239		0.0384	ug/L		69	(38%-148%)		
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0210		0.0292		0.0487	ug/L		92	(40%-144%)		
Perfluorobutane sulfonic acid (PFBS)	0.0186		0.111		0.131	ug/L		105	(52%-147%)		
Perfluorodecanoic acid (PFDA)	0.0210		0.00890		0.0274	ug/L		88	(44%-143%)		

QC Summary

Workorder: **541384**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
Perfluorododecanoic acid (PFDOA)	0.0210	U	ND		0.0223	ug/L		106	(45%-142%)	JMB3	04/28/21 18:08
Perfluoroheptanoic acid (PFHpA)	0.0210		0.154		0.185	ug/L		149	(51%-149%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0192		0.229		0.239	ug/L		54	(50%-148%)		04/29/21 11:34
Perfluorohexanoic acid (PFHxA)	0.0210		0.413		0.394	ug/L		0*	(50%-150%)		
Perfluorononanoic acid (PFNA)	0.0210		0.00963		0.0271	ug/L		83	(54%-146%)		04/28/21 18:08
Perfluorooctane sulfonic acid (PFOS)	0.0210		1.04		0.853	ug/L		0*	(42%-150%)		04/29/21 13:39
Perfluorooctanoic acid (PFOA)	0.0210		0.559		0.570	ug/L		51	(50%-151%)		04/29/21 11:34
Perfluorotetradecanoic acid (PFTDA)	0.0210	U	ND		0.0199	ug/L		95	(41%-148%)		04/28/21 18:08
Perfluorotridecanoic acid (PFTrDA)	0.0210	U	ND		0.0235	ug/L		112	(41%-142%)		
Perfluoroundecanoic acid (PFUnDA)	0.0210	U	ND		0.0258	ug/L		123	(44%-141%)		
QC1204807586 541675002 MSD											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0167	U	ND		0.0113	ug/L	13	68	(0%-36%)		04/28/21 18:18
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0177	I	0.00136		0.0189	ug/L	19	99	(0%-28%)		
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0165	U	ND		0.0155	ug/L	3	94	(0%-33%)		
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0177		0.00213		0.0193	ug/L	48*	97	(0%-28%)		
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0177		0.0239		0.0372	ug/L	3	75	(0%-36%)		

QC Summary

Workorder: **541384**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Perfluorinated Compounds											
Batch 2120902											
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0177		0.0292		0.0395	ug/L	21	58	(0%-36%)	JMB3	04/28/21 18:18
Perfluorobutane sulfonic acid (PFBS)	0.0156		0.111		0.118	ug/L	10	41*	(0%-27%)		
Perfluorodecanoic acid (PFDA)	0.0177		0.00890		0.0227	ug/L	19	78	(0%-35%)		
Perfluorododecanoic acid (PFDOA)	0.0177	U	ND		0.0178	ug/L	23	101	(0%-30%)		
Perfluoroheptanoic acid (PFHpA)	0.0177		0.154		0.153	ug/L	19	0*	(0%-26%)		
Perfluorohexane sulfonic acid (PFHxS)	0.0161		0.229		0.213	ug/L	11	0*	(0%-31%)		04/29/21 11:45
Perfluorohexanoic acid (PFHxA)	0.0177		0.413		0.459	ug/L	15	256*	(0%-26%)		
Perfluorononanoic acid (PFNA)	0.0177		0.00963		0.0229	ug/L	17	75	(0%-30%)		04/28/21 18:18
Perfluorooctane sulfonic acid (PFOS)	0.0177		1.04		0.715	ug/L	18	0*	(0%-31%)		04/29/21 13:50
Perfluorooctanoic acid (PFOA)	0.0177		0.559		0.581	ug/L	2	127	(0%-28%)		04/29/21 11:45
Perfluorotetradecanoic acid (PFTDA)	0.0177	U	ND		0.0170	ug/L	16	96	(0%-32%)		04/28/21 18:18
Perfluorotridecanoic acid (PFTrDA)	0.0177	U	ND		0.0205	ug/L	14	116	(0%-35%)		
Perfluoroundecanoic acid (PFUnDA)	0.0177	U	ND		0.0192	ug/L	30	108	(0%-34%)		

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

QC Summary

Workorder: **541384**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

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
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 #: AE03256
Work Order #: 541384

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# 11
Analytical Batches: 2120902 and 2120898

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
541384001	MLPV-IDW-20210416-01
1204807583	Method Blank (MB)
1204807584	Laboratory Control Sample (LCS)
1204807585	541675002(NonSDG) Matrix Spike (MS)
1204807586	541675002(NonSDG) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

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, with the following exceptions.

Quality Control (QC) Information

Matrix Spike (MS) Recovery Statement
The MS or MSD (See Below) recovered spiked analytes outside of the established acceptance limits. As similar recoveries were displayed in the MS and MSD, the failures were attributed to sample matrix interference and the data were reported.

Sample	Analyte	Value
1204807585 (Non SDG 541675002MS)	Perfluorohexanoic acid (PFHxA)	0* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)
1204807586 (Non SDG 541675002MSD)	Perfluorobutane sulfonic acid (PFBS)	41* (52%-147%)
	Perfluoroheptanoic acid (PFHpA)	0* (51%-149%)
	Perfluorohexane sulfonic acid (PFHxS)	0* (50%-148%)
	Perfluorohexanoic acid (PFHxA)	256* (50%-150%)
	Perfluorooctane sulfonic acid (PFOS)	0* (42%-150%)

MS/MSD Relative Percent Difference (RPD) Statement
The RPD values between the MS and MSD (See Below) were not within the acceptance limits. Since all other RPD values met acceptance criteria, the noted exceptions are attributed to vagaries in the extraction process. The data are reported.

Sample	Analyte	Value
1204807585MS and 1204807586MSD (Non SDG 541675002)	Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	48* (0%-28%)

Technical Information

Sample Dilutions

The following samples were diluted to bring the over range concentrations within the calibration range. 1204807585 (Non SDG 541675002MS) and 1204807586 (Non SDG 541675002MSD). The following samples and/or QC were diluted due to the Internal Standard Recovery not within the limits. 1204807585 (Non SDG 541675002MS), 1204807586 (Non SDG 541675002MSD) and 541384001 (MLPV-IDW-20210416-01).

Analyte	541384 001
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	25X
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	125X
Perfluorodecanoic acid (PFDA)	5X
Perfluorododecanoic acid (PFDOA)	5X
Perfluorotetradecanoic acid (PFTDA)	25X
Perfluorotridecanoic acid (PFTrDA)	25X
Perfluoroundecanoic acid (PFUnDA)	125X

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.

SUBCONTRACT ORDER

ENCO Orlando

AE03256 541384

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
	MLPV-DPT-IDW01-20210416	Water	16-Apr-21 16:15	

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:15	14 analyte 537 GELP21-0027; Standard TAT, JAJ 4/19/21.

Containers Supplied:

250mLP (A) 250mLP (B) 5mLV (C)

Released By	Date	Received By	Date
	4/19/21		4/20/21 9:40
Released By	Date	Received By	Date

GEL Laboratories LLC

SW **SAMPLE RECEIPT & REVIEW FORM**

Client: ENCL	**SDG/AR/COC/Work Order:** 541384
Received By: AJA	**Date Received:** 4/20/21
Carrier and Tracking Number	Circle Applicable: (FedEx Express) FedEx Ground UPS Field Services Courier Other 9531 6419 9000

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): 0 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: 1°
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR1-21 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 4/21/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

SUBCONTRACT ORDER

ENCO Orlando

AE03256

SENDING LABORATORY:

ENCO Orlando
10775 Central Port Drive
Orlando, FL 32824
Phone: 407.826.5314
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Project Manager: Kaitlin Dylnicki

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Project State of Origin: Florida

Sub Lab ID	Originating Lab ID	Client Matrix	Date Sampled	Sample Comments
	MLPV-IDW-20210416-01	**Water**	**16-Apr-21 16:15**	

Analysis	Due	Expires	Analysis Comments
PFAS	26-Apr-21 15:00	30-Apr-21 16:15	14 analyte 537 GELP21-0027; Standard TAT, JAJ 4/19/21.

Containers Supplied:

250mLP (A) 250mLP (B) 5mLV (C)

Released By	Date	Received By	Date
Released By	Date	Received By	Date

List of current GEL Certifications as of 18 May 2021

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	SC000122020−34
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

APPENDIX F

SEPTEMBER 2021 HOT SPOT 3 ADP

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Hot Spot 3 Performance Monitoring

Mobile Launch Platform Rehabilitation Sites and Vehicle Assembly Building Area (MLP/VAB)

Solid Waste Management Unit (SWMU) 056

September 17, 2021

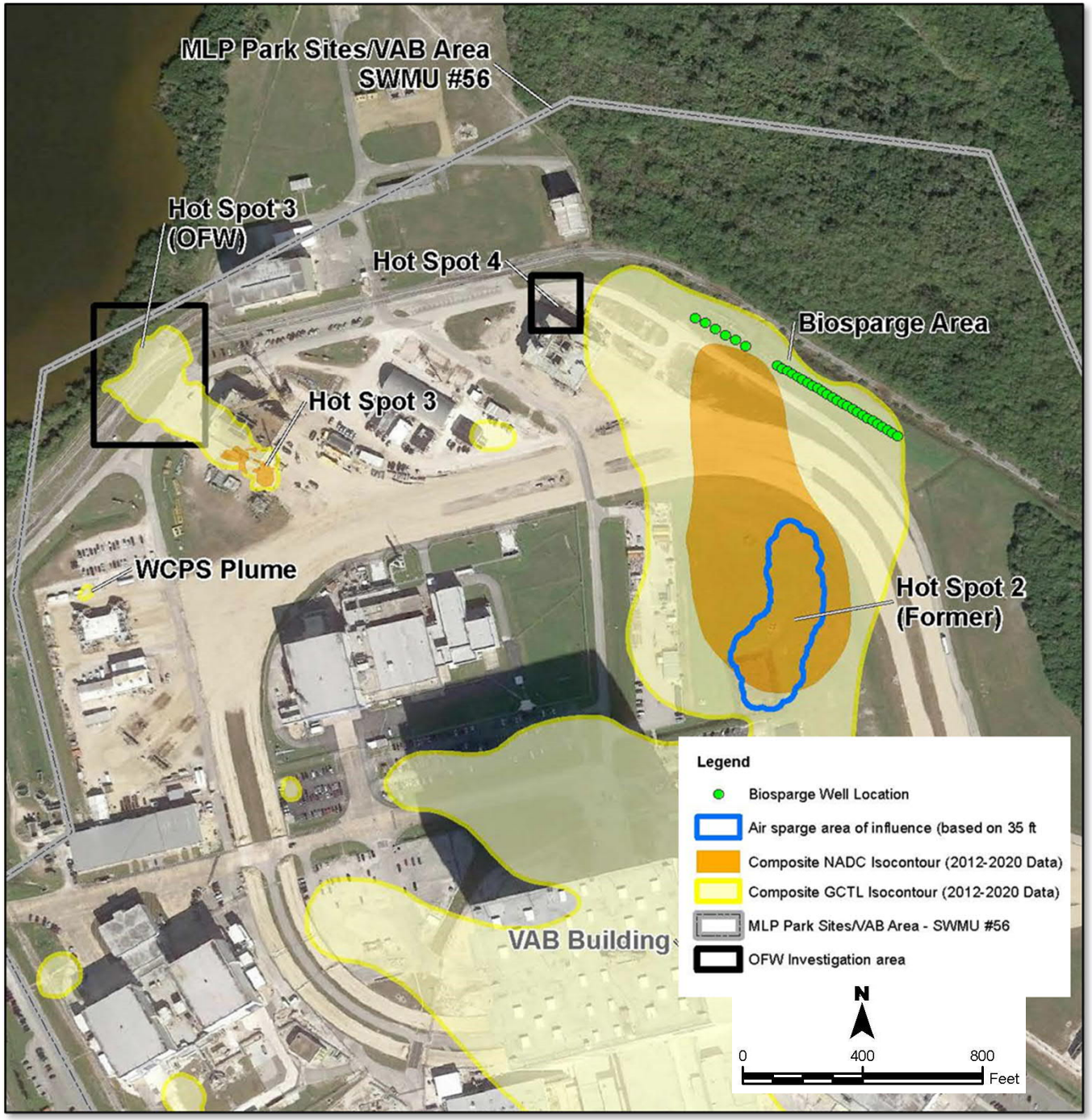
Delivering a better world

aecom.com

Outline

- Brief Hot Spot 3 (HS3) Background
- 2021 DPT Groundwater Sampling and Results
- Conclusion
- Team Consensus

Facing Southeast



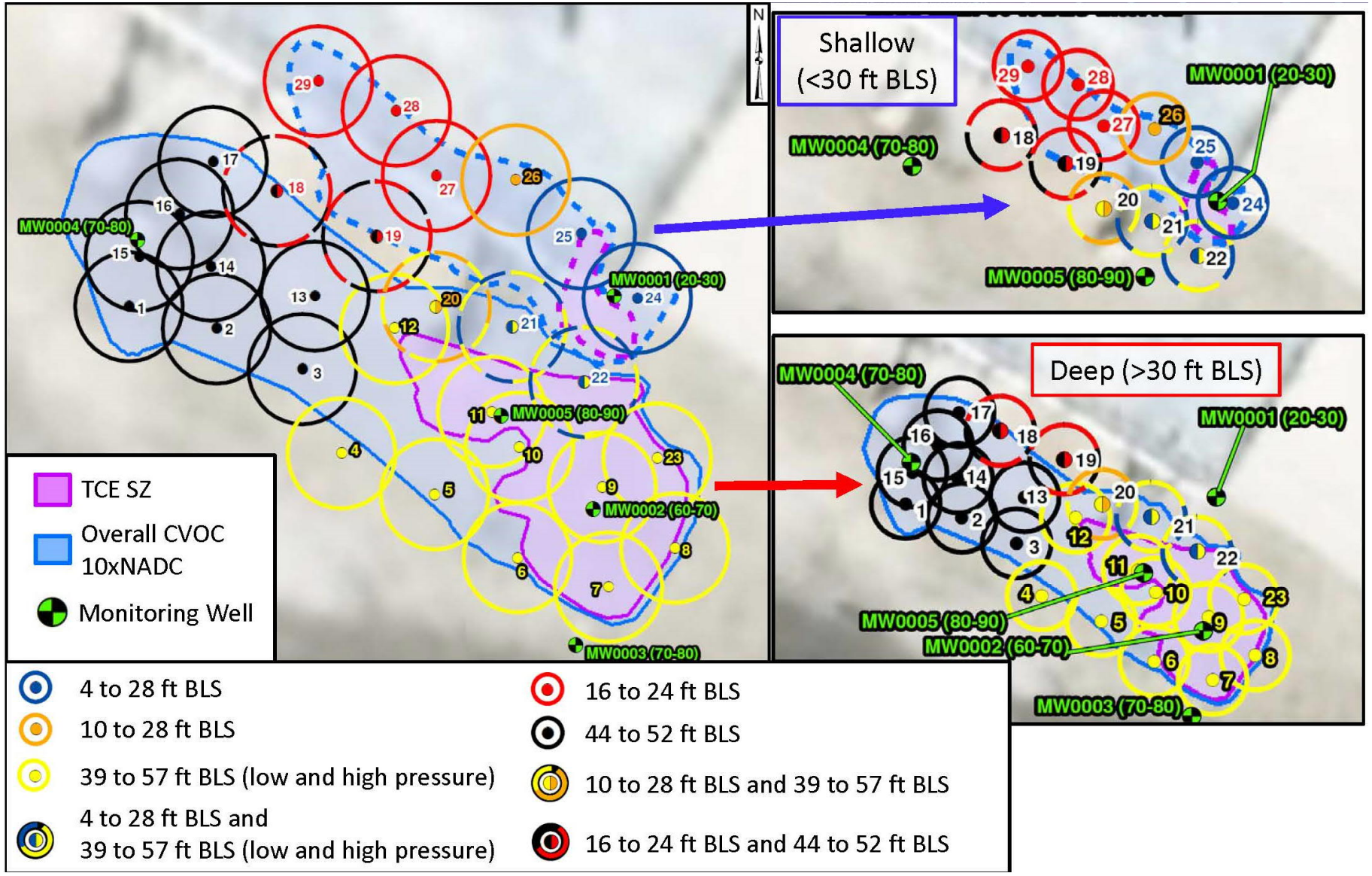
Brief HS3 Background

- **2012 - 2014** – VAB Reassessment identified chlorinated volatile organic compounds (CVOCs) greater than 10 times the Natural Attenuation Default Concentrations (10xNADCs)
- **2015** – Site characterization delineated CVOCs (Groundwater Cleanup Target Levels [GCTL], NADC, 10xNADC])
- **2016** – Remedial Alternative Evaluation selected bioremediation (CVOCs >10xNADCs)
- **2016 - 2017** – Interim Measures Work Plan (IMWP) and Implementation WP
  - Baseline direct-push technology (DPT) groundwater sampling
  - Monitoring well (MW) installation
  - Biostimulation (SRS-SD) and bioaugmentation (KB-1)
- **2017 (Jul/Aug)** – IM Implementation
  - 29 DPT injection locations
  - 174,300 gallons of emulsified vegetable oil (EVO) solution and 43 liters of KB-1
  - 9 MWs installed after injections

SRS-SD Formulation

Ingredient	Percent	Description
Food Grade U.S. Grown Soybean Oil	60%	Locally sourced soybean oil.
Food Grade Soluble Substrate	5.5%	Rapidly biodegradable soluble substrate
Proprietary Food Grade Nutrients	<1%	Proprietary organic and inorganic nutrients such as yeast extract, nitrogen and phosphorus.
Proprietary Food Grade Emulsifiers, Preservatives and other Organics	7.5%	Proprietary nonionic emulsifier and other organics
Vitamin B_{12}	<1%	250 µg/L of Vitamin B_{12}

Brief HS3 Background – 2017 Bioremediation IM



Brief HS3 Background

- **2018 (Feb & Aug)** – IM performance based on MW samples
  - 80 to 99% decrease of CVOCs based on concentrations at MWs
  - Distribution of total organic carbon (TOC) indicated design radius of influence (ROI) of 8 ft was achieved
- **2018 (Sept)** – 2 MWs added at downgradient edge
- **2019 (Feb/Mar)** – IM performance monitoring (MWs and DPT), 18 months
  - DPT – 87 groundwater samples from 19 locations
  - ~80 to 100% mass reduction in shallow intervals (~94% reduction in deep)
  - Minimal change from month 12 and conditions in some areas favored continued bioremediation
- **2019 (Apr)** – Area leased to commercial partner restricting access
  - MWs were abandoned in lease area
- **2020** – Lease was terminated and site access reinstated
- **2021 (Mar/Apr)** – DPT groundwater sampling to evaluate current site conditions

2021 DPT Groundwater Sampling

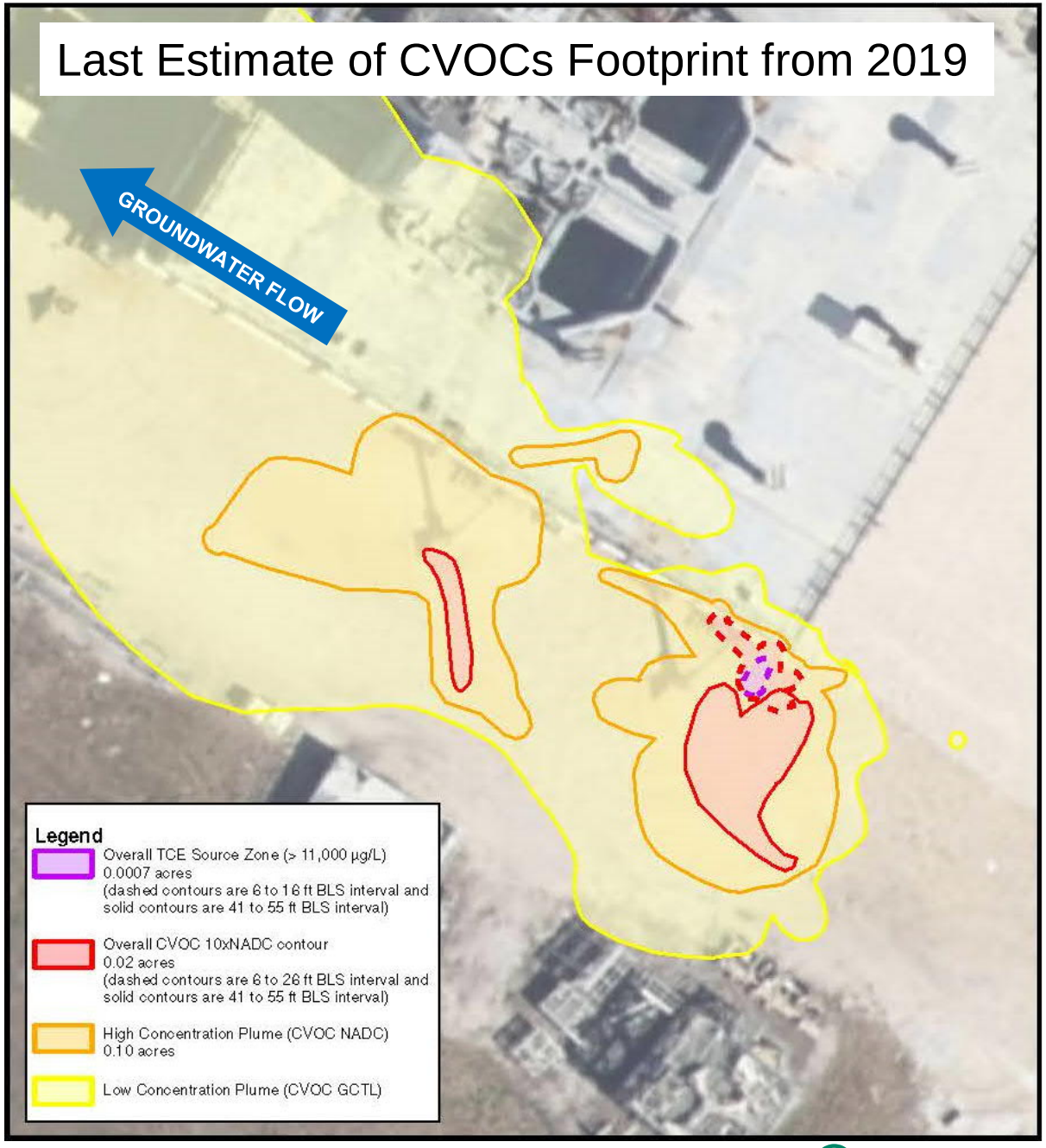
Objective – Evaluate current site conditions in the previously treated area and the need for bioremediation interim measures

Plan

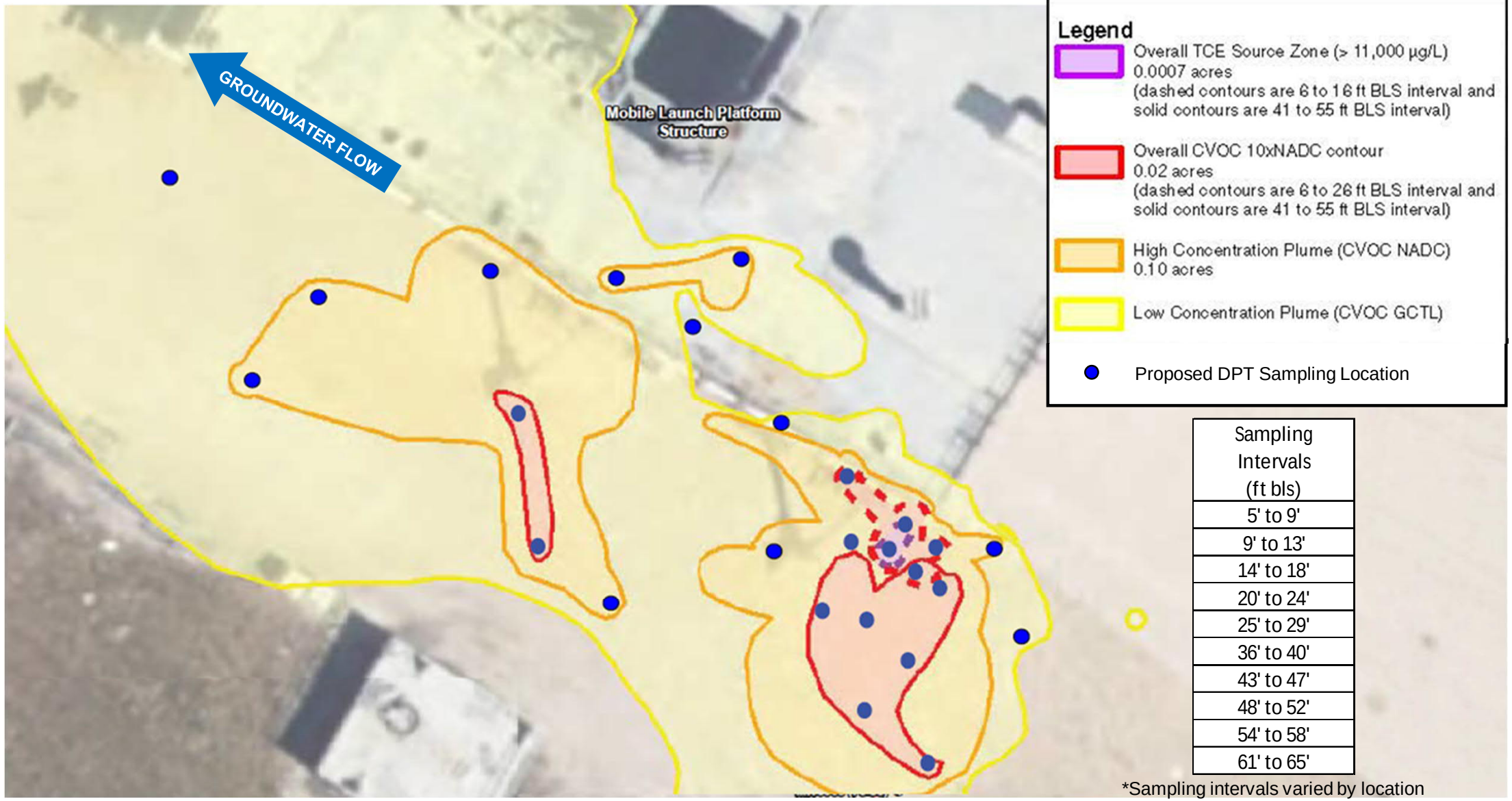
- Collect samples at locations with existing data (2019 DPT and MWs)
- Up to 26 DPT locations and 50 samples
- Modify based on mobile lab results

Actual

- April 1 - 16, 2021 (12 days)
- 188 samples from 62 locations (CVOCs)
- 43 samples analyzed for sulfate (SO_4^{2-}), sulfide (S^{2-}), TOC, ethane, ethene, and methane



2021 DPT Groundwater Sampling Plan

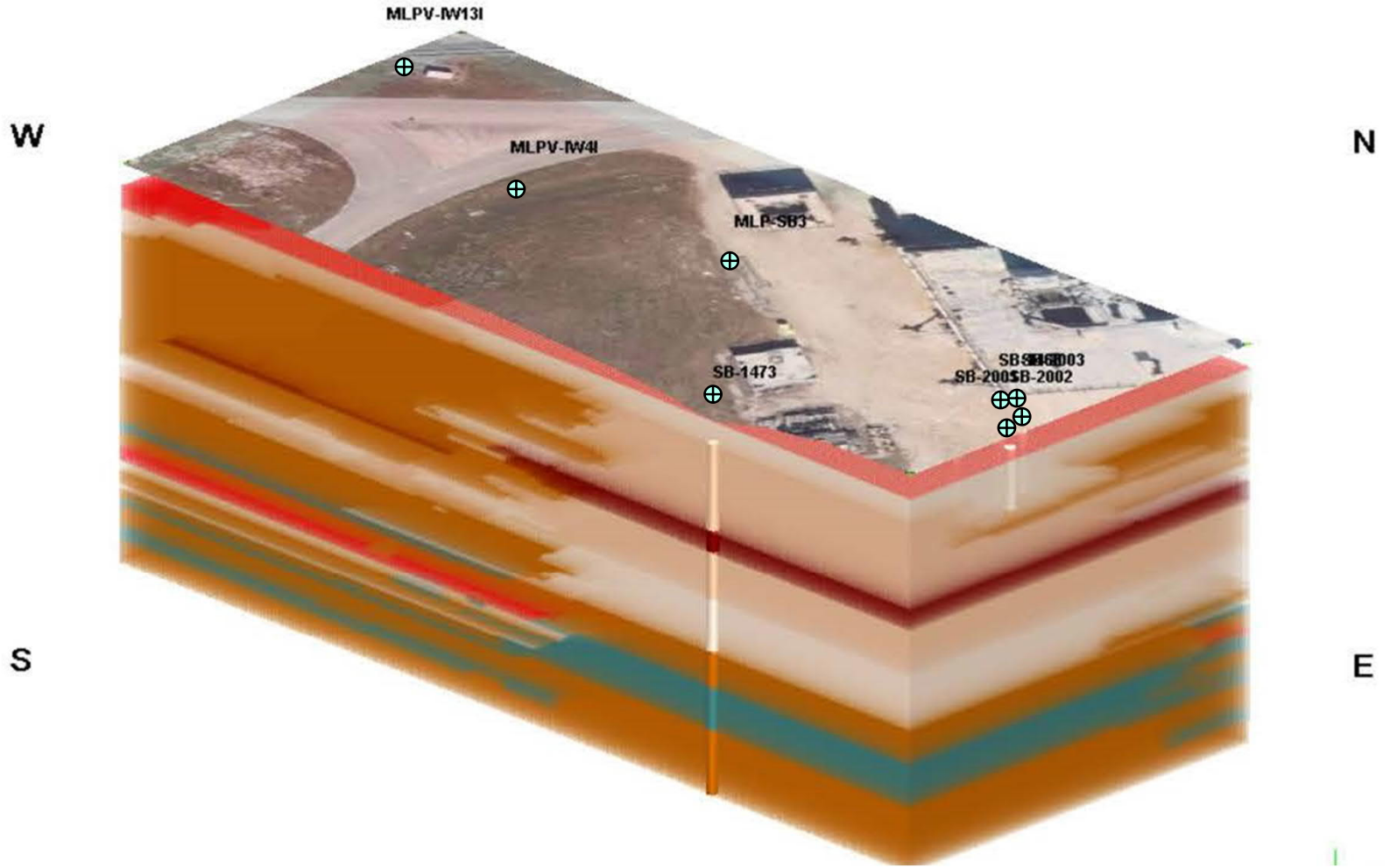


Sampling Intervals (ft bls)
5' to 9'
9' to 13'
14' to 18'
20' to 24'
25' to 29'
36' to 40'
43' to 47'
48' to 52'
54' to 58'
61' to 65'

*Sampling intervals varied by location

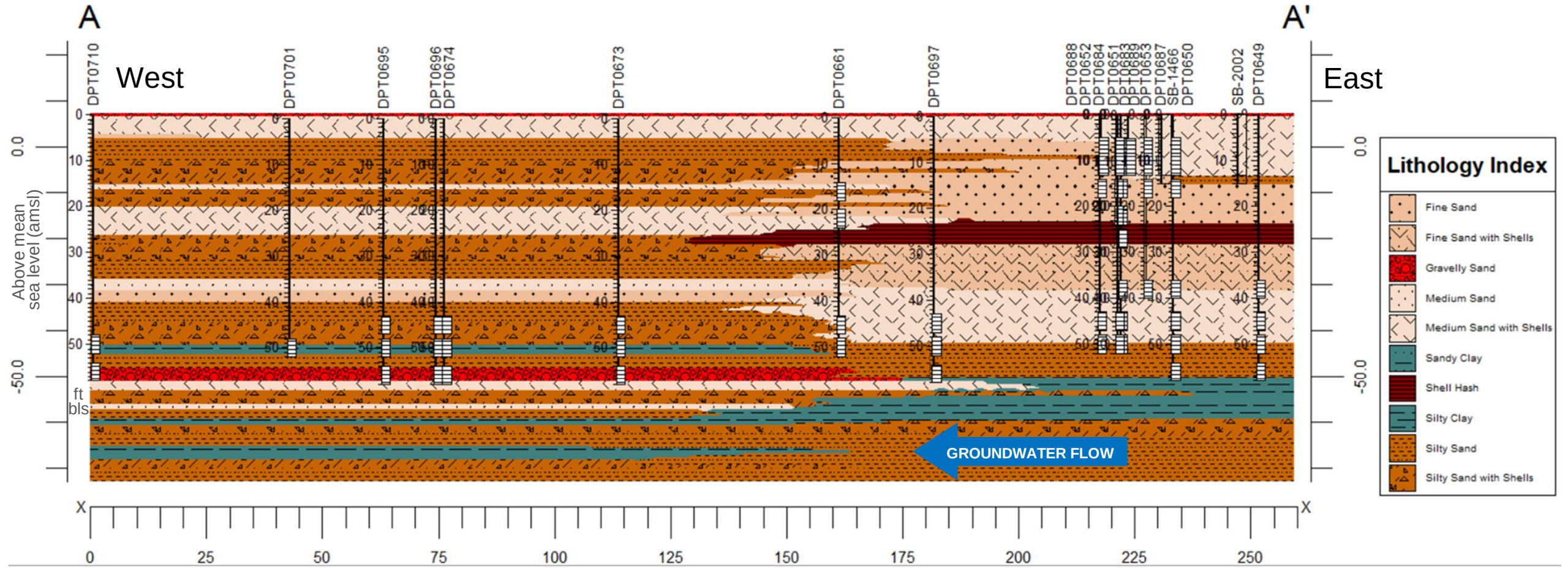
Lithology

- The site lithology model was revised
  - 3D lithology model created from geologic descriptions in 8 historical borings: MLPV-IW4I, MLP-SB3, MLPV-IW13I, SB-1466, SB-1473, SB-2001, SB-2002, and SB-2003
  - 2D profiles created from slices through the 3D model



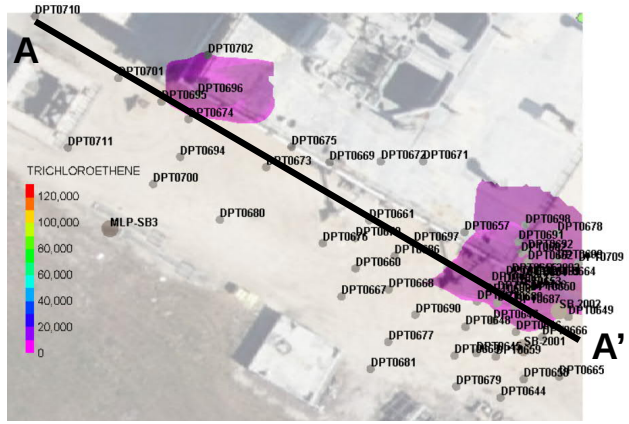
Lithology – Cross Section A-A’

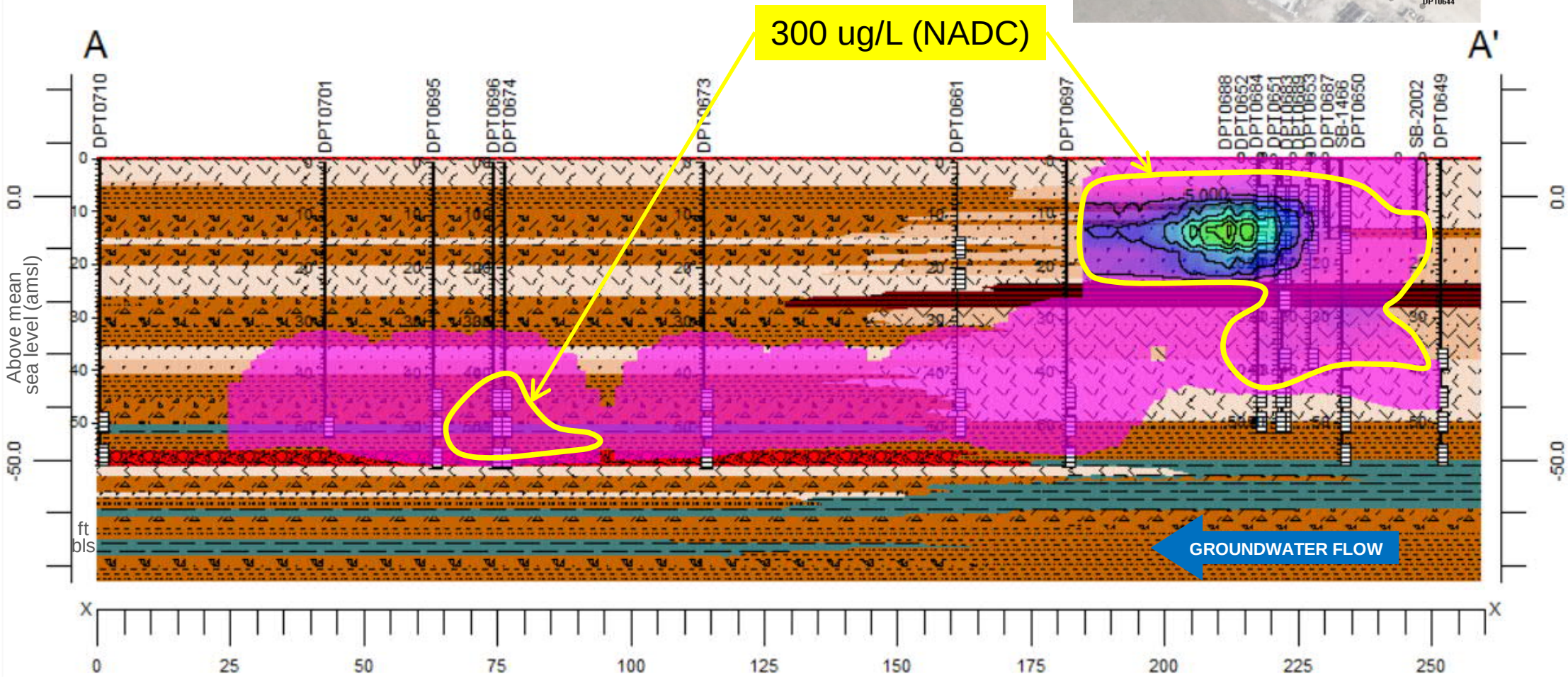
- East side is primarily well sorted fine to medium sand with shells
- Towards west, the silt content increases
- Clayey soil becomes more common at 60 ft bls

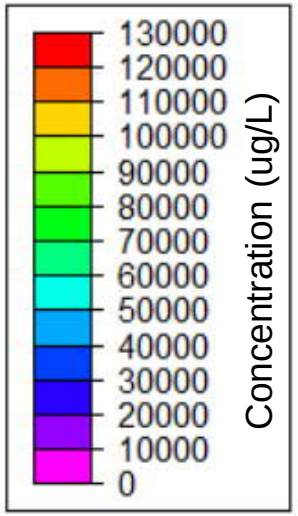


DPT Assessment Results – TCE (>3 ug/L)

- 11 samples >300 micrograms per liter (ug/L)
- Max=129,000 ug/L at DPT0683 between 9 – 13 ft bls



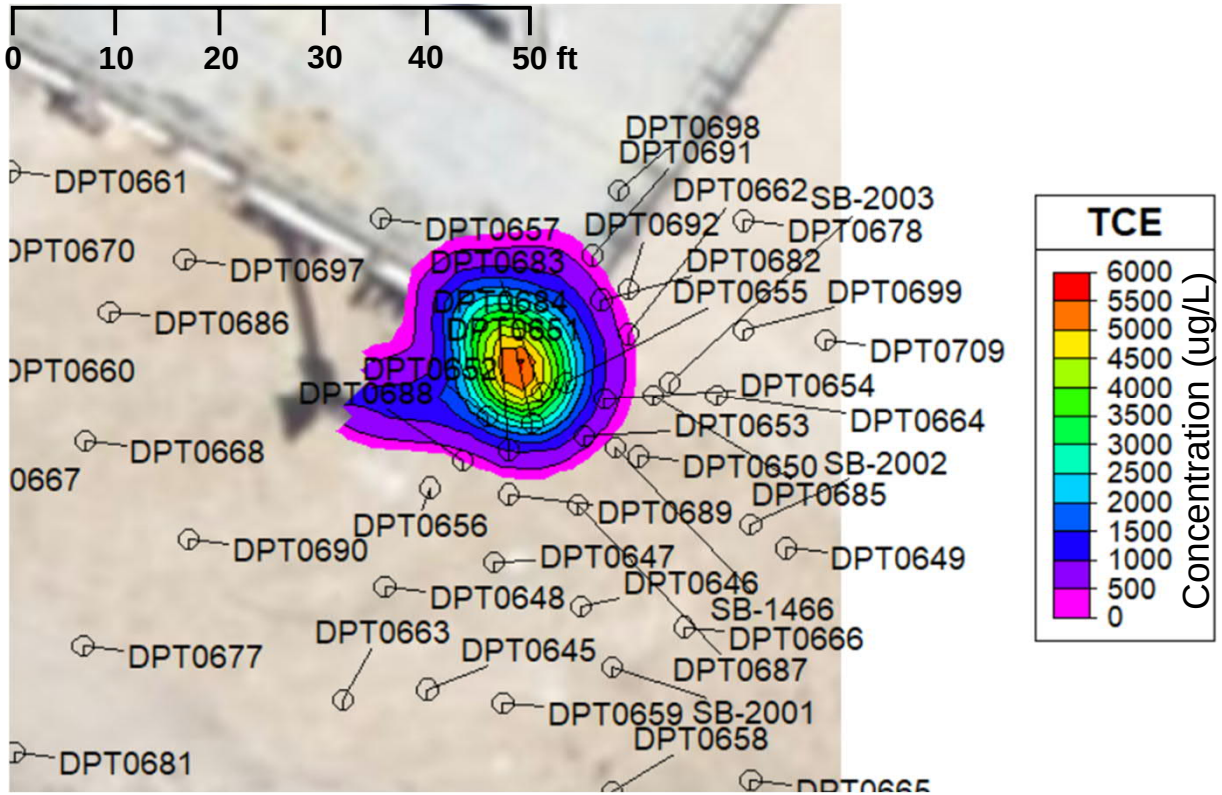




Note: Reporting Limits are included in the interpolated plume extents for all 3D models

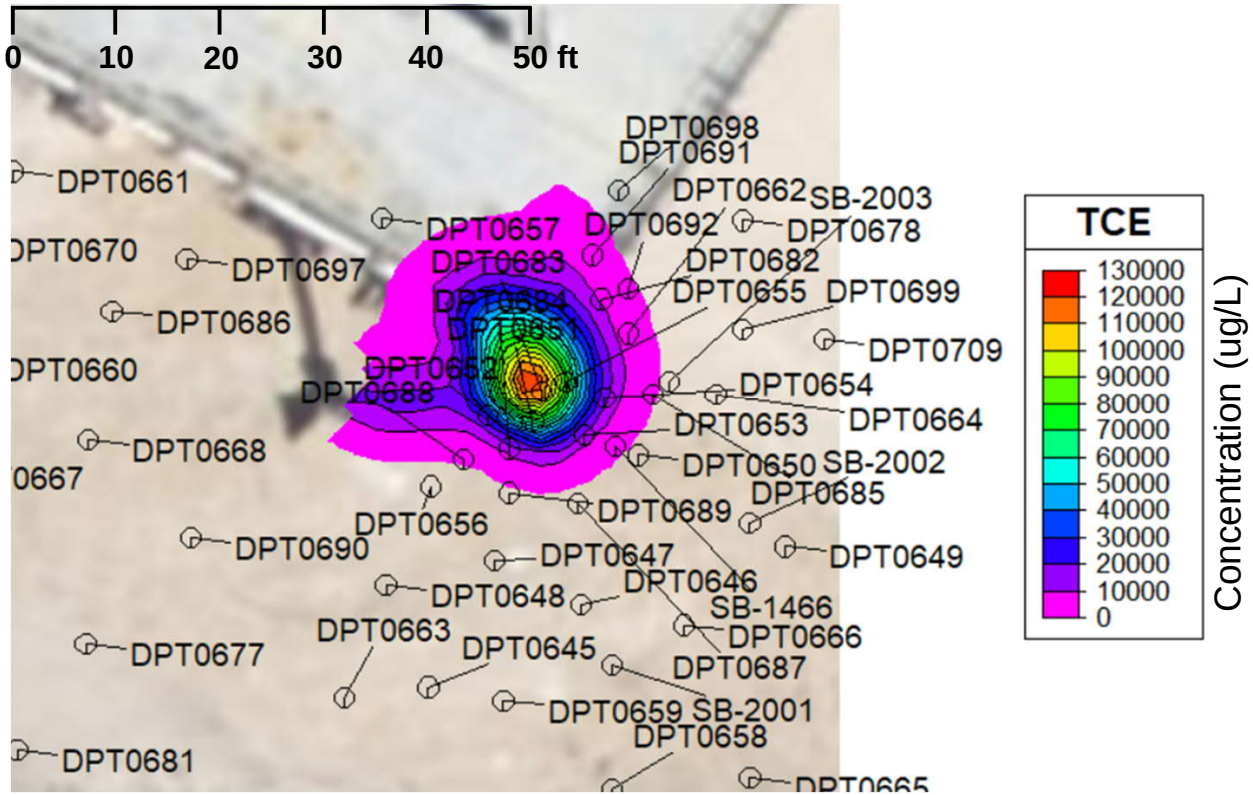
DPT Assessment Results – TCE (>300 ug/L) Plan View

7 ft bls (0 ft amsl)



(fine sand and silty sand)

11 ft bls (-4 ft amsl)

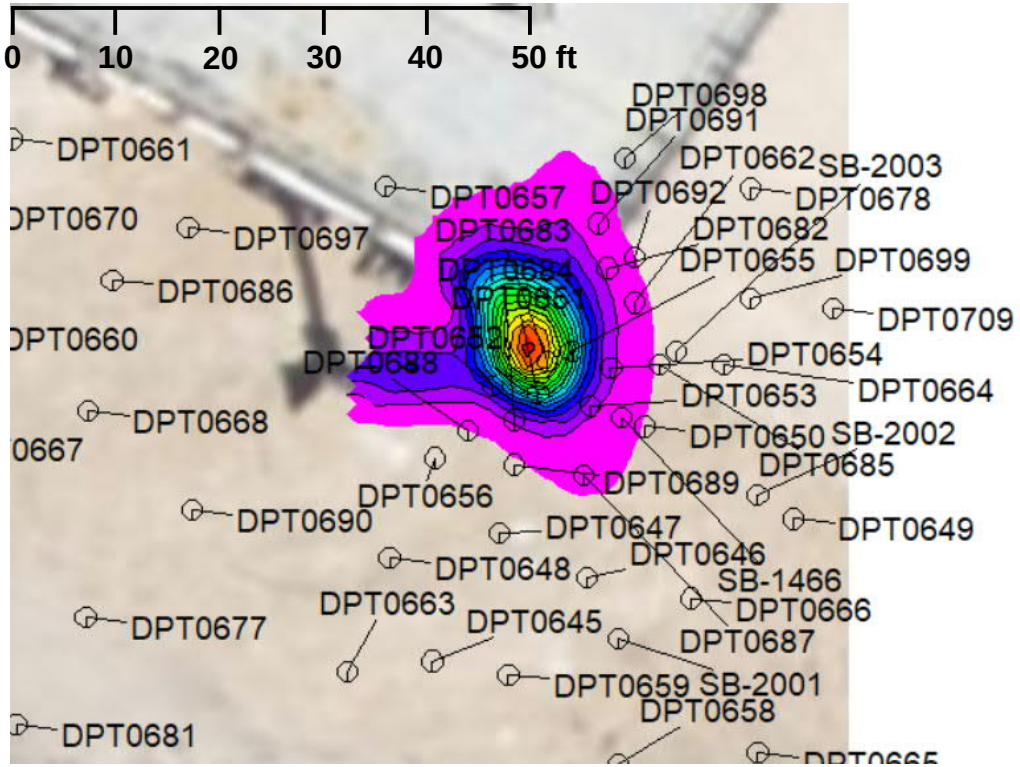


(fine sand and silty sand)

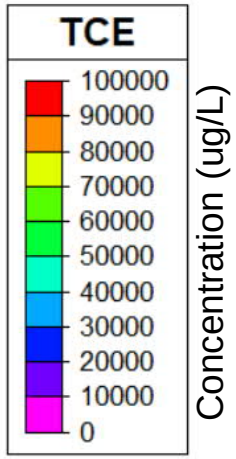
Note: Plan views of plumes are 2D slices through the 3D model of the CVOC concentrations

DPT Assessment Results – TCE (>300 ug/L) Plan View

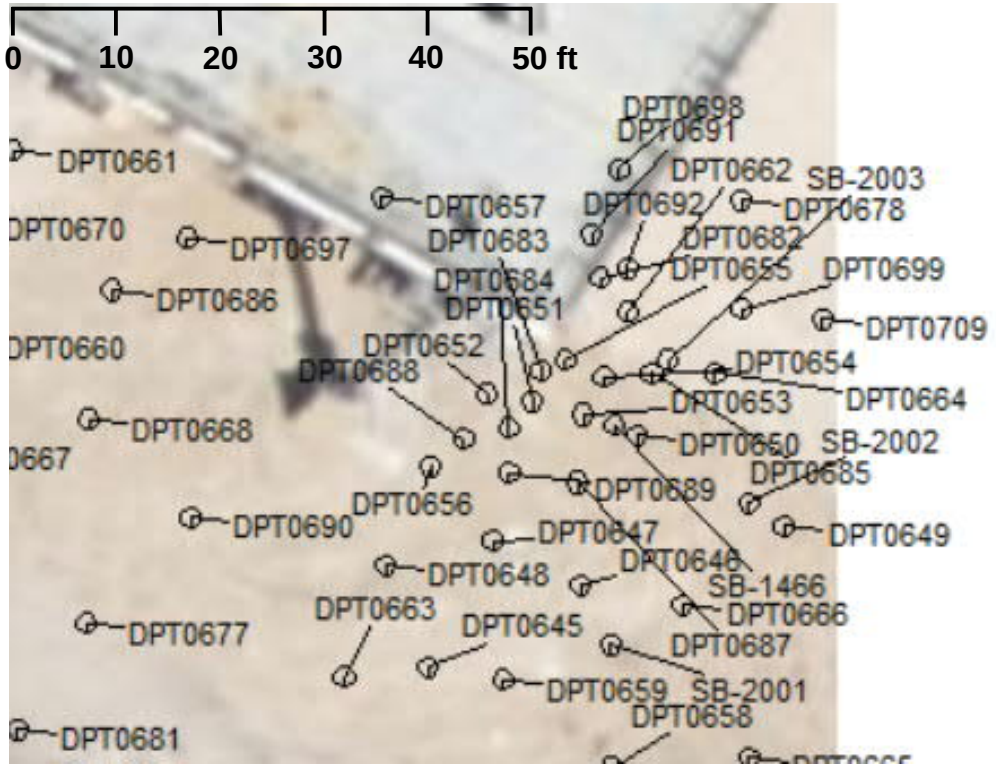
16 ft bls (-9 ft amsl)



(fine sand and silty sand)



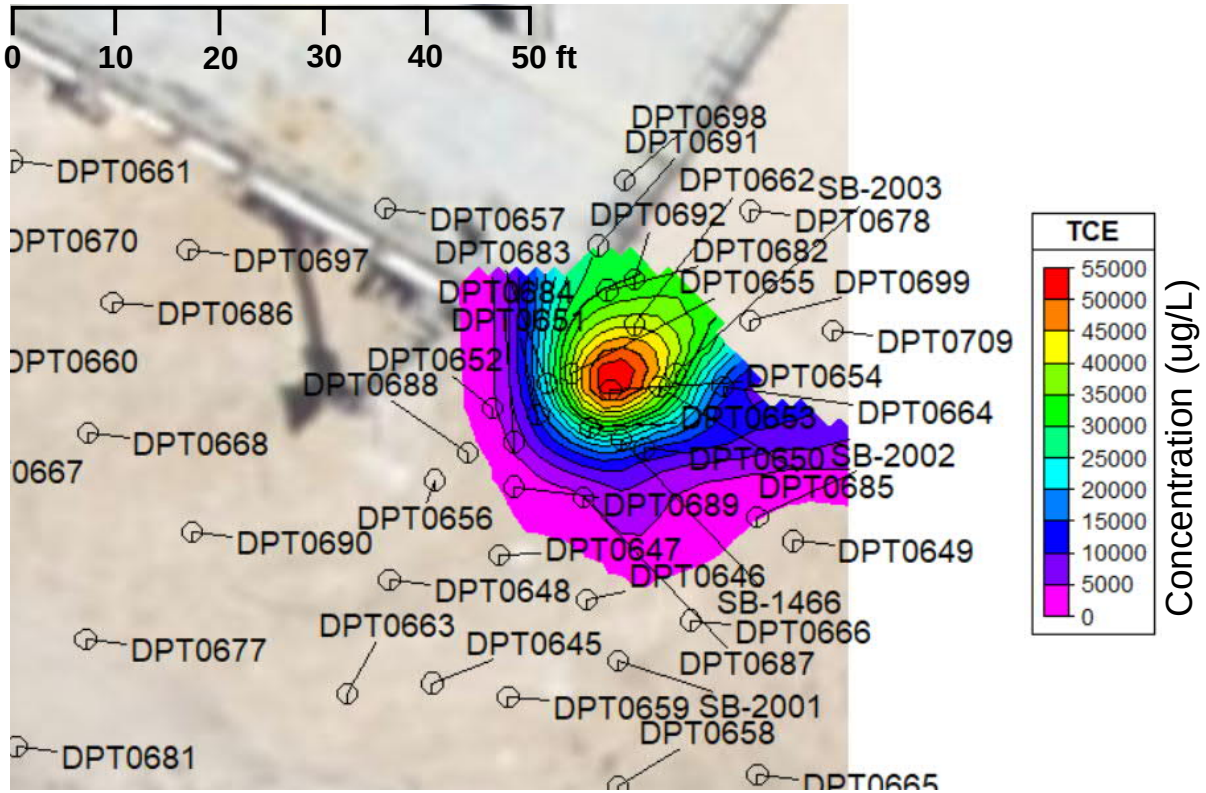
22 to 38 ft bls (-15 to -31 ft amsl)



(fine sand, shell hash, fine sand with shells)

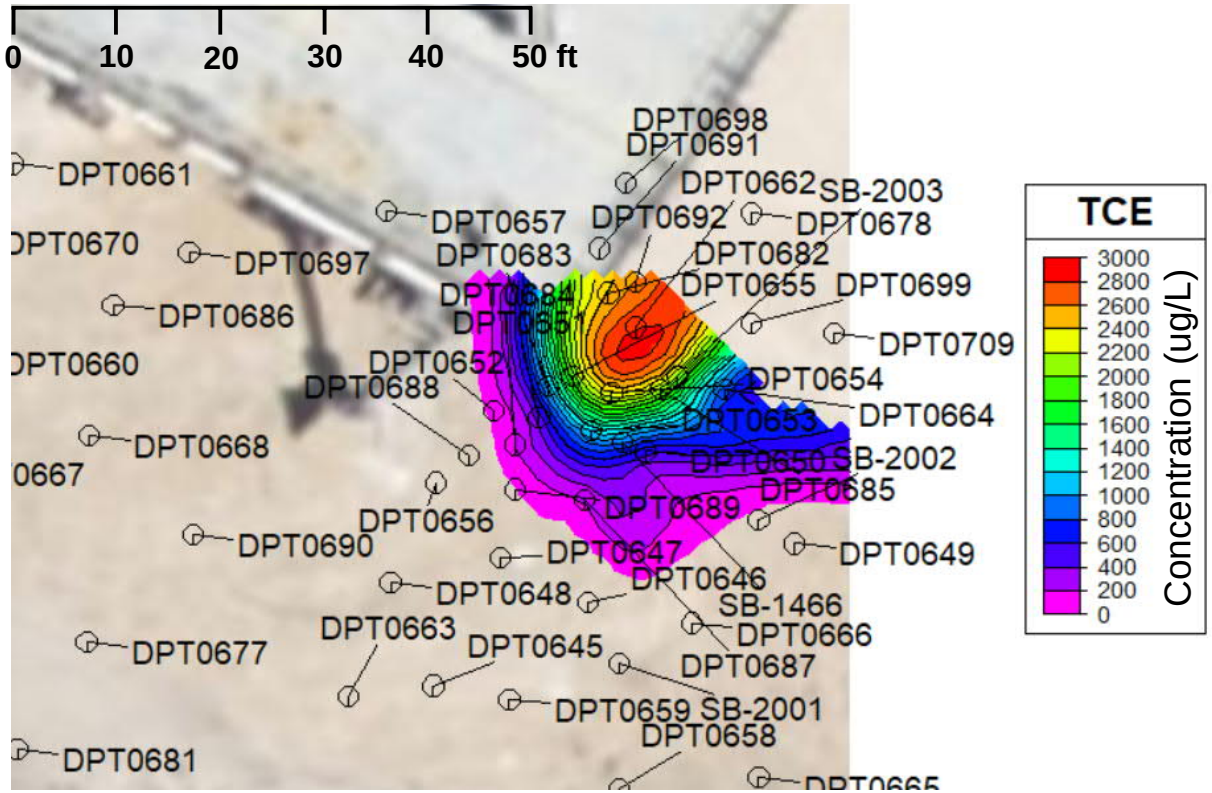
DPT Assessment Results – TCE (>300 ug/L) Plan View

45 ft bls (-38 ft amsl)



(medium sand with shells)

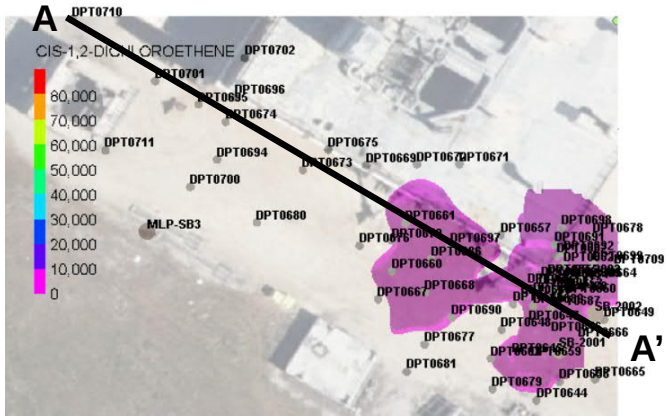
50 ft bls (-43 ft amsl)

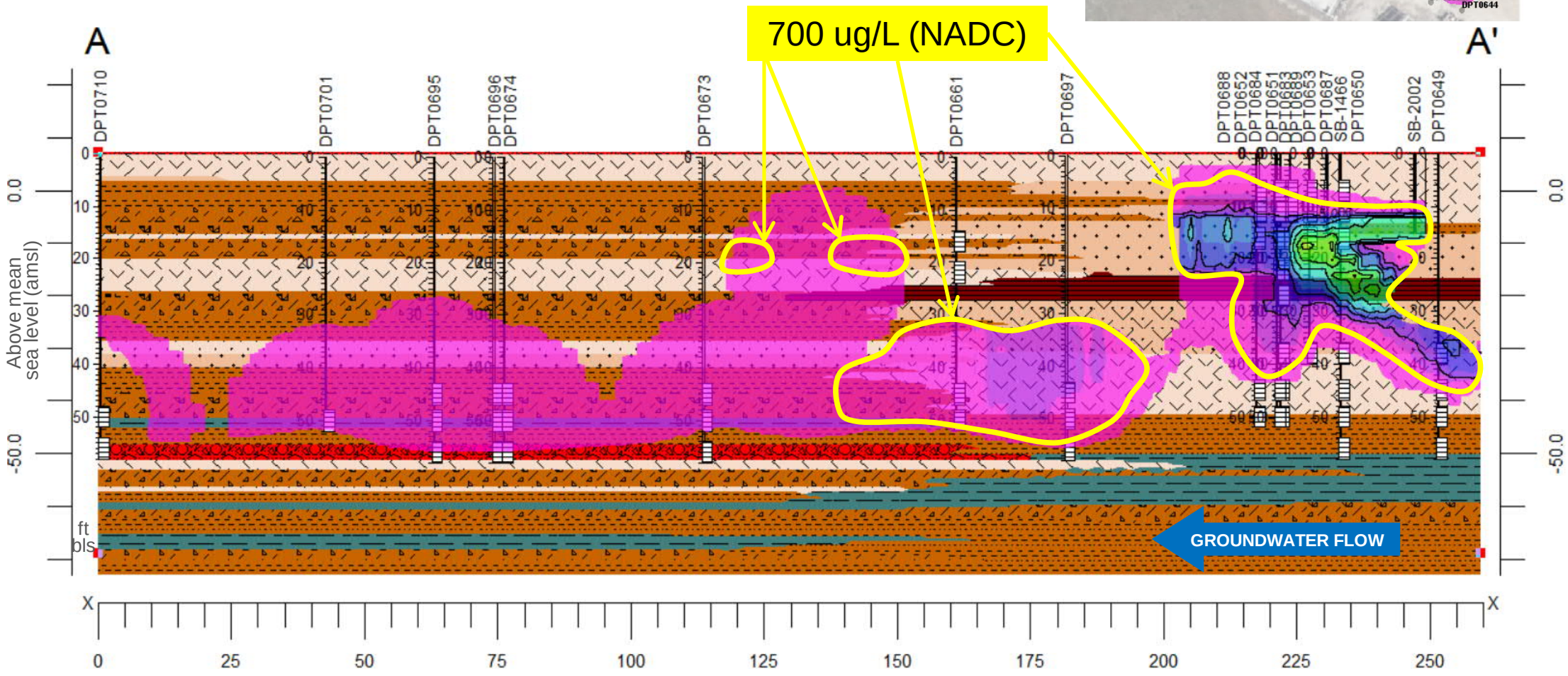


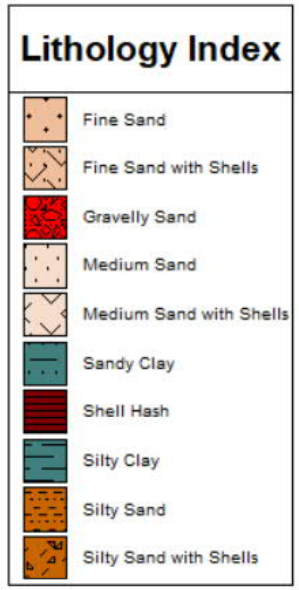
(silty sand)

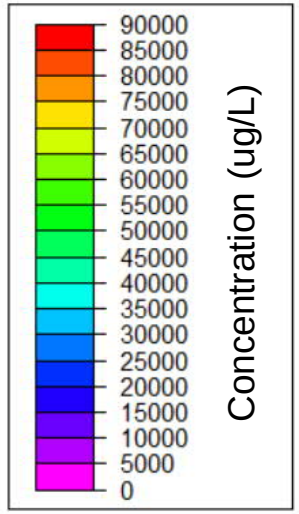
DPT Assessment Results – cDCE (>70 ug/L)

- 24 samples >700 ug/L
- Max=88,000 ug/L at DPT0653 between 14-18 ft bls



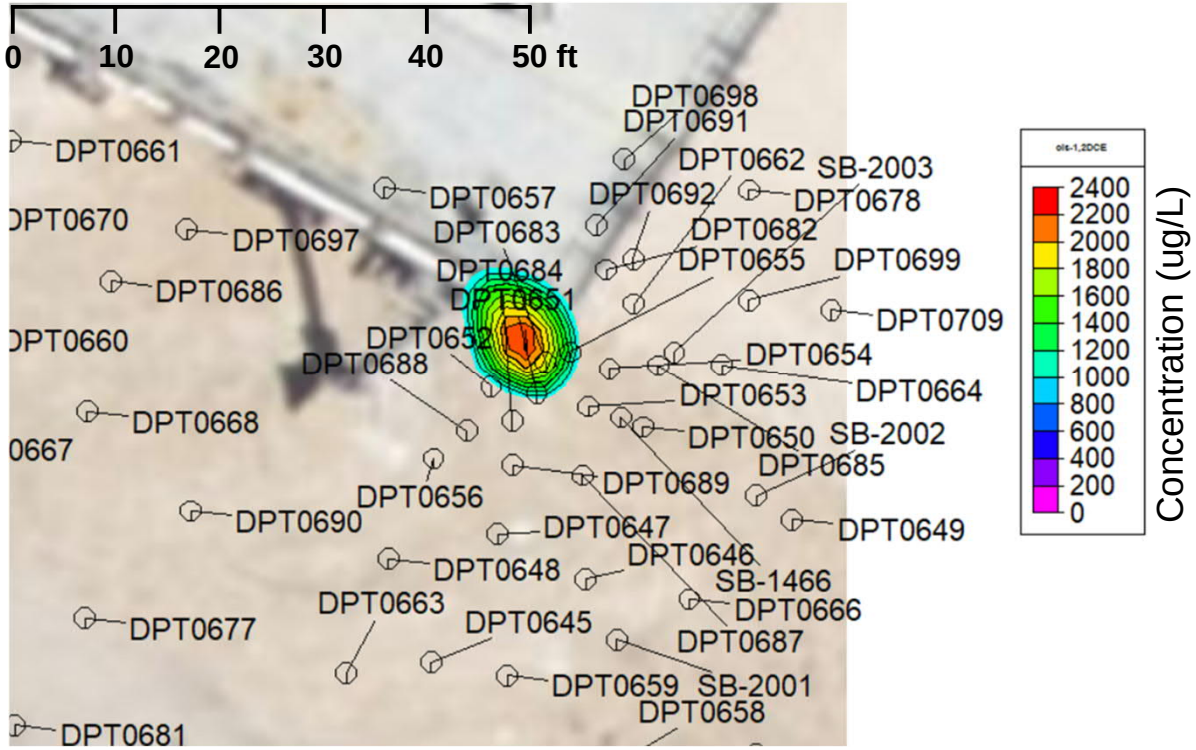






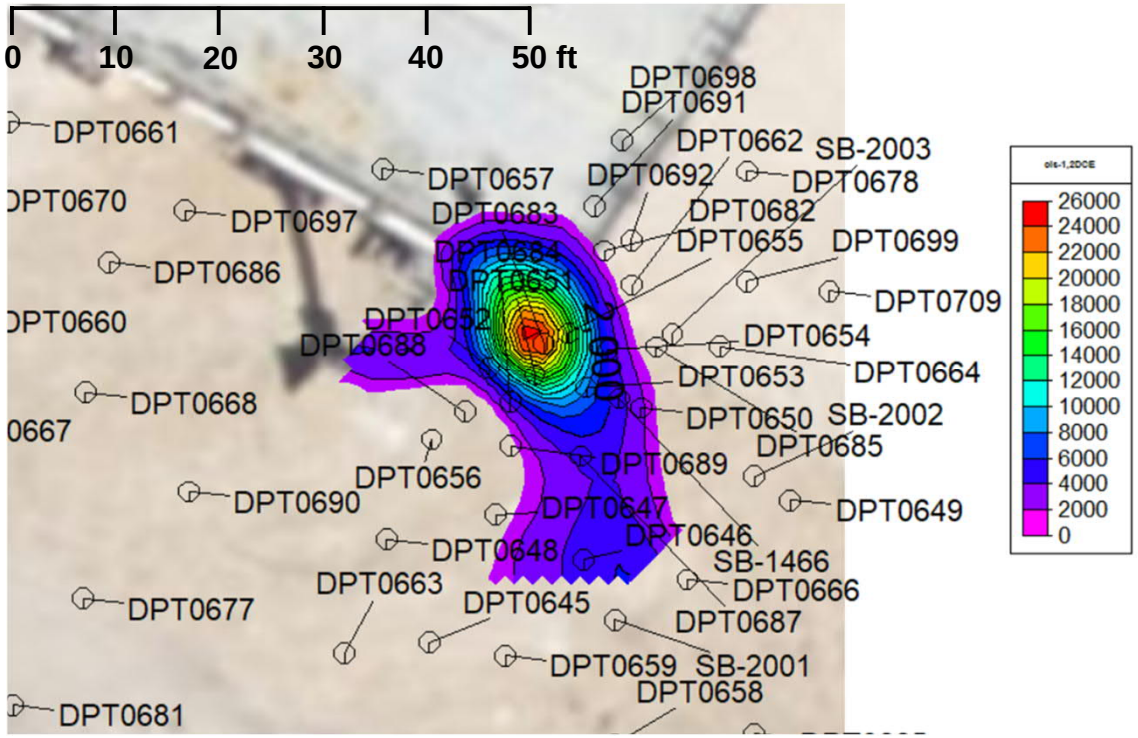
DPT Assessment Results – cDCE (>700 ug/L) Plan View

7 ft bls (0 ft amsl)



(fine sand and silty sand)

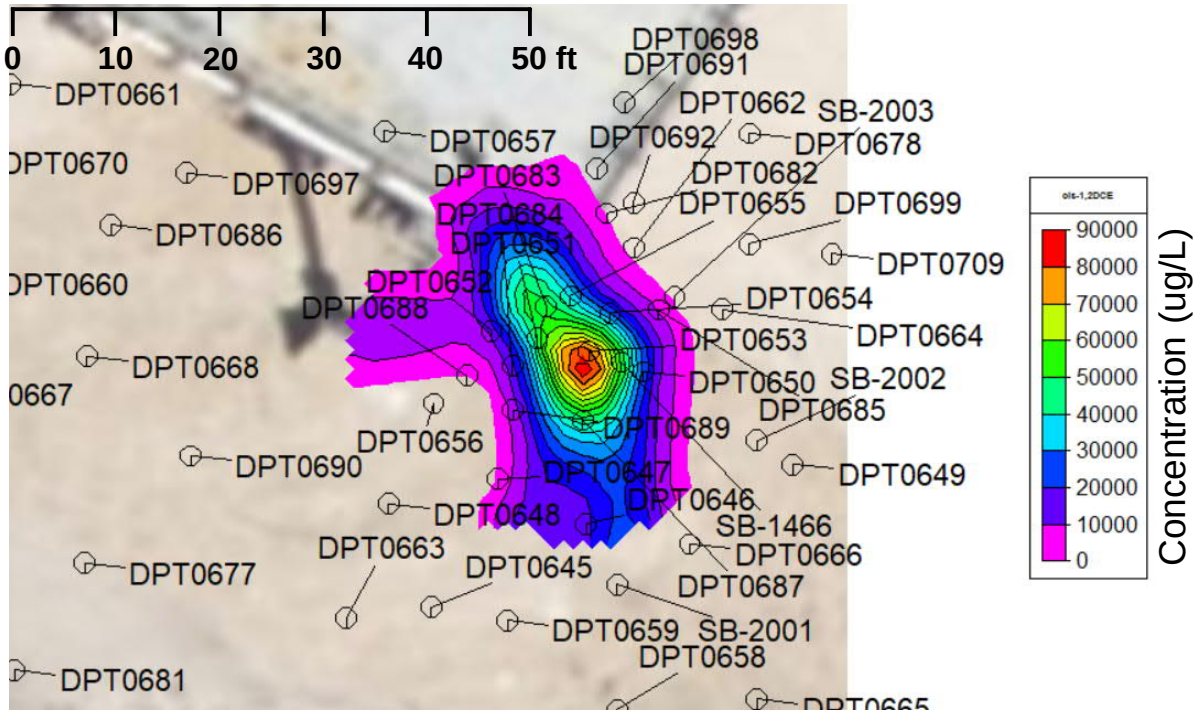
11 ft bls (-4 ft amsl)



(fine sand and silty sand)

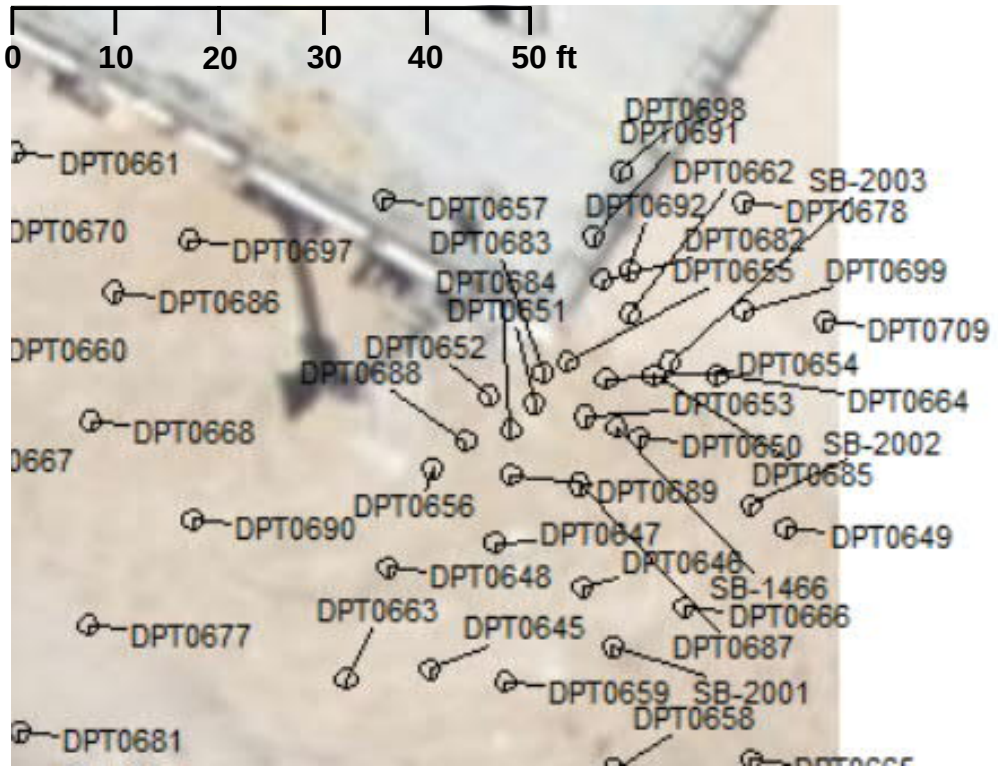
DPT Assessment Results – cDCE (>700 ug/L) Plan View

16 ft bls (-9 ft amsl)



(fine sand and silty sand)

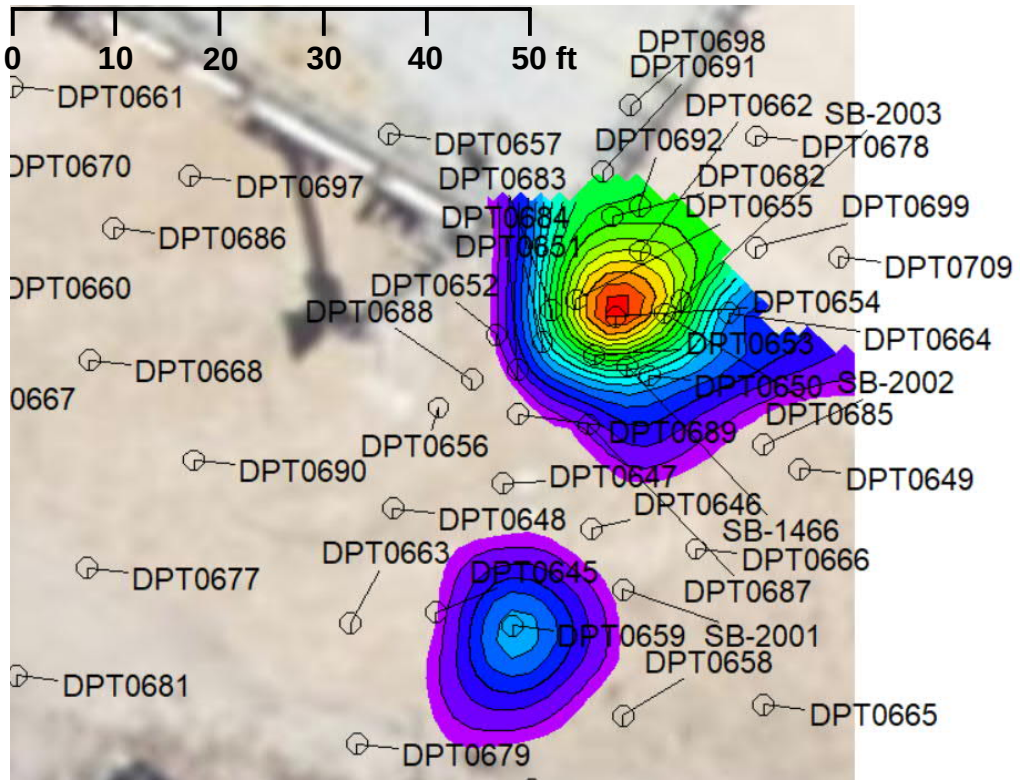
22 to 38 ft bls (-15 to -31 ft amsl)



(fine sand, shell hash, fine sand with shells)

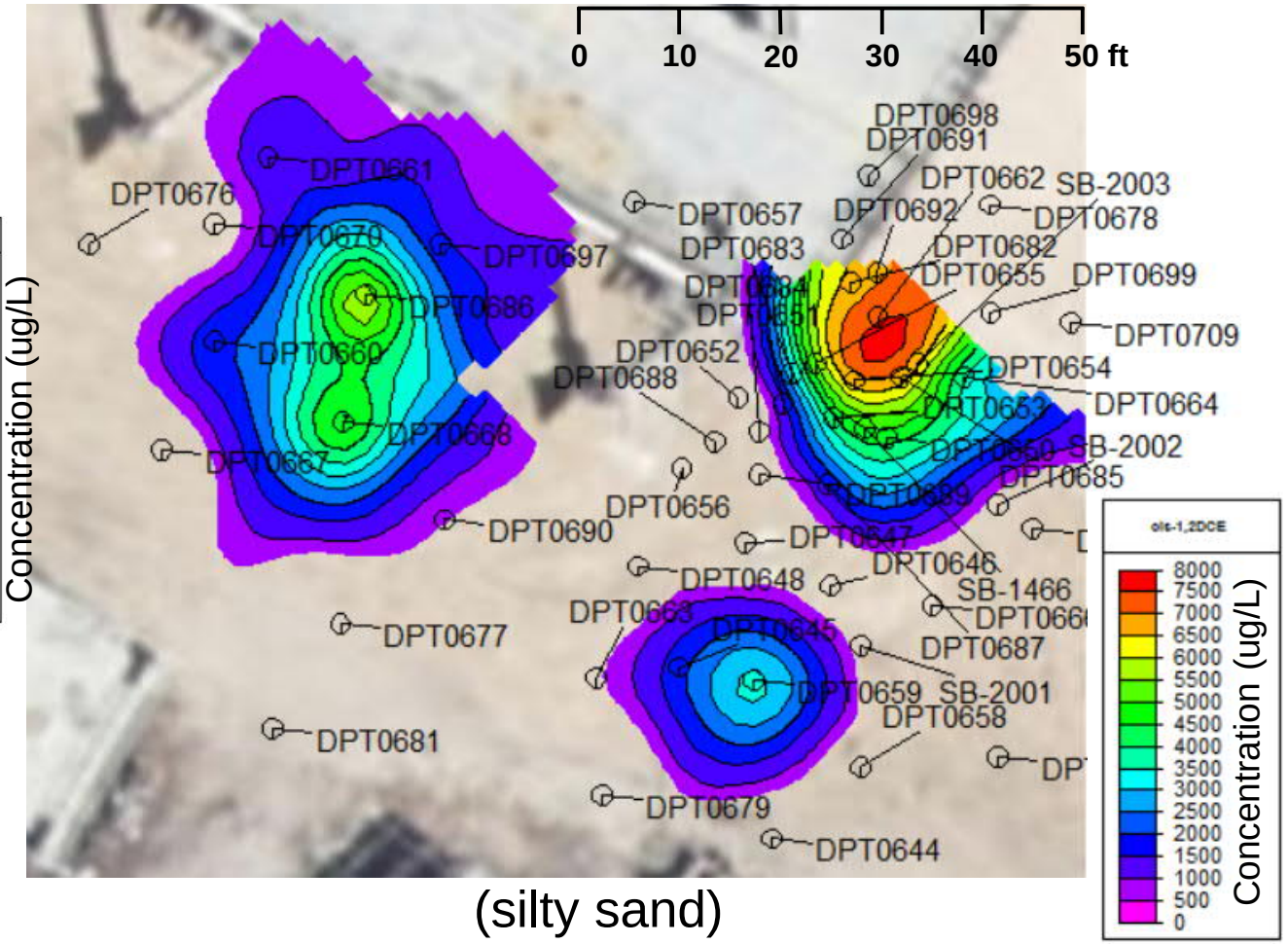
DPT Assessment Results – cDCE (>700 ug/L) Plan View

45 ft bls (-38 ft amsl)



(medium sand with shells)

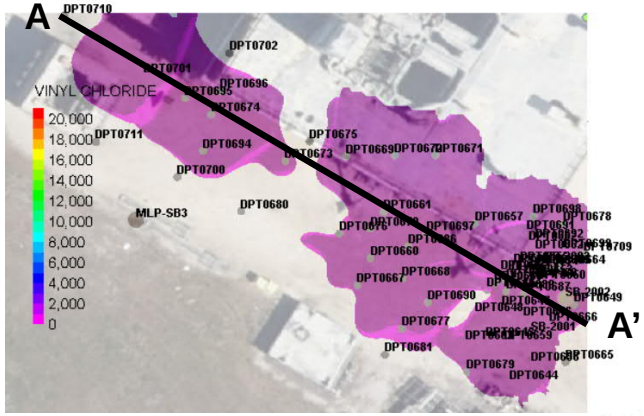
50 ft bls (-43 ft amsl)

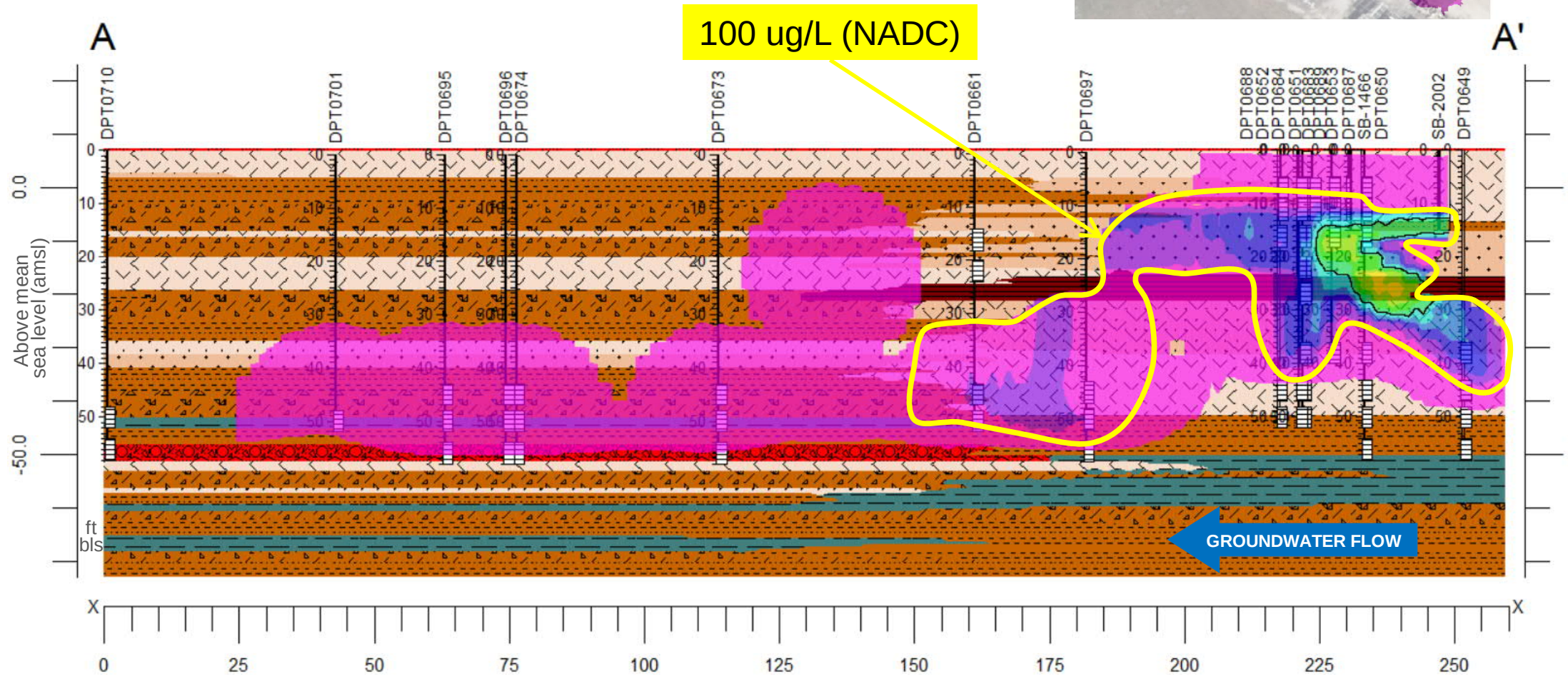


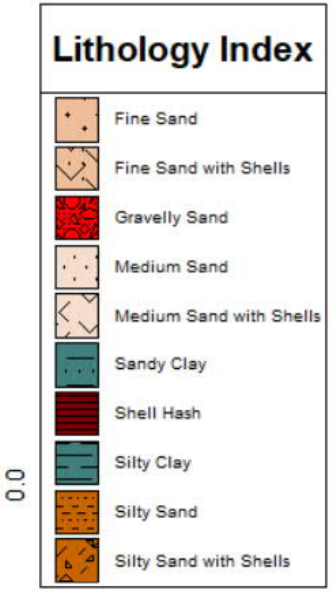
(silty sand)

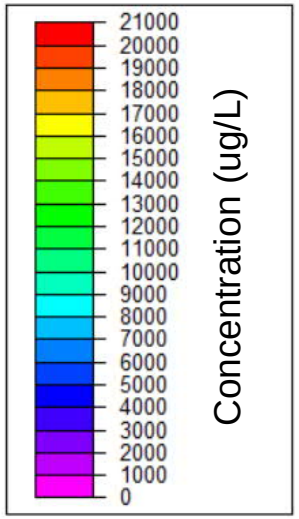
DPT Assessment Results – VC (>1 ug/L)

- 45 samples >100 ug/L
- Max=21,000 ug/L at DPT0653 between 14-18 ft bls



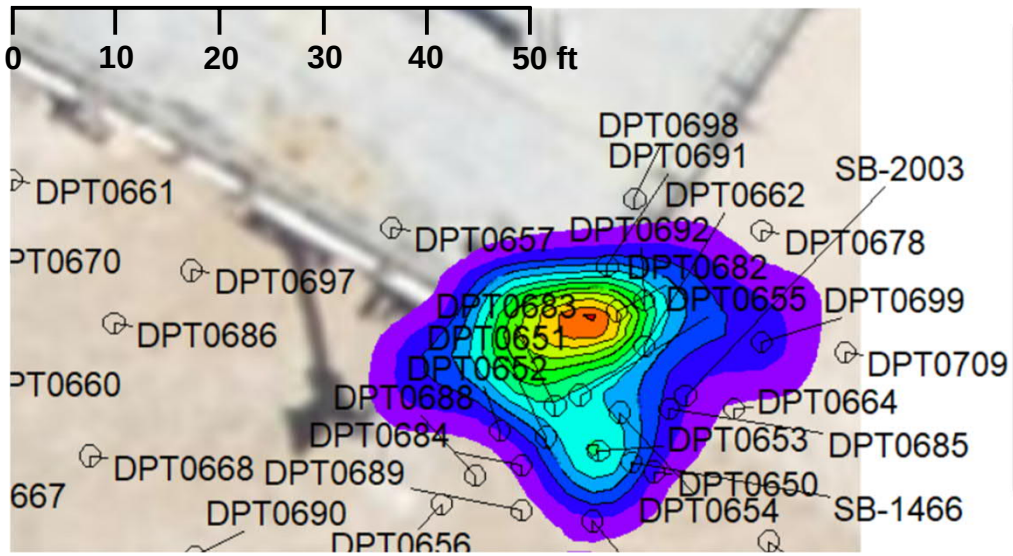


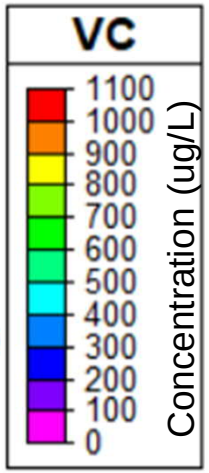




DPT Assessment Results – VC (>100 ug/L) Plan View

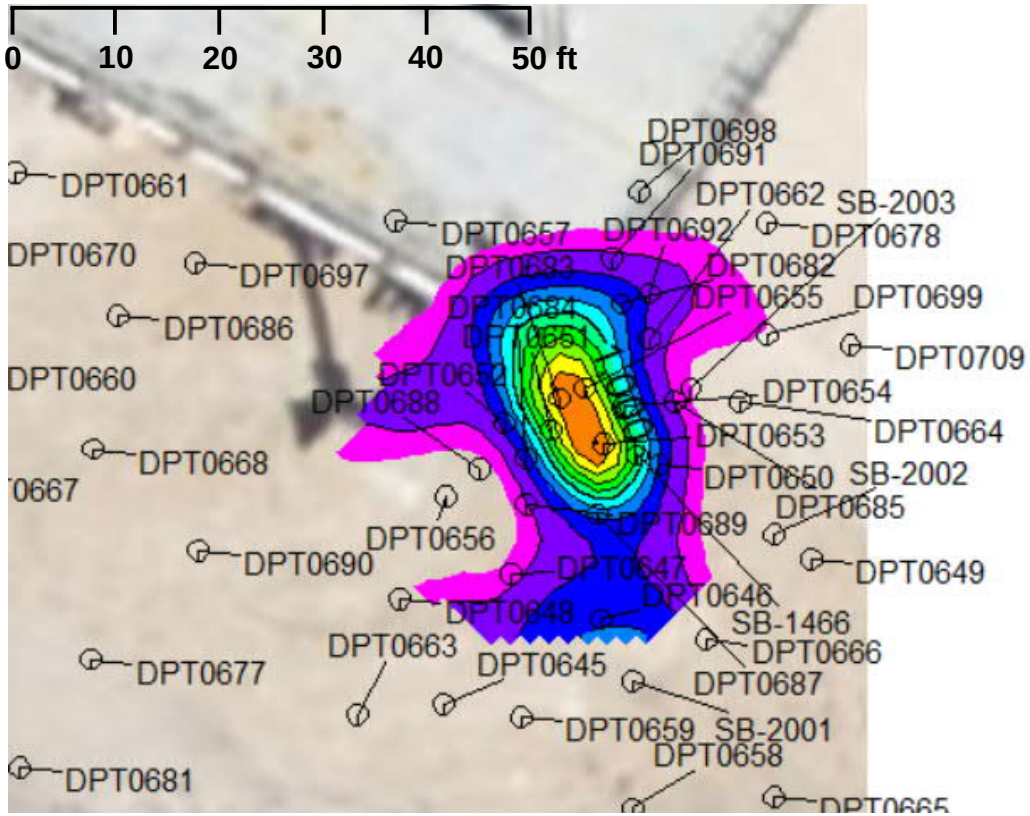
7 ft bls (0 ft amsl)

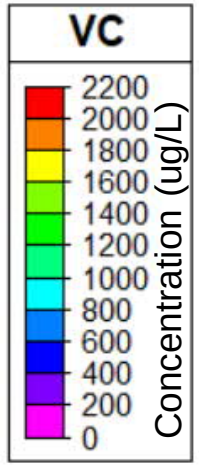




(fine sand and silty sand)

11 ft bls (-4 ft amsl)

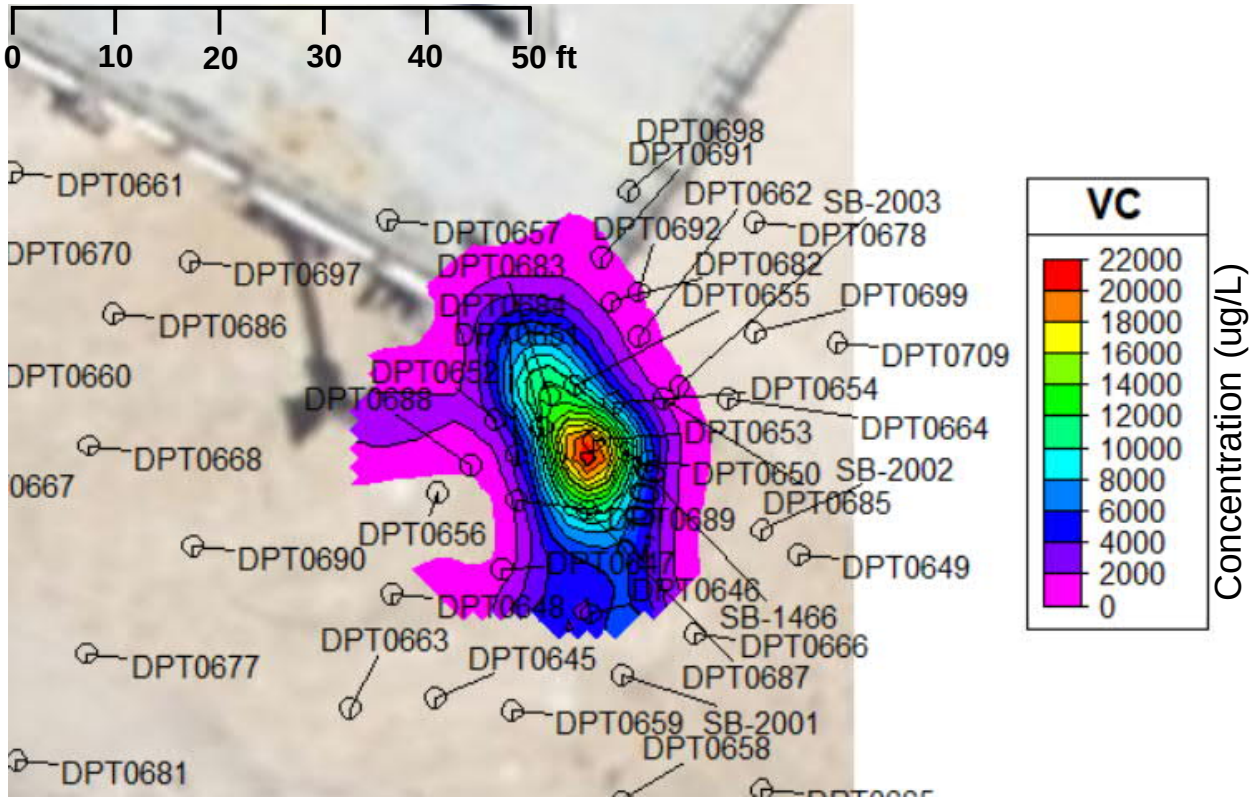




(fine sand and silty sand)

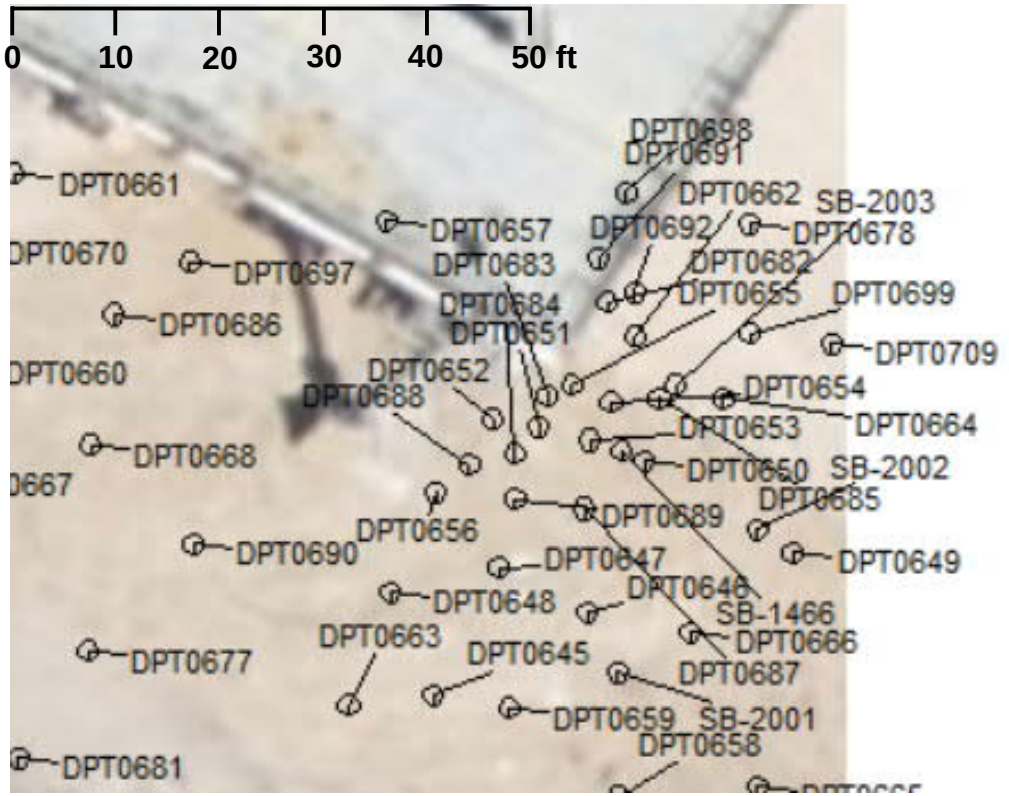
DPT Assessment Results – VC (>100 ug/L) Plan View

16 ft bls (-9 ft amsl)



(fine sand and silty sand)

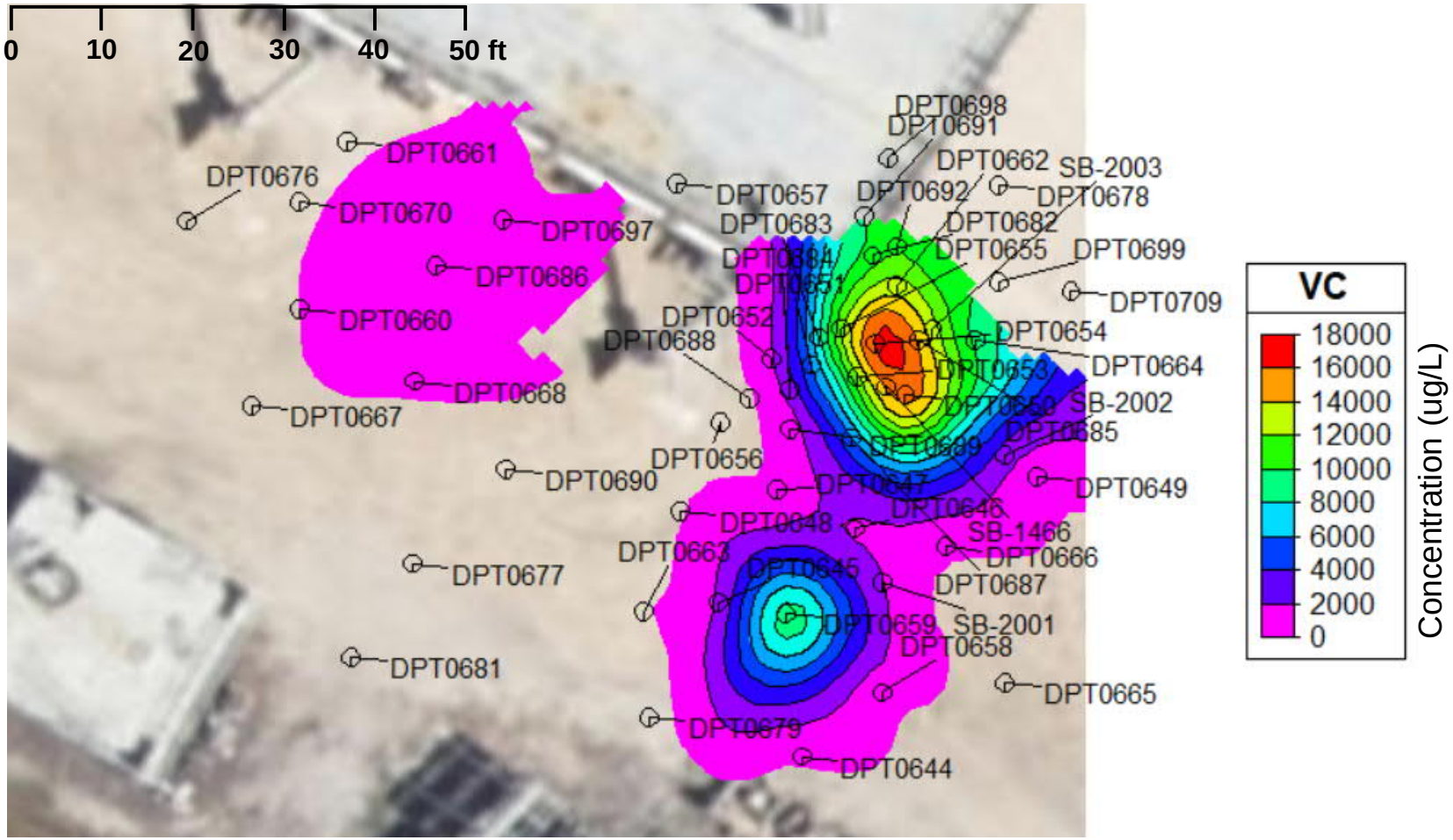
22 to 38 ft bls (-15 to -31 ft amsl)



(fine sand, shell hash, fine sand with shells)

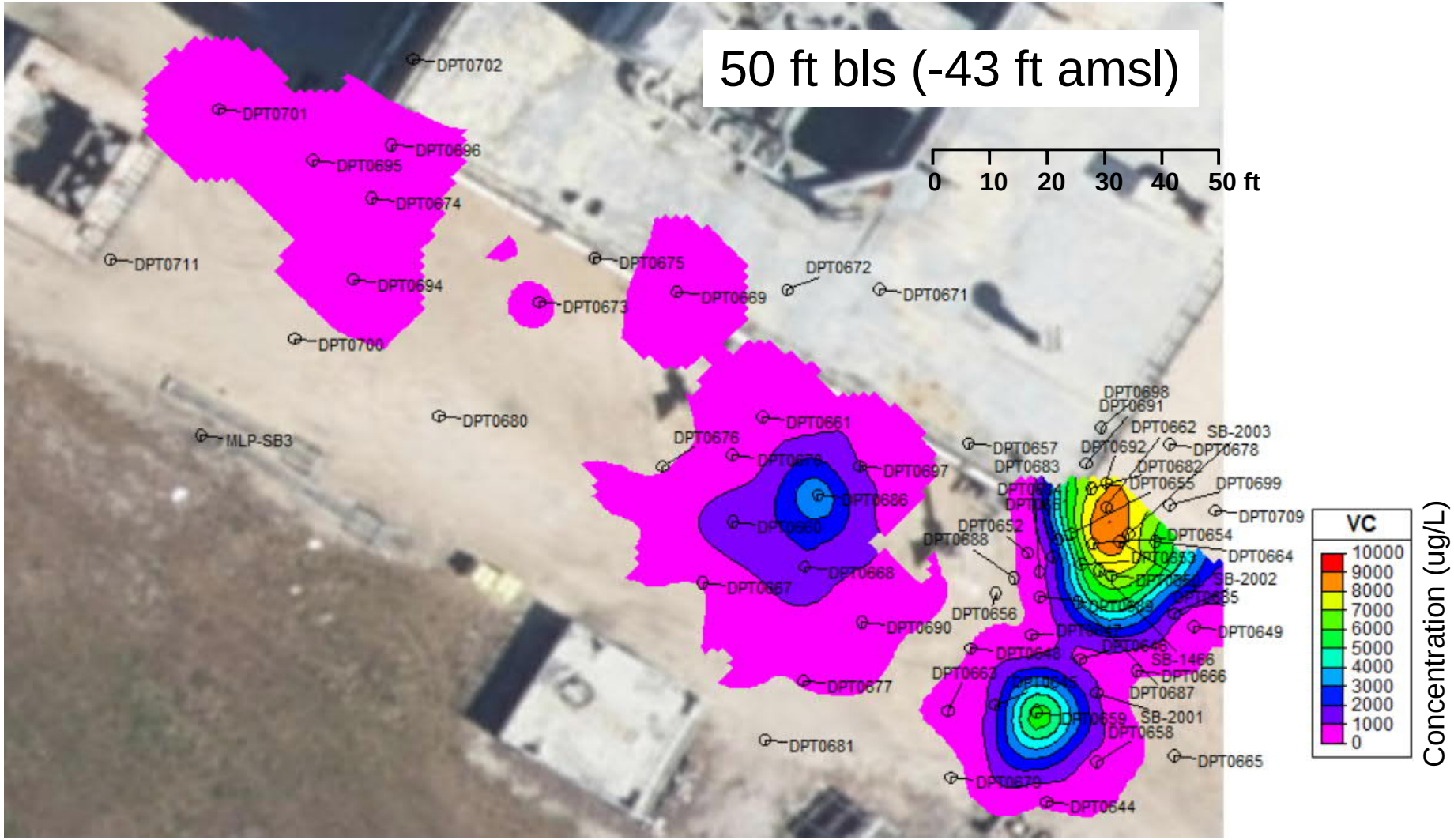
DPT Assessment Results – VC (>100 ug/L) Plan View

45 ft bls (-38 ft amsl)



(medium sand with shells)

DPT Assessment Results – VC (>100 ug/L) Plan View



(silty sand)

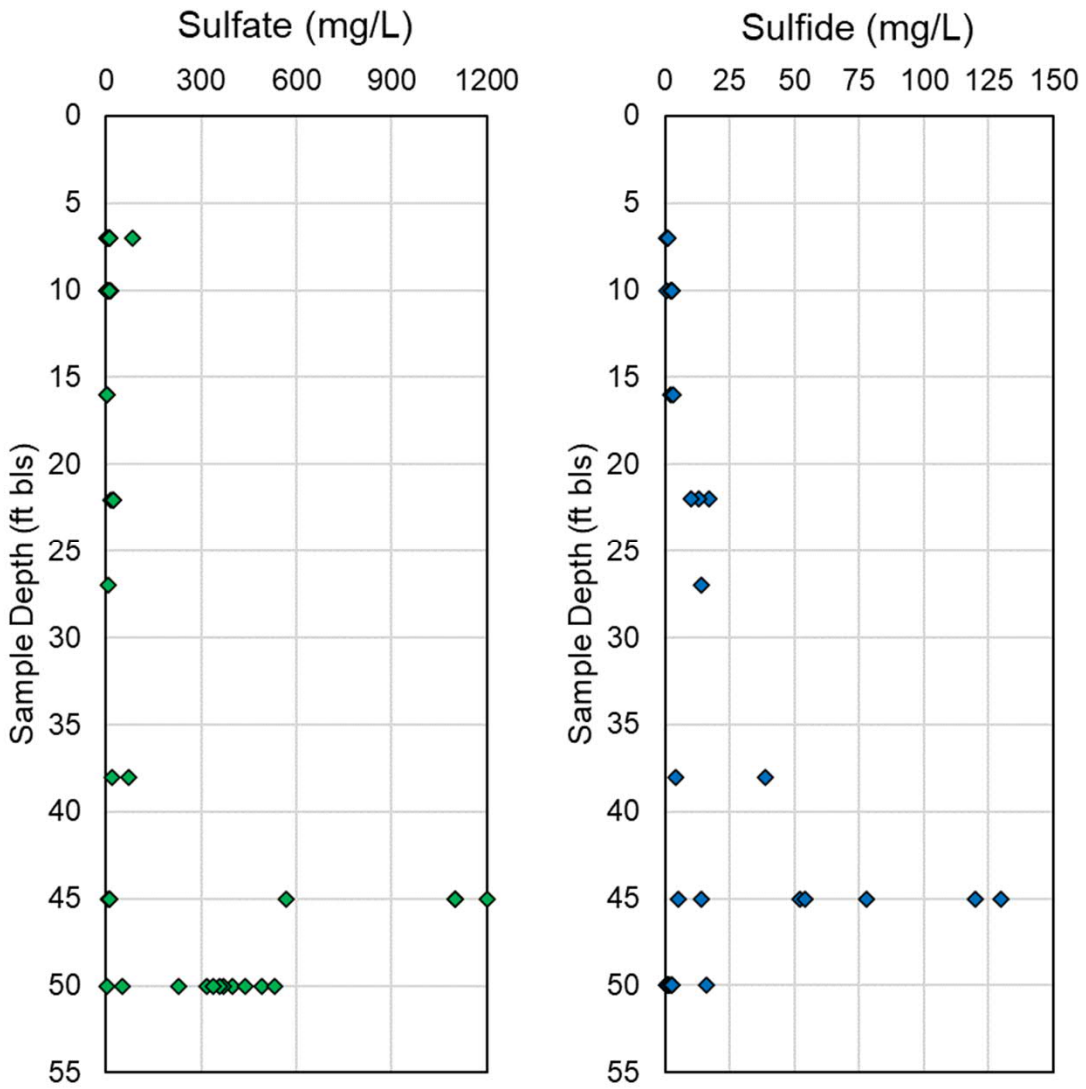
DPT Sampling Summary

- Dissolved CVOCs plumes were delineated to NADCs (GCTLs at some locations)
- Shallow Interval (above 28 ft bls; 2017 treatment depth was 4 to 28 ft bls)
  - Has maximum CVOC concentrations (TCE=129,000 ug/L, cDCE= 88,000 ug/L, VC=21,000 ug/L)
  - Center of plumes (and likely TCE source) is still near SE corner of platform
  - Potential treatment areas (NADC plumes) vary by CVOC:
    - TCE: ~30 ft diameter and consistent to 28 ft bls
    - cDCE: area expands (~10 to ~30 ft diameter) with depth and to the south
    - VC: ~20x30 ft
- Deep Interval (below 40 ft bls; 2017 treatment depth was 39 to 57 ft bls)
  - CVOC concentrations generally decrease with depth and are less than shallow groundwater
  - Center of plumes and treatment areas (NADC plumes) vary by CVOC:
    - TCE: ~25x40 ft with center (max concentrations) ~10 ft east of center in shallow groundwater
    - cDCE: coincides with TCE plus 2 other areas south and downgradient (lower concentrations)
    - VC: similar to cDCE (3 areas) with larger downgradient areas

DPT Sampling Summary

Geochemistry (sulfate/sulfide)

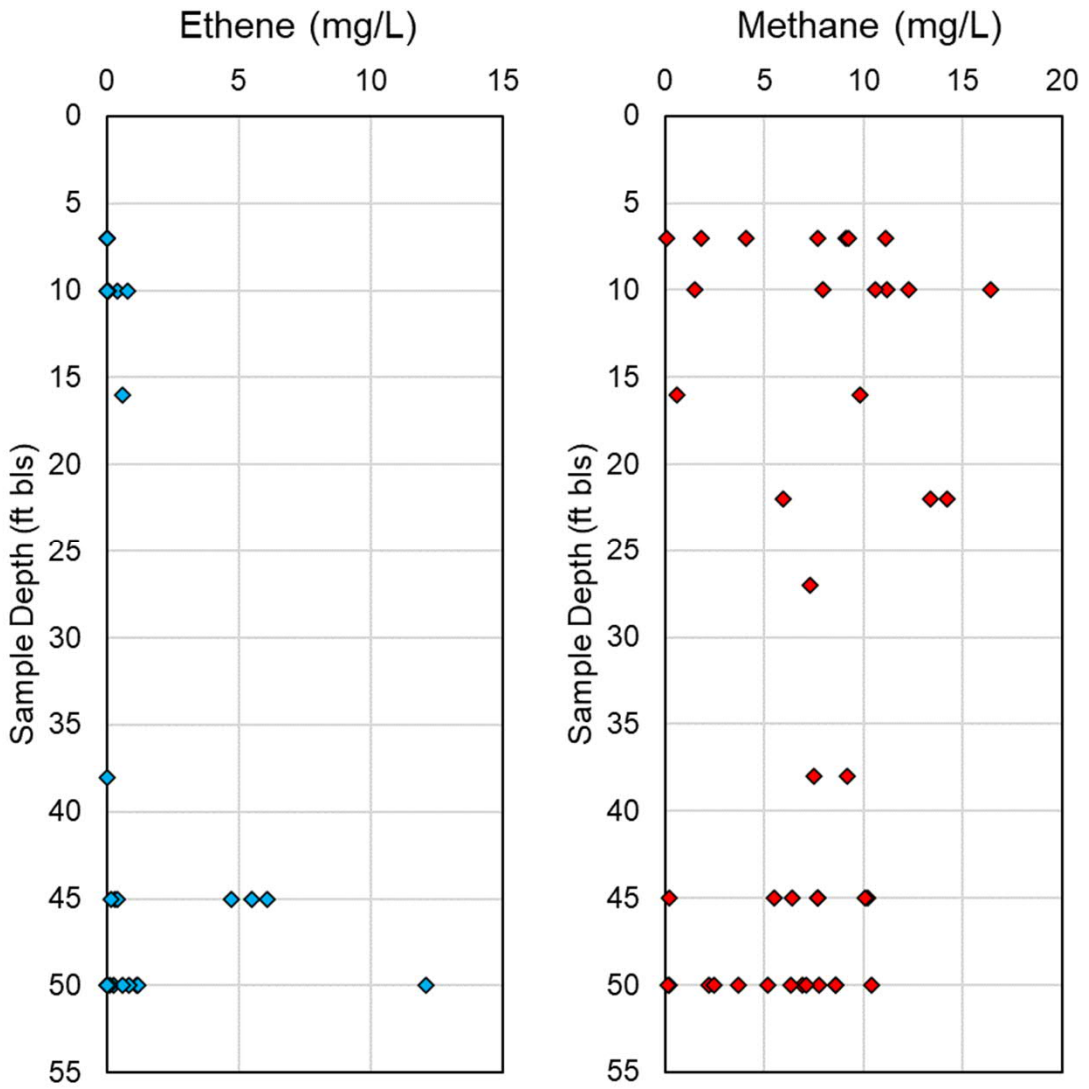
- Sulfate
  - <1 to 1,200 milligrams per liter (mg/L)
  - Average of ~200 mg/L
  - Highest concentrations below 40 ft bls
- Sulfide
  - <1 to 130 mg/L
  - Average of ~16 mg/L
  - Highest concentrations below 40 ft bls
- Sulfate concentrations are high and sulfate reducers are competing for electron donor (TOC) with *Dhc* and other microbes that support enhanced reductive dechlorination (ERD)
- Sulfide concentrations are high (not typical) indicating limited natural iron to precipitate sulfide and the potential inhibition of microbial activity and ERD



DPT Assessment Summary

Geochemistry

- TOC
  - 1.5 to 2,800 mg/L (max at 45 ft bls)
  - Average of ~120 mg/L
  - Can support ERD but not optimal
- Ethene
  - <1 to 12 mg/L (max at 50 ft bls)
  - Average of ~1.4 mg/L
  - Indicates complete ERD in shallow (5 to 18 ft bls) and deep (38 to 52 ft bls) groundwater
- Methane
  - <1 to 16 mg/L (max at 10 ft bls)
  - Average of ~7 mg/L
  - Indicates methanogenesis activity is high (good redox for ERD) and methanogens are competing for electron donor (inefficient use of TOC)
  - Potential for unsafe condition in confined space



Conclusion

Remediation Progress

- EVO injection decreased CVOC mass and plume footprints (source likely still present)
- Redox and pH are appropriate for ongoing ERD but TOC is depleted and not optimal
- High sulfate and low natural iron to control sulfide likely limits ERD and optimal use of TOC
- High methane indicates non-optimal use of TOC by methanogens that limit ERD

Recommendations

- Create optimal conditions for long-term CVOCs degradation that treats plumes and mass flux from the source

Remediation Strategy/Approach

- Promote in situ chemical reduction (ISCR) by emplacing a product that:
  - Enhances biotic and abiotic reduction of CVOCs for a long period (5 or more years)
  - Maintains optimal conditions by limiting methanogenesis and managing sulfate reduction and sulfide accumulation

Conclusion and Team Consensus

Recommended Remedial Approach

- Optimal ISCR approach uses a slow-release hydrogen substrate and micro- or nano-scale zero valent iron (ZVI)
- High-pressure injection of the product (likely a high viscosity slurry) is typically performed with direct-push, special injection tooling, and high-pressure pumps (>300 psi) to create lateral hydraulic fractures to distribute the remedial product at specified depth intervals
- Process is self-buffering because of ZVI
- Oxidation of ZVI provides iron to limit sulfide accumulation (formation/precipitation of iron sulfides can expand treatment volume)
- Potential products to be evaluated (availability, costs, and injection vendor experience)
  - Provect-IR is a solid that is mixed with water and injected as a slurry. Includes slow-release solid organic hydrogen donors, ZVI, oxygen scavengers, and red yeast rice (RYR) extract to limit methanogenesis
  - PeroxyChem EHC and EHC Plus are similar to Provect-IR but do not include the methanogenesis inhibitor (EHC Plus adds powdered activated carbon to add adsorption to the degradation processes)

Team Consensus

- Proceed with an IMWP to implement ISCR to treat key CVOCs (TCE, cDCE, and VC) exceeding their respective NADC.

  (TCE > 300 ug/L, cDCE >700 ug/L, and VC >100 ug/L)

MLP/VAB (SWMU 056)
HS3 Performance Monitoring

Spider diagrams and table of DPT groundwater sampling results are attached.

APPENDIX G

FIELD NOTES – GROUNDWATER SAMPLING ACTIVITIES

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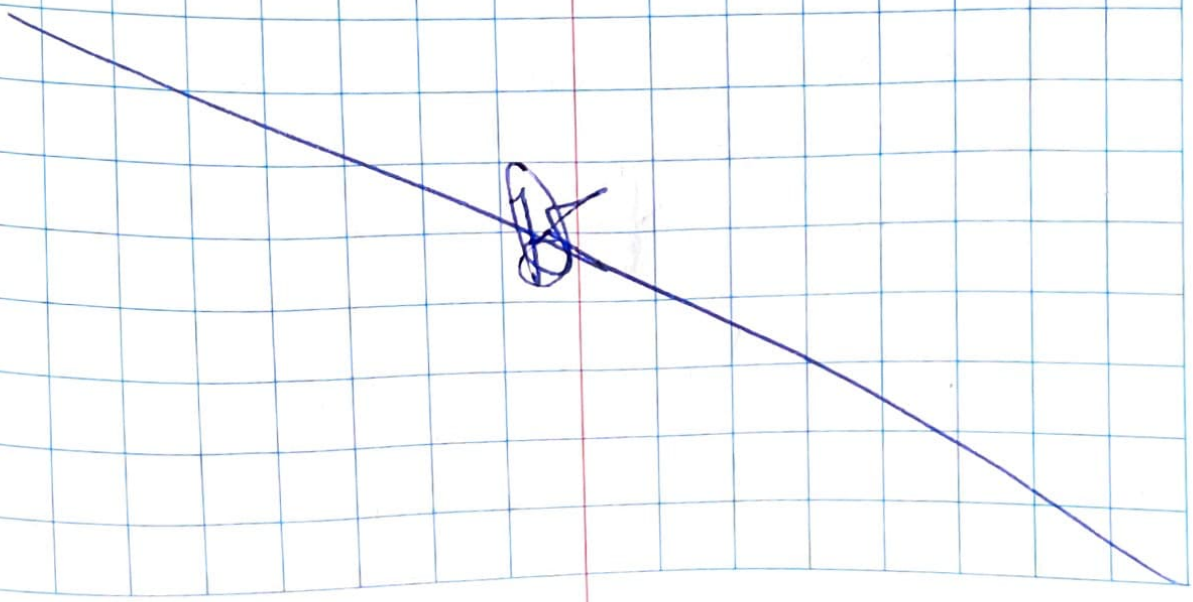
3/5/21 p. 1 of 3 DS/mp

MLPV GW Sampling

0730 - Dustin Slaten & Madan Parsotam onsite
Weather: Sunny, 64°F., High near 90°F.
H&S meeting -
- Begin opening wells for stabilization
1005 - Finished collecting water levels.
- Split up sample bottles
- Calibrate equipment
1045 - Madan starts at well MLPV-IW0036
- Dustin starts at well MLPV-IW0034
- Sampling complete for the day.
1435 - Head to CCF to stage drum & dump out purge water.
1510 - Work complete for the day.
1515 - DS/mp offsite.



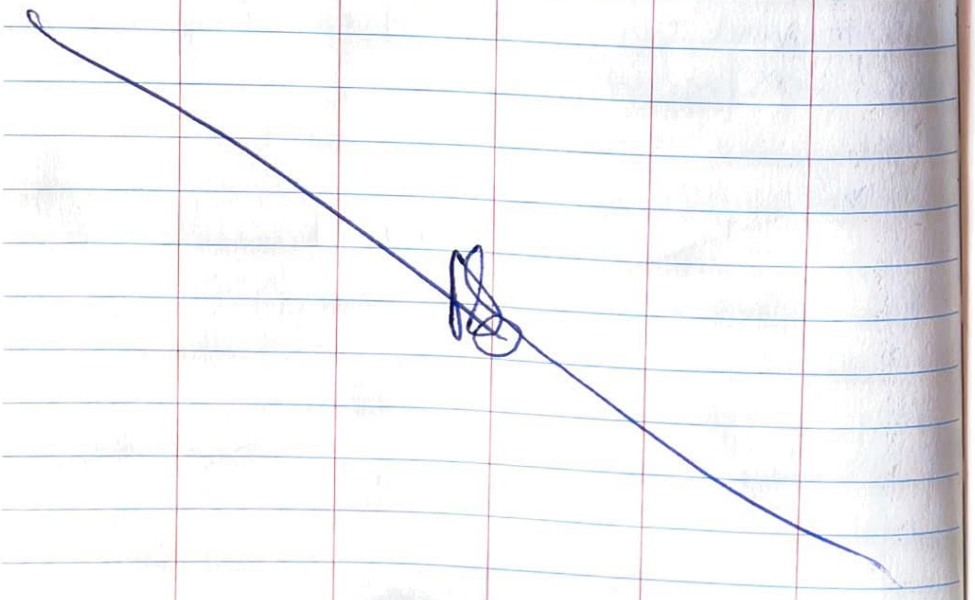
3/16/21

p. 2 of 3

OS/mp

MLPV GW Sampling

0730 - Dustin Slater & Madan Paresotan onsite.
Weather: Sunny, 73°F.
- HS meeting
- Continue Sampling Hot Spot 2 area.
1130 - Break for lunch
1215 - Back from lunch -
- Dustin heads to Biosparge Area to begin while Madan finishes Hot Spot 2.
1430 - Finished sampling -
1440 - Head to CCF to dump purge water.
1500 - Work complete for the day -.
OS/mp offsite.



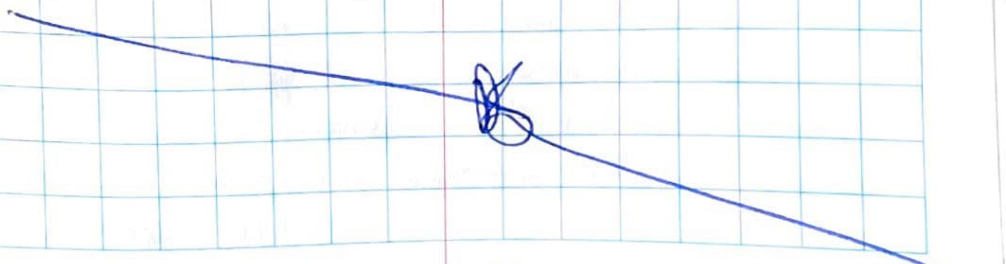
3/17/21

p. 3 of 3

OS/mp

MLPV GW Sampling

0700 - Dustin Slater & Madan Paresotan onsite.
Weather: Sunny, 66°F.
HS meeting -
- Will finish sampling the remaining wells in Biosparge Area.
- Dustin starts at MLPV-IW0081, Madan starts at MLPV-IW0057.
1130 - Finished sampling -
- Head to CCF to dump purge water & collect IDW sample.
1150 - Collect MLPV-IDW-20210317.
1205 - Close up clamshell & secure it with strap -
1220 - Offsite -
- Will drop samples off at SGS & ENCO will pick up at the depot -
1435 - Samples dropped off.
1515 - Work complete -



3/18/21 KSC - MLPV

GK BF DS

Water level gauging

0800 Greg Kusel, Brittany Follett, and Dustin Slater onsite at KSC near the VAB.
- Safety meeting
- go over SOW

0830 initial water level meter calibration. (MLPV-IW0014I)

	Depth (Ft)
GK:	3.98
BF:	3.96
DS:	3.96

0835 Crew splits up to begin collecting water levels.

1100 Crew reconvenes at MLPV-IW0014

	Depth (Ft)
GK:	3.98
BF:	3.96
DS:	3.96

1110 Crew splits up to finish collecting water levels.

~~1330~~ 1430 GK Crew is wrapping up gauging event.
- Consolidate gauging logs
- obtain last couple of water levels
- MLPV-IW0052 was found broken
- unable to access VABU-IW0001I

3/18/21 KSC - MLPV

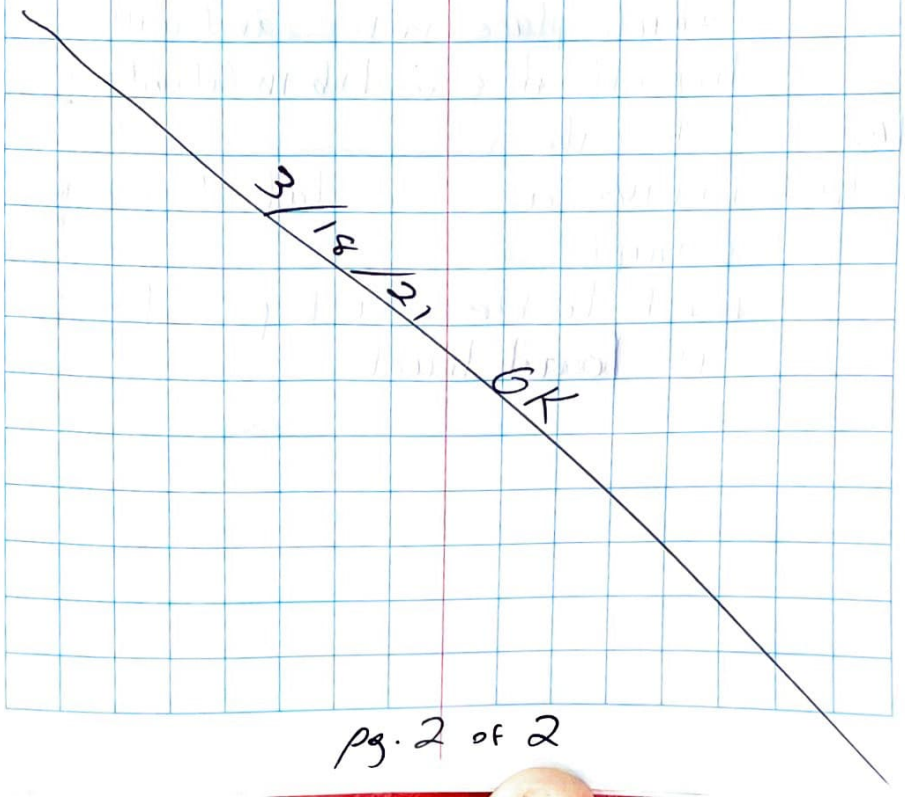
GK BF DS

Water level gauging

1530 Crew re calibrates water level meters @ MLPV-IW0014I

	Depth (Ft)
GK:	3.98
BF:	3.96
DS:	3.96

1540 Crew finished with dry season site-wide water level gauging. Measurements were recorded on a seperate water level log saved to the MLPV Technical folder.
- Crew offsite



03/19/21 MLP GW sampling

0900 Madan Parsotam @ Aecom Depot load up truck #904 Ford F150

0935 leave Aecom Depot for Job site

1045 Arrive on site
Weather 70°F sunny
Review H&S
Calibrate Equipment
Scope of Work
Collect IDW sample from
Drum # 222837
Check PH Reading 7.05
Sample Collected @ 20210319@1052
Sample place on ice and will
drop off at SGS lab in Orlando, FL

1150 off site

1245 Arrive at SGS lab drop off
sample
Back to Aecom Depot to
off load truck

9/13/24 KSC MLPV OS/MP

p. 1 of 3

0820 - Austin Slater & Madam Parsotan onsite.

Weather: Raining, should clear soon but more to come, high 90°f.

- Check in at Bechtel trailer and let them know our scope of work.

0830 - Begin H&S meeting

0845 - Begin opening wells.

- Wells MLPV-MW0032, MW0033, MW0035, & MW0040 have been covered by gravel when new parking area was put in -
- Wells MLPV-MW0042 & MW0043 are under water in new swale.
- Wells MLPV-MW0044 & MW0045 were unable to be located - they are either destroyed or in new swale and under water -
- Wells MLPV-IW0031, IW0060GIR, IW0060, IW0063, & IW0064 were unable to be located.

↳ Spoke with Linnea about all the wells we couldn't find. She will speak to Arine and let us know how to proceed.

1230 - Begin calibrating equipment.

1420 - Wrap up for day. More rain on the way.

1430 - OS/MP offsite.

OS

Scanned with CamScanner

9/14/24 KSC MLPV p. 2 of 3. DS/MP

0815- Dustin Slater & Madan Purusotan onsite.
Weather: Sunny, humid, high 92°F.
H&S meeting -
- Contact Matt Luthi with Bechtel.
- Walk site with Matt to show him which wells are unable to be located.
- He's going to check with Anne then Grant GPS unit to try and find wells in Biosparge Area. Hot Spot 2 wells that weren't able to be found may have to wait until they can get gravel removed over them.
- Madan starts back in Biosparge Area.
- Dustin continues in Hot Spot 2 area.

1230 - Matt Luthi back onsite -
↳ Informs us that he was able to locate MLPV-IW0063 & IW0064, thinks he may have found IW0031 also.
- Dustin will bring weedeater tomorrow to try to find IW0031 & IW0060.

1440 - Sampling complete for the day.

1450 - DS/MP offsite.

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9/15/21 KSC MLPV OS/MP

p. 3 of 3

0715 - Austin Slatter & Madan Parsotan onsite at CCF to setup drums and dump out purge water.
- H&S Meeting -
- Drums staged -
0745 - Madan heads to Hot Spot 3 area.
0745 - Austin heads to Biosparge area to weedeat and try to locate IW0060.
0800 - Begin weedeating around ASMW0006 & IW0060 location -
↳ found IW0060, it is approximately 8 feet to the west of ASMW0006. Cleared out as much brush & grass as I could around the wells.
1010 - Matt Luthi onsite. Discuss which wells we still can't find. Matt looks some more and is able to locate IW0031 & IW0006IR.
- Will be able to sample those wells now.
- We have been able to locate and sample all wells in Biosparge Area now.
1210 - Sampling complete. Head to CCF to dump purge water and collect IDW sample.
1220 - MLPV-IDW-01-20210915, pH = 7.60
IDW-Drum approx. 60% full
ID = 222841, clamshell ID = 22284

22284

1245 - offsite.

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APPENDIX H

GROUNDWATER SAMPLING LOGS AND CALIBRATION RECORDS

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GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0011I-037.5-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0011I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	2.77
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.3	Sample Analysis:	Select VOCs

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
3/16/2021	8:36				2.77									
3/16/2021	8:56	0.05	1.00	1.00	2.91	7.27	1632	0.16	3.19	23.8	-121.4	0.84	None	None
3/16/2021	8:58	0.05	.10	1.10	2.91	7.26	1633	0.15	2.66	23.8	-124.8	0.84	None	None
3/16/2021	9:00	0.05	.10	1.20	2.91	7.26	1633	0.14	2.32	23.8	-125.3	0.84	None	None
3/16/2021	9:02	0.05	.10	1.30	2.91	7.26	1635	0.14	1.89	23.9	-126.1	0.83	None	None

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)
8:36	9:02	26	1.30	7.26	1635	0.14	1.89	23.9	-126.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0032-035.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0032 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.27
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/16/2021	10:51				1.27									
3/16/2021	11:11	0.05	1.00	1.00	N/A	7.12	1887	0.17	15.52	24.5	-121.2	1.03	None	None
3/16/2021	11:13	0.05	.10	1.10	N/A	7.12	1885	0.16	15.41	24.5	-120.1	1.02	None	None
3/16/2021	11:15	0.05	.10	1.20	N/A	7.13	1886	0.14	15.36	24.4	-119.6	1.01	None	None
3/16/2021	11:17	0.05	.10	1.30	N/A	7.12	1884	0.13	15.22	24.4	-119.4	0.98	None	None

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	1.30	7.12	1884	0.13	15.22	24.4	-119.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0033-045.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0033 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.17
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/16/2021	11:28				1.17									
3/16/2021	11:48	0.05	1.00	1.00	N/A	7.11	6681	0.15	5.39	24.7	-120.1	3.67	None	None
3/16/2021	11:50	0.05	.10	1.10	N/A	7.11	6680	0.13	5.32	24.7	-119.9	3.67	None	None
3/16/2021	11:52	0.05	.10	1.20	N/A	7.11	6679	0.12	5.27	24.7	-119.9	3.67	None	None
3/16/2021	11:54	0.05	.10	1.30	N/A	7.11	6678	0.11	5.19	24.7	-118.5	3.67	None	None

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)
11:28	11:54	26	1.30	7.11	6678	0.11	5.19	24.7	-118.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0034-035.0-20210315 Sampler: Dustin Slater

Well ID: MLPV-IW0034 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.56
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/15/2021	11:02				3.56									
3/15/2021	11:22	0.05	1.00	1.00	N/A	7.11	1033	0.15	2.53	24.5	-93.2	0.51	None	None
3/15/2021	11:24	0.05	.10	1.10	N/A	7.11	1038	0.15	1.95	24.5	-93.9	0.52	None	None
3/15/2021	11:26	0.05	.10	1.20	N/A	7.11	1041	0.15	1.67	24.5	-94.0	0.52	None	None
3/15/2021	11:28	0.05	.10	1.30	N/A	7.11	1043	0.15	1.22	24.6	-94.2	0.52	None	None

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)
11:02	11:28	26	1.30	7.11	1043	0.15	1.22	24.6	-94.2

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0035-045.0-20210315 Sampler: Dustin Slater

Well ID: MLPV-IW0035 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.58
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/15/2021	11:42				3.58									
3/15/2021	12:02	0.05	1.00	1.00	N/A	7.14	4385	0.20	2.35	25.0	-72.4	2.33	None	None
3/15/2021	12:04	0.05	.10	1.10	N/A	7.14	4370	0.20	1.93	24.9	-72.5	2.32	None	None
3/15/2021	12:06	0.05	.10	1.20	N/A	7.14	4362	0.20	1.66	24.9	-72.6	2.32	None	None
3/15/2021	12:08	0.05	.10	1.30	N/A	7.14	4651	0.20	1.42	25.0	-72.6	2.31	None	None

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)
11:42	12:08	26	1.30	7.14	4651	0.20	1.42	25.0	-72.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0036-042.5-20210315 Sampler: MADAN PARSOTAN

Well ID: MLPV-IW0036 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	4.53
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45	Sample Analysis:	Select VOCs

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
3/15/2021	11:02				4.53									
3/15/2021	11:22	0.05	1.00	1.00	N/A	7.24	2532	0.62	5.37	25.6	-187.4	1.29	None	None
3/15/2021	11:24	0.05	.10	1.10	N/A	7.24	2532	0.51	5.29	25.6	-191.7	1.29	None	None
3/15/2021	11:26	0.05	.10	1.20	N/A	7.24	2533	0.42	5.17	25.5	-193.6	1.29	None	None
3/15/2021	11:28	0.05	.10	1.30	N/A	7.24	2532	0.35	5.09	25.5	-195.4	1.29	None	None

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)
11:02	11:28	26	1.30	7.24	2532	0.35	5.09	25.5	-195.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0037-045.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0037 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.85
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/16/2021	9:18				2.85									
3/16/2021	9:38	0.05	1.00	1.00	N/A	7.26	8037	0.19	4.24	24.2	-81.0	4.53	None	None
3/16/2021	9:40	0.05	.10	1.10	N/A	7.26	8065	0.18	3.63	24.3	-80.7	4.53	None	None
3/16/2021	9:42	0.05	.10	1.20	N/A	7.26	8064	0.17	3.22	24.4	-80.5	4.53	None	None
3/16/2021	9:44	0.05	.10	1.30	N/A	7.26	8060	0.17	2.84	24.4	-80.4	4.53	None	None

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)
9:18	9:44	26	1.30	7.26	8060	0.17	2.84	24.4	-80.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0038-035.0-20210315 Sampler: Dustin Slater

Well ID: MLPV-IW0038 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.81
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/15/2021	13:14				2.81									
3/15/2021	13:34	0.05	1.00	1.00	N/A	7.18	1567	0.19	0.91	25.3	-35.5	0.78	None	None
3/15/2021	13:36	0.05	.10	1.10	N/A	7.19	1577	0.19	0.88	25.4	-35.8	0.79	None	None
3/15/2021	13:38	0.05	.10	1.20	N/A	7.19	1584	0.19	0.77	25.4	-35.9	0.79	None	None
3/15/2021	13:40	0.05	.10	1.30	N/A	7.19	1589	0.19	0.72	25.5	-36.4	0.79	None	None

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)
13:14	13:40	26	1.30	7.19	1589	0.19	0.72	25.5	-36.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0039-045.0-20210315 Sampler: Dustin Slater

Well ID: MLPV-IW0039 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.71
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/15/2021	13:59				2.71									
3/15/2021	14:19	0.05	1.00	1.00	N/A	7.21	7198	0.17	1.66	25.4	-74.7	3.92	None	None
3/15/2021	14:21	0.05	.10	1.10	N/A	7.21	7211	0.17	1.32	25.5	-74.8	3.92	None	None
3/15/2021	14:23	0.05	.10	1.20	N/A	7.21	7220	0.17	1.20	25.5	-75.0	3.93	None	None
3/15/2021	14:25	0.05	.10	1.30	N/A	7.22	7226	0.17	1.06	25.5	-75.1	3.93	None	None

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)
13:59	14:25	26	1.30	7.22	7226	0.17	1.06	25.5	-75.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0040-035.0-20210315 Sampler: MADAN PARSOTAN

Well ID: MLPV-IW0040 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.97
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/16/2021	13:48				3.97									
3/16/2021	14:08	0.05	1.00	1.00	N/A	7.10	1413	0.17	5.26	25.0	-116.9	0.52	None	None
3/16/2021	14:10	0.05	0.10	1.10	N/A	7.10	1414	0.16	5.21	25.0	-117.1	0.52	None	None
3/16/2021	14:12	0.05	0.10	1.20	N/A	7.10	1415	0.15	5.17	24.9	-117.4	0.53	None	None
3/16/2021	14:14	0.05	0.10	1.30	N/A	7.10	1416	0.13	5.09	24.9	-116.8	0.53	None	None

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)
13:48	14:14	26	1.30	7.10	1416	0.13	5.09	24.9	-116.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0041-045.0-20210316 Sampler: MADAN PARSOTAN

Well ID: MLPV-IW0041 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.95
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/16/2021	8:35				3.95									
3/16/2021	8:55	0.05	1.00	1.00	N/A	7.16	4802	0.69	6.65	23.8	-112.1	2.91	None	None
3/16/2021	8:57	0.05	0.10	1.10	N/A	7.16	4803	0.60	6.21	23.8	-111.7	2.92	None	None
3/16/2021	8:59	0.05	0.10	1.20	N/A	7.16	4803	0.51	5.92	23.9	-111.4	2.92	None	None
3/16/2021	9:01	0.05	0.10	1.30	N/A	7.16	4805	0.42	5.32	23.9	-111.1	2.92	None	None

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)
8:35	9:01	26	1.30	7.16	4805	0.42	5.32	23.9	-111.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0042-035.0-20210316 Sampler: MADAN PARSOTAN

Well ID: MLPV-IW0042 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.24
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/16/2021	9:27				2.24									
3/16/2021	9:47	0.05	1.00	1.00	N/A	7.21	845	0.27	4.62	24.0	-98.2	0.39	None	None
3/16/2021	9:49	0.05	0.10	1.10	N/A	7.21	845	0.25	4.51	24.0	-98.6	0.39	None	None
3/16/2021	9:51	0.05	0.10	1.20	N/A	7.21	846	0.23	4.43	24.1	-98.9	0.38	None	None
3/16/2021	9:53	0.05	0.10	1.30	N/A	7.21	846	0.22	4.37	24.1	-99.3	0.38	None	None

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)
9:27	9:53	26	1.30	7.21	846	0.22	4.37	24.1	-99.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0043-045.0-20210316 Sampler: MADAN PARSOTAN

Well ID: MLPV-IW0043 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.2
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/17/2021	10:07				2.20									
3/17/2021	10:27	0.05	1.00	1.00	N/A	7.13	6788	0.19	5.39	24.4	-92.8	3.11	None	None
3/17/2021	10:29	0.05	0.10	1.10	N/A	7.13	6787	0.17	5.32	24.4	-93.1	3.12	None	None
3/17/2021	10:31	0.05	0.10	1.20	N/A	7.13	6786	0.15	5.28	24,3	-93.5	3.12	None	None
3/17/2021	10:33	0.05	0.10	1.30	N/A	7.13	6784	0.14	5.19	24.3	-93.7	3.17	None	None

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)
10:07	10:33	26	1.30	7.13	6784	0.14	5.19	24.3	-93.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0044-045.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0044 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.39
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/16/2021	10:00				1.39									
3/16/2021	10:20	0.05	1.00	1.00	N/A	7.07	4982	0.19	4.27	23.5	-80.0	2.75	None	None
3/16/2021	10:22	0.05	.10	1.10	N/A	7.07	4981	0.19	3.51	23.6	-80.5	2.75	None	None
3/16/2021	10:24	0.05	.10	1.20	N/A	7.06	4996	0.19	3.22	23.6	-80.7	2.76	None	None
3/16/2021	10:26	0.05	.10	1.30	N/A	7.06	5001	0.18	2.98	23.5	-80.7	2.76	None	None

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)
10:00	10:26	26	1.30	7.06	5001	0.18	2.98	23.5	-80.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0045-045.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0045 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.74
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/16/2021	10:54				2.74									
3/16/2021	11:14	0.05	1.00	1.00	N/A	7.16	5685	0.24	1.81	23.9	-70.6	3.15	None	None
3/16/2021	11:16	0.05	.10	1.10	N/A	7.15	5666	0.26	1.56	23.9	-70.2	3.13	None	None
3/16/2021	11:18	0.05	.10	1.20	N/A	7.14	5660	0.25	1.22	23.9	-70.1	3.12	None	None
3/16/2021	11:20	0.05	.10	1.30	N/A	7.14	5649	0.25	1.06	23.9	-69.6	3.12	None	None

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)
10:54	11:20	26	1.30	7.14	5649	0.25	1.06	23.9	-69.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-SAMW0004D-047.5-20210315 Sampler: MADAN PARSOTAN

Well ID: MLPV-SAMW0004D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.22
Top of Screen (ft-BTOR):	45.2	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	49.7	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/15/2021	11:45				4.22									
3/15/2021	12:05	0.05	1.00	1.00	4.37	7.09	8176	0.38	8.75	25.4	-233.6	4.49	None	None
3/15/2021	12:07	0.05	0.10	1.10	4.37	7.09	8175	0.35	8.62	25.4	-235.7	4.45	None	None
3/15/2021	12:09	0.05	0.10	1.20	4.37	7.09	8172	0.32	8.35	25.5	-238.3	4.43	None	None
3/15/2021	12:11	0.05	0.10	1.30	4.37	7.09	8170	0.29	8.11	25.6	-240.7	4.41	None	None

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)
11:45	12:11	26	1.30	7.09	8170	0.29	8.11	25.6	-240.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-SAMW0004I-037.5-20210315 Sampler: MADAN PARSOTAN

Well ID: MLPV-SAMW0004I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	4.22
Top of Screen (ft-BTOR):	35.2	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	39.7	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
3/15/2021	13:18				4.22									
3/15/2021	13:28	0.05	1.00	1.00	4.29	7.11	1116	0.19	2.43	26.3	-200.4	0.54	None	None
3/15/2021	13:30	0.05	0.10	1.10	4.29	7.11	1112	0.18	2.35	26.2	-200.6	0.54	None	None
3/15/2021	13:32	0.05	0.10	1.20	4.29	7.10	1114	0.17	2.28	26.4	-200.7	0.54	None	None
3/15/2021	13:34	0.05	0.10	1.30	4.29	7.10	1116	0.15	2.10	26.5	-200.5	0.54	None	None

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)
13:18	13:34	16	1.30	7.10	1116	0.15	2.10	26.5	-200.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0004-037.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-ASMW0004 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.61
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
3/17/2021	10:05				1.61									
3/17/2021	10:25	0.05	1.00	1.00	1.67	7.28	3792	0.22	3.88	23.5	-25.8	2.06	None	None
3/17/2021	10:27	0.05	.10	1.10	1.67	7.28	3793	0.21	3.31	23.6	-25.7	2.06	None	None
3/17/2021	10:29	0.05	.10	1.20	1.67	7.28	3795	0.21	3.02	23.6	-25.7	2.06	None	None
3/17/2021	10:31	0.05	.10	1.30	1.67	7.28	3796	0.21	2.86	23.6	-25.6	2.06	None	None

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)
10:05	10:31	26	1.30	7.28	3796	0.21	2.86	23.6	-25.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0005-037.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-ASMW0005 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.16
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
3/17/2021	10:57				2.16									
3/17/2021	11:17	0.05	1.00	1.00	2.21	7.18	3344	1.90	8.45	24.0	73.0	1.79	None	None
3/17/2021	11:19	0.05	.10	1.10	2.21	7.17	3406	1.79	5.96	24.0	62.3	1.82	None	None
3/17/2021	11:21	0.05	.10	1.20	2.21	7.17	3422	1.74	5.22	24.0	61.4	1.83	None	None
3/17/2021	11:23	0.05	.10	1.30	2.21	7.17	3431	1.72	4.76	24.0	60.9	1.83	None	None

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)
10:57	11:23	26	1.30	7.17	3431	1.72	4.76	24.0	60.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0006-037.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-ASMW0006 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.41
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
3/17/2021	9:35				1.41									
3/17/2021	9:55	0.05	1.00	1.00	1.45	7.02	3980	0.19	4.29	25.4	-67.4	2.08	None	None
3/17/2021	9:57	0.05	.10	.10	1.45	7.02	3980	0.17	4.21	25.4	-67.7	2.08	None	None
3/17/2021	9:59	0.05	.10	.10	1.45	7.02	3981	0.16	4.17	25.5	-67.9	2.08	None	None
3/17/2021	10:01	0.05	.10	.10	1.45	7.02	3982	0.14	4.04	25.5	-68.2	2.08	None	None

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)
9:35	10:01	26	.10	7.02	3982	0.14	4.04	25.5	-68.2

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0006IR-030.5-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0006IR Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	2.37
Top of Screen (ft-BTOR):	28	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	33	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	33.3	Sample Analysis:	Select VOCs

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
3/16/2021	13:53				2.37									
3/16/2021	14:13	0.05	1.00	1.00	2.45	7.39	1185	0.16	3.34	25.6	-165.5	0.58	None	None
3/16/2021	14:15	0.05	.10	1.10	2.45	7.41	1187	0.16	2.97	25.6	-166.3	0.58	None	None
3/16/2021	14:17	0.05	.10	1.20	2.45	7.44	1191	0.16	2.56	25.6	-166.9	0.58	None	None
3/16/2021	14:19	0.05	.10	1.30	2.45	7.45	1197	0.16	2.13	25.7	-167.4	0.58	None	None

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)
13:53	14:19	26	1.30	7.45	1197	0.16	2.13	25.7	-167.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0028I-030.5-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0028I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	2.21
Top of Screen (ft-BTOR):	28	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	33	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	33	Sample Analysis:	Select VOCs

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
3/16/2021	12:26				2.21									
3/16/2021	12:46	0.05	1.00	1.00	2.35	7.56	2743	0.11	2.56	24.7	-109.3	1.43	None	None
3/16/2021	12:48	0.05	.10	1.10	2.35	7.56	2748	0.11	1.95	24.7	-108.8	1.43	None	None
3/16/2021	12:50	0.05	.10	1.20	2.35	7.55	2754	0.10	1.77	24.8	-108.5	1.42	None	None
3/16/2021	12:52	0.05	.10	1.30	2.35	7.55	2762	0.11	1.44	24.9	-107.7	1.42	None	None

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)
12:26	12:52	26	1.30	7.55	2762	0.11	1.44	24.9	-107.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0031-030.0-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0031 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	2.2
Top of Screen (ft-BTOR):	25	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	35	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	35	Sample Analysis:	Select VOCs

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
3/17/2021	7:25				2.20									
3/17/2021	7:45	0.05	1.00	1.00	2.24	7.20	1761	0.25	17.5	23.1	-65.8	0.93	None	None
3/17/2021	7:47	0.05	.10	1.10	2.24	7.19	1765	0.24	12.1	23.0	-66.2	0.92	None	None
3/17/2021	7:49	0.05	.10	1.20	2.24	7.19	1772	0.24	9.23	23.0	-66.3	0.92	None	None
3/17/2021	7:51	0.05	.10	1.30	2.24	7.19	1775	0.23	7.65	23.1	-66.7	0.92	None	None

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)
7:25	7:51	26	1.30	7.19	1775	0.23	7.65	23.1	-66.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0046-040.0-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0046 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	2.18
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45	Sample Analysis:	Select VOCs

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
3/16/2021	13:14				2.18									
3/16/2021	13:34	0.05	1.00	1.00	2.29	7.30	13762	0.29	4.35	25.7	-40.2	7.84	None	None
3/16/2021	13:36	0.05	.10	1.10	2.29	7.30	13780	0.29	4.16	25.7	-40.6	7.84	None	None
3/16/2021	13:38	0.05	.10	1.20	2.29	7.29	13785	0.28	3.88	25.7	-41.5	7.84	None	None
3/16/2021	13:40	0.05	.10	1.30	2.29	7.28	13792	0.28	3.26	25.7	-42.0	7.84	None	None

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)
13:14	13:40	26	1.30	7.28	13792	0.28	3.26	25.7	-42.0

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0057-045.0-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0057 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	5.04
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/17/2021	7:22				5.04									
3/17/2021	7:42	0.05	1.00	1.00	N/A	7.26	5786	0.46	4.76	23.4	-97.9	3.25	None	None
3/17/2021	7:44	0.05	.10	1.10	N/A	7.26	5786	0.42	4.62	23.4	-98.5	3.25	None	None
3/17/2021	7:46	0.05	.10	1.20	N/A	7.26	5785	0.40	4.54	23.4	-99.2	3.24	None	None
3/17/2021	7:48	0.05	.10	1.30	N/A	7.25	5784	0.37	4.36	23.4	-99.6	3.24	None	None

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)
7:22	7:48	26	1.30	7.25	5784	0.37	4.36	23.4	-99.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0058-047.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0058 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	5.11
Top of Screen (ft-BTOR):	45	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/17/2021	8:07				5.11									
3/17/2021	8:27	0.05	1.00	1.00	N/A	7.18	4643	0.29	1.32	23.9	-93.1	2.51	None	None
3/17/2021	8:29	0.05	.10	1.10	N/A	7.18	4643	0.27	1.24	23.9	-93.3	2.52	None	None
3/17/2021	8:31	0.05	.10	1.20	N/A	7.18	4642	0.26	1.10	23.9	-93.6	2.54	None	None
3/17/2021	8:33	0.05	.10	1.30	N/A	7.18	4643	0.25	0.81	23.9	-93.9	2.54	None	None

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)
8:07	8:33	26	1.30	7.18	4643	0.25	0.81	23.9	-93.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0059-047.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0059 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	5.1
Top of Screen (ft-BTOR):	45	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/17/2021	8:49				5.10									
3/17/2021	9:09	0.05	1.00	1.00	N/A	7.19	2898	0.19	12.62	24.6	-90.2	1.48	None	None
3/17/2021	9:11	0.05	.10	1.10	N/A	7.19	2898	0.17	12.51	24.6	-89.7	1.47	None	None
3/17/2021	9:13	0.05	.10	1.20	N/A	7.18	2899	0.16	12.43	24.6	-88.8	1.47	None	None
3/17/2021	9:15	0.05	.10	1.30	N/A	7.18	2899	0.15	12.36	24.5	-89.1	1.46	None	None

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)
8:49	9:15	26	1.30	7.18	2899	0.15	12.36	24.5	-89.1

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0060-045.0-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0060 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.55
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
3/17/2021	10:32				1.55									
3/17/2021	10:52	0.05	1.00	1.00	N/A	7.11	6806	0.29	5.52	25.2	-71.5	3.75	None	None
3/17/2021	10:54	0.05	.10	1.10	N/A	7.10	6806	0.27	5.58	25.2	-71.9	3.75	None	None
3/17/2021	10:56	0.05	.10	1.20	N/A	7.11	6805	0.25	5.49	25.3	-72.4	3.75	None	None
3/17/2021	10:58	0.05	.10	1.30	N/A	7.11	6804	0.23	5.32	25.3	-72.7	3.74	None	None

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)
10:32	10:58	26	1.30	7.11	6804	0.23	5.32	25.3	-72.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0061-037.5-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0061 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	5.33
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
3/16/2021	12:56				5.33									
3/16/2021	13:16	0.05	1.00	1.00	N/A	7.46	2071	0.16	5.62	26.4	-128.7	1.02	None	None
3/16/2021	13:18	0.05	.10	1.10	N/A	7.46	2071	0.14	5.50	26.4	-128.2	1.02	None	None
3/16/2021	13:20	0.05	.10	1.20	N/A	7.46	2072	0.13	5.41	26.4	-128.9	1.02	None	None
3/16/2021	13:22	0.05	.10	1.30	N/A	7.46	2072	0.12	5.32	26.4	-128.4	1.02	None	None

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)
12:56	13:22	26	1.30	7.46	2072	0.12	5.32	26.4	-128.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0062-042.5-20210316 Sampler: Dustin Slater

Well ID: MLPV-IW0062 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	5.43
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
3/16/2021	13:34				5.43									
3/16/2021	13:54	0.05	1.00	1.00	N/A	7.20	9415	0.22	15.69	26.8	-97.1	5.10	None	None
3/16/2021	13:56	0.05	.10	1.10	N/A	7.20	9415	0.21	15.52	26.8	-96.6	5.10	None	None
3/16/2021	13:58	0.05	.10	1.20	N/A	7.20	9414	0.20	15.41	26.8	-96.4	5.11	None	None
3/16/2021	14:00	0.05	.10	1.30	N/A	7.19	9418	0.19	15.32	26.7	-96.2	5.12	None	None

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)
13:34	14:00	26	1.30	7.19	9418	0.19	15.32	26.7	-96.2

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0063-037.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0063 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.3
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
3/17/2021	8:07				3.30									
3/17/2021	8:27	0.05	1.00	1.00	N/A	7.02	4664	0.14	5.35	23.6	-57.0	2.57	None	None
3/17/2021	8:29	0.05	.10	1.10	N/A	7.02	4679	0.12	5.62	23.6	-57.6	2.64	None	None
3/17/2021	8:31	0.05	.10	1.20	N/A	7.02	4694	0.12	4.97	23.6	-58.3	2.65	None	None
3/17/2021	8:33	0.05	.10	1.30	N/A	7.02	4702	0.11	4.64	23.6	-58.7	2.68	None	None

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)
8:07	8:33	26	1.30	7.02	4702	0.11	4.64	23.6	-58.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0064-042.5-20210317 Sampler: Dustin Slater

Well ID: MLPV-IW0064 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.24
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45.25	Sample Analysis:	Select VOCs

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
3/17/2021	9:04				3.24									
3/17/2021	9:24	0.05	1.00	1.00	N/A	7.03	12903	0.11	4.72	24.0	-62.5	7.57	None	None
3/17/2021	9:26	0.05	.10	1.10	N/A	7.03	12909	0.11	4.14	24.1	-62.8	7.57	None	None
3/17/2021	9:28	0.05	.10	1.20	N/A	7.03	12921	0.11	3.85	24.1	-62.9	7.57	None	None
3/17/2021	9:30	0.05	.10	1.30	N/A	7.03	12927	0.11	3.66	24.1	-69.1	7.58	None	None

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	1.30	7.03	12927	0.11	3.66	24.1	-69.1

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** *11-10-05*

Project/Site: MLPV Date: 03/15/21 Meter # Rental SN#18J103055

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria: +/-0.3mg/l	
(CAL) ICV CCV		MP	03/15/21	1037			8.41	24.1°C	100%	8.40	(P) F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	03/16/21	0817			8.82	21.6°C	100%	8.81	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
										Acceptance Criteria: +/- 5%	
(CAL) ICV CCV		MP	03/15/21	1037	1413	10/21	OGJ968			1.414	(P) F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	03/16/21	0817	1413	↓	↓			1.415	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria: +/- 0.2 SU	
(CAL) ICV CCV		MP	03/15/21	1037	4.00	11/2022	OGK443			4.01	(P) F
(CAL) ICV CCV		↓	↓	↓	7.00	10/2022	OGJ635			7.02	(P) F
(CAL) ICV CCV					10.00	10/22	OGJ931			10.00	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	03/16/21	0817	4.00	11/2022	OGK443			3.98	(P) F
CAL ICV (CCV)		↓	↓	↓	↓	↓	↓			6.95	(P) F
CAL ICV (CCV)		↓	↓	↓	↓	↓	↓			9.97	(P) F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: MLPV Date: 03/17/21 Meter # Rental SN# 18J103055

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria: +/-0.3mg/l	
CAL ICV (CCV)		MP	03/17/21	0712			8.51	23.5°C	100%	8.49	(P) F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	3/17/21	1202			8.10	26.6°C	100%	8.02	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
										Acceptance Criteria: +/- 5%	
CAL ICV (CCV)		MP	3/17/21	0712	1413	10/21	OGJ968			1417	(P) F
CAL ICV CCV					↓	↓	↓				P F
CAL ICV CCV		MP	3/17/21	1202						1415	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria: +/- 0.2 SU	
CAL ICV (CCV)		MP	3/17/21	0712	7.00	11/2022	OGK443			7.99	(P) F
CAL ICV (CCV)		↓	↓	↓	4.00	10/2022	OGJ635			7.04	(P) F
CAL ICV (CCV)					10.00	10/22	OGJ931			9.97	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	3/17/21	1202	7.00	11/2022	OGK443			4.02	(P) F
CAL ICV (CCV)		↓	↓	↓	↓	↓	↓			6.98	(P) F
CAL ICV (CCV)										9.98	(P) F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

INSTRUMENT ~~Oakton 310 Series~~ # Rental **Serial #** 18J103055

PARAMETER: *ORP* **Requirements:** +/- 10mV

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard: *MFG* Pine Extr Services ORP *Lot* OGJB73 *Expires* 07/2021 ~~2021~~

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
03/15/21	1045	Temp	22~~°~~C	22°C	-	YES	Initial	MP
"	"	ORP	240MV	239 MV		"	"	"
03/16/21	0822	Temp	20°C	20°C	-	no	Cont	MP
"	"	ORP	237MV	239 MV		"	"	"
03/17/21	0706	Temp	23°C	23°C		No	Cont	MP
		ORP	233MV	235MV				
03/17/21	1147	Temp	25°C	25°C		No	Final	MP
		ORP	231MV	235 MV				
		Temp						
		ORP						
		Temp						
		ORP						
		Temp						
		ORP						
		Temp						
		ORP						

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

INSTRUMENT HACH 2100Q# 11 **Serial #** 16020C047691

PARAMETER: *Turbidity*

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A GELEX 0-10 NTU (+/- 10%)

Standard B GELEX 10-100 NTU (+/- 6.5%)

Standard C GELEX 100-1000 NTU (+/- 5%)

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
03/15/21	1048	A	10	9.99		NO	INITIAL	MP
"	"	B	20	19.96		"	"	"
"	"	C	100	99.98		"	"	"
03/16/21	0820	A	10	9.97		NO	Cont	MP
"	"	B	20	19.95		"	"	"
"	"	C	100	99.98		"	"	"
03/17/21	0702	A	10	9.98		NO	Cont	MP
		B	20	19.99		"		
		C	100	100.02		"		
03/17/21	1152	A	10	9.97		NO	Final	MP
		B	20	19.95		"		
		C	100	99.96		"		
		A				NO		
		B				"		
		C				"		
		A				NO		
		B				"		
		C				"		

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

INSTRUMENT **HACH 2100P #** 2 **Serial #** C013309

PARAMETER: ***Turbidity***

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A GELEX 0-10 NTU (+/- 10%)

Standard B GELEX 10-100 NTU (+/- 6.5%)

Standard C GELEX 100-1000 NTU (+/- 5%)

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
3/5/21	1031	A	6.20	6.18		NO	INITIAL	DS
"	"	B	66.4	66.2		"	"	"
"	"	C	542	539		"	"	"
3/16/21	0812	A	6.20	6.17		NO	ICV	DS
"	"	B	66.4	66.1		"	"	"
"	"	C	542	538		"	"	"
3/17/21	0703	A	6.20	6.18		NO	CCV	DS
↓	↓	B	66.4	66.1		"	↓	↓
↓	↓	C	542	538		"	↓	↓
3/17/21	1158	A	6.20	6.16		NO	CCV	DS
↓	↓	B	66.4	66.0		"	↓	↓
↓	↓	C	542	540		"	↓	↓
		A				NO		
		B				"		
		C				"		
		A				NO		
		B				"		
		C				"		

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: KSC MLP Date: 3/17/21 Meter # Rental

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria:	*+/-0.3mg/l*
CAL ICV (CCV)		DS	3/17/21	0705			8.62	23.6°	100%	8.378	P F
CAL ICV (CCV)		↓	↓	1200			8.14	26.1°	100%	8.099	P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
										Acceptance Criteria:	*+/- 5%*
CAL ICV (CCV)		DS	3/17/21	0705	1413	10/21	0GJ968			1407	P F
CAL ICV (CCV)		↓	↓	1200	1413	↓	↓			1406	P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria:	*+/- 0.2 SU*
CAL ICV (CCV)		DS	3/17/21	0705	7.00	10/22	0GJ835			7.03	P F
CAL ICV (CCV)					4.00	11/22	0GK443			~~4.09~~ 4.09	P F
CAL ICV (CCV)				↓	10.00	10/22	0GJ931			10.07	P F
CAL ICV (CCV)				1200	7.00					7.05	P F
CAL ICV (CCV)					4.00					4.08	P F
CAL ICV (CCV)		↓	↓	↓	10.00	↓	↓			10.05	P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

ORP (CCV) DS 3/17/21 0705 240 7/21 0GJ873 237 P
(CCV) ↓ ↓ 1200 240 ↓ ↓ 235 P

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

Boldly "X" this box if there is qualified data on this page.

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: KSC MLPV Date: 3/15/21 Meter # Rental

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria:	*+/-0.3mg/l*
(CAL) ICV CCV		DS	3/15/21	1034			8.45	23.8°	100%	8.450	(P) F
CAL (ICV) CCV		↓	3/16/21	0815			9.14	20.1°	100%	9.074	P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
										Acceptance Criteria:	*+/- 5%*
(CAL) ICV CCV		DS	3/15/21	1034	1413	10/2021	OGJ968			1413	(P) F
CAL (ICV) CCV		↓	3/16/21	0815	1413					1409	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria:	*+/- 0.2 SU*
(CAL) ICV CCV		DS	3/15/21	1034	7.00	10/2022	OGJ873			7.00	(P) F
(CAL) ICV CCV		↓	↓	↓	4.00	11/2022	OGK443			4.00	(P) F
(CAL) ICV CCV					10.00	10/2022	OGJ931			10.00	(P) F
CAL (ICV) CCV			3/16/21	0815	7.00					7.02	(P) F
CAL (ICV) CCV			↓	↓	4.00					4.04	(P) F
CAL (ICV) CCV		↓	↓	↓	10.00	↓	↓			10.03	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

ORP (CAL)

DS	3/15/21	1034	240	7/2021	OGJ873	240	(P)
↓	3/16/21	0815	240	↓	↓	236	(P)

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0004-037.5-20210915 Sampler: Dustin Slater

Well ID: MLPV-ASMW0004 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.34
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
9/15/2021	10:39			0	0.34									
9/15/2021	10:59	0.05	1	1	0.52	7.00	4128	0.17	8.41	27.86	-131.51	2.22	None	None
9/15/2021	11:01	0.05	0.1	1.1	0.52	7.01	3999	0.15	7.50	28.17	-132.99	2.15	None	None
9/15/2021	11:03	0.05	0.1	1.2	0.52	7.02	3724	0.14	20.82	28.45	-141.40	1.99	None	None
9/15/2021	11:05	0.05	0.1	1.3	0.52	7.02	3753	0.13	31.71	28.62	-149.72	2.01	None	None

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)
10:39	11:05	26	1.3	7.02	3753	0.13	31.71	28.62	-149.72

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0005-037.5-20210915 Sampler: Dustin Slater

Well ID: MLPV-ASMW0005 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.7
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
9/15/2021	9:53			0	0.7									
9/15/2021	10:18	0.05	1.25	1.25	0.88	6.88	3440	0.08	1.41	27.52	41.76	1.83	None	None
9/15/2021	10:20	0.05	0.1	1.35	0.88	6.88	3444	0.09	3.88	27.65	42.39	1.83	None	None
9/15/2021	10:22	0.05	0.1	1.45	0.88	6.88	3448	0.09	1.91	27.74	42.73	1.83	None	None
9/15/2021	10:24	0.05	0.1	1.55	0.88	6.89	3445	0.09	1.38	27.78	43.43	1.83	None	None

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)
9:53	10:24	31	1.55	6.89	3445	0.09	1.38	27.78	43.43

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-ASMW0006-037.5-20210915 Sampler: Dustin Slater

Well ID: MLPV-ASMW0006 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.2
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.2	Sample Analysis:	Select VOCs

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
9/15/2021	8:42			0	0.2									
9/15/2021	9:02	0.05	1	1	0.47	6.93	3614	0.14	1.39	26.50	-91.33	1.93	None	None
9/15/2021	9:04	0.05	0.1	1.1	0.47	6.93	3565	0.14	1.66	26.53	-94.20	1.90	None	None
9/15/2021	9:06	0.05	0.1	1.2	0.47	6.93	3351	0.13	1.19	26.65	-98.35	1.78	None	None
9/15/2021	9:08	0.05	0.1	1.3	0.47	6.93	3413	0.13	2.27	26.68	-99.34	1.81	None	None

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)
8:42	9:08	26	1.3	6.93	3413	0.13	2.27	26.68	-99.34

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0006IR-030.5-20210915 Sampler: Dustin Slater

Well ID: MLPV-IW0006IR Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	1.36
Top of Screen (ft-BTOR):	28	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	33	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	33	Sample Analysis:	Select VOCs

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
9/15/2021	11:34			0	1.36									
9/15/2021	11:54	0.05	1	1	1.4	7.16	815	0.09	3.01	26.63	-230.13	0.40	None	None
9/15/2021	11:56	0.05	0.1	1.1	1.4	7.16	822	0.09	1.35	26.60	-229.98	0.41	None	None
9/15/2021	11:58	0.05	0.1	1.2	1.4	7.17	843	0.09	17.50	26.61	-231.11	0.42	None	None
9/15/2021	12:00	0.05	0.1	1.3	1.4	7.17	850	0.09	26.32	26.57	-231.22	0.42	None	None

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)
11:34	12:00	26	1.3	7.17	850	0.09	26.32	26.57	-231.22

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0028I-030.5-20210914 Sampler: Dustin Slater

Well ID: MLPV-IW0028I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	1.31
Top of Screen (ft-BTOR):	28	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	33	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	33	Sample Analysis:	Select VOCs

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
9/14/2021	12:55			0	1.31									
9/14/2021	13:15	0.05	1	1	1.33	7.32	2667	0.13	1.48	27.43	-176.54	1.40	None	None
9/14/2021	13:17	0.05	0.1	1.1	1.33	7.32	2633	0.12	1.59	27.43	-178.13	1.38	None	None
9/14/2021	13:19	0.05	0.1	1.2	1.33	7.32	2622	0.12	1.33	27.52	-178.99	1.37	None	None
9/14/2021	13:21	0.05	0.1	1.3	1.33	7.30	2639	0.12	20.44	27.64	-179.79	1.38	None	None

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)
12:55	13:21	26	1.3	7.30	2639	0.12	20.44	27.64	-179.79

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0031-030.0-20210915 Sampler: Madan Parsotan

Well ID: MLPV-IW0031 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	1.26
Top of Screen (ft-BTOR):	25	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	35	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	35	Sample Analysis:	Select VOCs

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
9/15/2021	11:40			0	1.26									
9/15/2021	12:00	0.05	1	1	1.34	7.52	1805	0.29	12.64	28.7	-213.7		None	None
9/15/2021	12:02	0.05	0.1	1.1	1.34	7.52	1806	0.28	12.52	28.7	-213.9		None	None
9/15/2021	12:04	0.05	0.1	1.2	1.34	7.51	1807	0.27	12.41	28.6	-214.4		None	None
9/15/2021	12:06	0.05	0.1	1.3	1.34	7.52	1809	0.25	13.29	28.5	-214.5		None	None

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)
11:40	12:06	26	1.3	7.52	1809	0.25	13.29	28.5	-214.5

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0046-040.0-20210914 Sampler: Dustin Slater

Well ID: MLPV-IW0046 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	1.24
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45	Sample Analysis:	Select VOCs

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
9/14/2021	13:36			0	1.25									
9/14/2021	13:56	0.05	1	1	1.36	7.13	10669	0.18	11.28	29.08	-50.72	6.13	None	None
9/14/2021	13:58	0.05	0.1	1.1	1.36	7.13	10947	0.18	3.05	29.08	-50.66	6.30	None	None
9/14/2021	14:00	0.05	0.1	1.2	1.36	7.13	11305	0.17	7.20	29.03	-52.08	6.52	None	None
9/14/2021	14:02	0.05	0.1	1.3	1.36	7.13	11542	0.18	6.75	28.78	-54.93	6.67	None	None

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)
13:36	14:02	26	1.3	7.13	11542	0.18	6.75	28.78	-54.93

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0057-045.0-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0057 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	9:04			0	N/A									
9/14/2021	9:24	0.05	1	1	N/A	7.35	4093	0.42	14.62	26.9	-204.5		None	None
9/14/2021	9:26	0.05	0.1	1.1	N/A	7.35	4091	0.41	14.56	26.9	-204.7		None	None
9/14/2021	9:28	0.05	0.1	1.2	N/A	7.36	4090	0.4	14.38	26.8	-204.9		None	None
9/14/2021	9:30	0.05	0.1	1.3	N/A	7.36	4088	0.39	14.21	26.8	-205.3		None	None

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	7.36	4088	0.39	14.21	26.8	-205.3

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0058-047.5-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0058 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	3.75
Top of Screen (ft-BTOR):	45	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	9:47			0	3.75									
9/14/2021	10:07	0.05	1	1	N/A	7.38	3051	0.32	15.82	25.9	-205.3		None	None
9/14/2021	10:09	0.05	0.1	1.1	N/A	7.38	3051	0.3	15.71	25.8	-205.4		None	None
9/14/2021	10:11	0.05	0.1	1.2	N/A	7.38	3050	0.28	15.62	26.1	-205.7		None	None
9/14/2021	10:13	0.05	0.1	1.3	N/A	7.38	3049	0.25	15.49	26.1	-205.6		None	None

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)
9:47	10:13	26	1.3	7.38	3049	0.25	15.49	26.1	-205.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0059-047.5-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0059 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	4.15
Top of Screen (ft-BTOR):	45	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	10:35			0	4.15									
9/14/2021	10:55	0.05	1	1	N/A	7.41	1473	0.36	6.29	26.5	-207.4		None	None
9/14/2021	10:57	0.05	0.1	1.1	N/A	7.41	1474	0.34	6.2	26.5	-207.5		None	None
9/14/2021	11:01	0.05	0.1	1.2	N/A	7.41	1475	0.32	6.17	26.6	-207.6		None	None
9/14/2021	11:03	0.05	0.1	1.3	N/A	7.4	1476	0.3	6.12	26.5	-207.9		None	None

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)
10:35	11:03	28	1.3	7.4	1476	0.3	6.12	26.5	-207.9

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0060-045.0-20210915 Sampler: Dustin Slater

Well ID: MLPV-IW0060 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.16
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/15/2021	9:17			0	0.16									
9/15/2021	9:37	0.05	1	1	N/A	7.11	5879	0.11	8.86	26.80	-140.62	3.23	None	None
9/15/2021	9:39	0.05	0.1	1.1	N/A	7.11	5830	0.11	10.49	26.85	-139.72	3.21	None	None
9/15/2021	9:41	0.05	0.1	1.2	N/A	7.10	5778	0.11	4.81	26.89	-139.22	3.17	None	None
9/15/2021	9:43	0.05	0.1	1.3	N/A	7.10	5787	0.11	1.63	26.89	-139.25	3.18	None	None

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)
9:17	9:43	26	1.3	7.10	5787	0.11	1.63	26.89	-139.25

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0061-037.5-20210913 Sampler: Madan Parsotan

Well ID: MLPV-IW0061 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	4.2
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
9/13/2021	13:07			0	4.2									
9/13/2021	13:27	0.05	1	1	N/A	7.62	1390	1.25	11.82	27.1	-219.7		None	None
9/13/2021	13:29	0.05	0.1	1.1	N/A	7.62	1398	1.21	11.75	27.1	-219.9		None	None
9/13/2021	13:31	0.05	0.1	1.2	N/A	7.62	1397	1.19	11.61	27.1	-220.4		None	None
9/13/2021	13:33	0.05	0.1	1.3	N/A	7.62	1397	1.17	11.52	27	-220.6		None	None

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)
13:07	13:33	26	1.3	7.62	1397	1.17	11.52	27	-220.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0062-042.5-20210913 Sampler: Madan Parsotan

Well ID: MLPV-IW0062 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	4.3
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45.25	Sample Analysis:	Select VOCs

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
9/13/2021	13:48			0	4.3									
9/13/2021	14:08	0.05	1	1	N/A	7.44	6044	1.18	16.49	27.1	-209.4		None	None
9/13/2021	14:10	0.05	0.1	1.1	N/A	7.44	6047	1.15	16.37	27.1	-207.3		None	None
9/13/2021	14:12	0.05	0.1	1.2	N/A	7.44	6049	1.13	16.29	26.9	-208.7		None	None
9/13/2021	14:14	0.05	0.1	1.3	N/A	7.44	6051	1.11	16.2	26.9	-200.6		None	None

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)
13:48	14:14	26	1.3	7.44	6051	1.11	16.2	26.9	-200.6

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0063-037.5-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0063 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.27
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
9/14/2021	12:27			0	2.27									
9/14/2021	12:47	0.05	1	1	N/A	7.4	3090	0.62	6.62	27.1	-207.1		None	None
9/14/2021	12:49	0.05	0.1	1.1	N/A	7.4	3090	0.5	6.5	27.1	-207.2		None	None
9/14/2021	12:51	0.05	0.1	1.2	N/A	7.41	3091	0.49	6.37	27.2	-207.5		None	None
9/14/2021	12:53	0.05	0.1	1.3	N/A	7.41	3089	0.42	6.21	27.2	-207.7		None	None

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	1.3	7.41	3089	0.42	6.21	27.2	-207.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID: MLPV-IW0064-042.5-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0064 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.25
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45.25	Sample Analysis:	Select VOCs

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
9/14/2021	13:12			0	2.24									
9/14/2021	13:32	0.05	1	1	N/A	7.28	10280	0.98	6.78	28.6	-199.6		None	None
9/14/2021	13:34	0.05	0.1	1.1	N/A	7.28	10270	0.97	6.62	28.5	-199.9		None	None
9/14/2021	13:36	0.05	0.1	1.2	N/A	7.28	10300	0.95	6.51	28.3	-200.4		None	None
9/14/2021	13:38	0.05	0.1	1.3	N/A	7.28	10350	0.93	6.37	28.4	-200.7		None	None

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)
13:12	13:38	26	1.3	7.28	10350	0.93	6.37	28.4	-200.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0011I-037.5-20210913 Sampler: Dustin Slater

Well ID: MLPV-IW0011I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	2	Static Water Level (ft-BTOR):	0.92
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
9/13/2021	13:04			0	0.92									
9/13/2021	13:24	0.05	1	1	1.76	7.15	1256	0.08	3.37	26.63	-158.89	0.63	None	None
9/13/2021	13:26	0.05	0.1	1.1	1.76	7.16	1260	0.08	4.41	26.66	-161.78	0.64	None	None
9/13/2021	13:28	0.05	0.1	1.2	1.76	7.16	1263	0.08	3.02	26.70	-169.04	0.64	None	None
9/13/2021	13:30	0.05	0.1	1.3	1.76	7.16	1261	0.08	1.71	26.70	-171.25	0.64	None	None

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)
13:04	13:30	26	1.3	7.16	1261	0.08	1.71	26.70	-171.25

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0034-035.0-20210914 Sampler: Dustin Slater

Well ID: MLPV-IW0034 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.63
Top of Screen (ft-BTOR):	30	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
9/14/2021	9:27	0.05	0.1	0.1	1.63	7.00	832	0.36	6.41	28.68	-34.63	0.41	None	None
9/14/2021	9:47	0.05	1	1.1	N/A	6.98	829	0.12	28.29	26.63	-44.44	0.41	None	None
9/14/2021	9:52	0.05	0.25	1.35	N/A	6.99	832	0.30	9.62	26.65	-37.60	0.41	None	None
9/14/2021	9:54	0.05	0.15	1.45	N/A	6.99	832	0.35	8.38	26.72	-34.82	0.41	None	None

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)
6:56	9:54	178	1.45	6.99	832	0.35	8.38	26.72	-34.82

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0036-042.5-20210914 Sampler: Dustin Slater

Well ID: MLPV-IW0036 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.65
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	45	Sample Analysis:	Select VOCs

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
9/14/2021	10:58			0	2.65									
9/14/2021	11:18	0.05	1	1	N/A	7.19	2071	0.13	1.33	28.26	-152.68	1.07	None	None
9/14/2021	11:20	0.05	0.1	1.1	N/A	7.19	2072	0.13	1.26	28.04	-155.53	1.07	None	None
9/14/2021	11:22	0.05	0.1	1.2	N/A	7.20	2004	0.13	11.12	27.90	-156.63	1.03	None	None
9/14/2021	11:24	0.05	0.1	1.3	N/A	7.20	1997	0.13	1.33	27.84	-158.39	1.03	None	None

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)
10:58	11:24	26	1.3	7.20	1997	0.13	1.33	27.84	-158.39

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0037-045.0-20210913 Sampler: Dustin Slater

Well ID: MLPV-IW0037 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.95
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/13/2021	13:47			0	0.95									
9/13/2021	14:07	0.05	1	1	N/A	7.12	3694	0.09	7.54	26.62	-111.55	1.97	None	None
9/13/2021	14:09	0.05	0.1	1.1	N/A	7.13	3824	0.08	8.67	26.77	-111.84	2.05	None	None
9/13/2021	14:11	0.05	0.1	1.2	N/A	7.12	3840	0.08	8.96	26.69	-111.62	2.06	None	None
9/13/2021	14:13	0.05	0.1	1.3	N/A	7.12	3854	0.08	7.69	26.71	-111.79	2.06	None	None

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)
13:47	14:13	26	1.3	7.12	3854	0.08	7.69	26.71	-111.79

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0039-045.0-20210914 Sampler: Madan Parsotan

Well ID: MLPV-IW0039 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.82
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	11:25			0	0.82									
9/14/2021	11:45	0.05	1	1	N/A	7.3	2087	0.34	4.39	28.6	-200.5		None	None
9/14/2021	11:47	0.05	0.1	1.1	N/A	7.3	2087	0.32	4.27	28.6	-200.4		None	None
9/14/2021	11:49	0.05	0.1	1.2	N/A	7.31	2086	0.3	4.18	28.6	-200.3		None	None
9/14/2021	11:51	0.05	0.1	1.3	N/A	7.3	2086	0.29	4.11	28.5	-200.4		None	None

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)
11:25	11:51	26	1.3	7.3	2086	0.29	4.11	28.5	-200.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-IW0041-045.0-20210914 Sampler: Dustin Slater

Well ID: MLPV-IW0041 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	50	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	10:16			0	2									
9/14/2021	10:36	0.05	1	1	N/A	6.97	3615	0.11	4.92	26.77	-9.59	1.93	None	None
9/14/2021	10:38	0.05	0.1	1.1	N/A	6.98	3603	0.11	6.82	26.72	-9.90	1.92	None	None
9/14/2021	10:40	0.05	0.1	1.2	N/A	6.97	3606	0.11	11.67	26.70	-10.06	1.92	None	None
9/14/2021	10:42	0.05	0.1	1.3	N/A	6.97	3652	0.10	3.51	26.76	-10.52	1.95	None	None

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)
10:16	10:42	26	1.3	6.97	3652	0.10	3.51	26.76	-10.52

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-SAMW0004D-047.5-20210914 Sampler: Dustin Slater

Well ID: MLPV-SAMW0004D Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	2.36
Top of Screen (ft-BTOR):	45.2	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	49.7	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	50	Sample Analysis:	Select VOCs

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
9/14/2021	12:10			0	2.36									
9/14/2021	12:30	0.05	0.1	0.1	2.45	7.13	4947	0.08	1.35	28.55	-220.53	2.69	None	None
9/14/2021	12:32	0.05	0.1	0.2	2.45	7.14	4958	0.08	1.73	28.57	-221.23	2.70	None	None
9/14/2021	12:34	0.05	0.1	0.3	2.45	7.14	4973	0.09	1.58	28.67	-221.02	2.71	None	None
9/14/2021	12:36	0.05	0.1	0.4	2.45	7.14	5004	0.10	1.40	29.04	-221.96	2.72	None	None

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)
12:10	12:36	26	0.4	7.14	5004	0.10	1.40	29.04	-221.96

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 2

Project No: 60615493

Sample ID: MLPV-SAMW0004I-037.5-20210914 Sampler: Dustin Slater

Well ID: MLPV-SAMW0004I Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	1	Static Water Level (ft-BTOR):	2.34
Top of Screen (ft-BTOR):	35.2	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	39.7	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40	Sample Analysis:	Select VOCs

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
9/14/2021	11:33			0	2.34									
9/14/2021	11:53	0.05	0.1	0.1	2.51	7.14	812	0.14	1.37	28.95	-169.69	0.40	None	None
9/14/2021	11:55	0.05	0.1	0.2	2.51	7.14	812	0.13	1.45	29.03	-169.57	0.40	None	None
9/14/2021	11:57	0.05	0.1	0.3	2.51	7.13	813	0.12	1.40	29.02	-169.43	0.40	None	None
9/14/2021	11:59	0.05	0.1	0.4	2.51	7.13	813	0.12	1.44	29.03	-169.45	0.40	None	None

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)
11:33	11:59	26	0.4	7.13	813	0.12	1.44	29.03	-169.45

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 3

Project No: 60615493

Sample ID: VABRA-MW0011-030.0-20210915 Sampler: Madan Parsotan

Well ID: VABRA-MW0011 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.31
Top of Screen (ft-BTOR):	25	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	35	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	35	Sample Analysis:	Select VOCs

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
9/15/2021	10:12			0	2.31									
9/15/2021	10:32	0.05	1	1	N/A	7.44	590	0.22	15.62	27.1	-210.1		None	None
9/15/2021	10:34	0.05	0.1	1.1	N/A	7.44	590	0.2	15.49	27.1	-209.6		None	None
9/15/2021	10:36	0.05	0.1	1.2	N/A	7.43	591	0.19	15.41	27.2	-209.4		None	None
9/15/2021	10:38	0.05	0.1	1.3	N/A	7.44	591	0.18	15.29	27.3	-208.8		None	None

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	10:38	26	1.3	7.44	591	0.18	15.29	27.3	-208.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 3

Project No: 60615493

Sample ID: VABRA-MW0012-020.0-20210915 Sampler: Madan Parsotan

Well ID: VABRA-MW0012 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.35
Top of Screen (ft-BTOR):	15	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	25	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	25	Sample Analysis:	Select VOCs

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
9/15/2021	10:55			0	2.35									
9/15/2021	11:15	0.05	1	1	N/A	7.56	518	0.19	4.72	27.7	-214.1		None	None
9/15/2021	11:17	0.05	0.1	1.1	N/A	7.56	518	0.18	4.61	27.7	-213.8		None	None
9/15/2021	11:19	0.05	0.1	1.2	N/A	7.54	519	0.16	4.54	27.6	-212.4		None	None
9/15/2021	11:21	0.05	0.1	1.3	N/A	7.55	519	0.13	4.38	27.6	-212.7		None	None

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)
10:55	11:21	26	1.3	7.55	519	0.13	4.38	27.6	-212.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 3

Project No: 60615493

Sample ID: VABRA-MW0013-022.5-20210915 Sampler: Madan Parsotan

Well ID: VABRA-MW0013 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	1.87
Top of Screen (ft-BTOR):	20	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	25	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	25	Sample Analysis:	Select VOCs

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
9/15/2021	8:41			0	1.87									
9/15/2021	9:01	0.05	1	1	N/A	7.43	575	0.28	10.64	26.5	-200.6		None	None
9/15/2021	9:03	0.05	0.1	1.1	N/A	7.43	575	0.27	10.51	26.5	-209.1		None	None
9/15/2021	9:05	0.05	0.1	1.2	N/A	7.42	576	0.25	10.32	26.4	-209.4		None	None
9/15/2021	9:07	0.05	0.1	1.3	N/A	7.43	576	0.22	10.21	26.3	-209.7		None	None

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	7.43	576	0.22	10.21	26.3	-209.7

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Hotspot 3

Project No: 60615493

Sample ID: VABRA-MW0014-027.5-20210915 Sampler: Madan Parsotan

Well ID: VABRA-MW0014 Well Type: Monitoring Well

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.48
Top of Screen (ft-BTOR):	25	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	30	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	30	Sample Analysis:	Select VOCs

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
9/15/2021	9:25			0	2.48									
9/15/2021	9:45	0.05	1	1	N/A	7.53	593	1.07	5.72	26.8	-215.1		None	None
9/15/2021	9:47	0.05	0.1	1.1	N/A	7.53	593	1.05	5.63	26.7	-214.7		None	None
9/15/2021	9:49	0.05	0.1	1.2	N/A	7.53	594	1.03	5.54	26.6	-214.6		None	None
9/15/2021	9:51	0.05	0.1	1.3	N/A	7.53	594	1.02	5.44	26.7	-214.9		None	None

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)
9:25	9:51	26	1.3	7.53	594	1.02	5.44	26.7	-214.9

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

INSTRUMENT Oakton ~~310~~ PC450 **Series #** 5 **Serial #** 2918080

PARAMETER: *ORP* **Requirements:** +/- 10mV

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard: *MFG* YSI Zobell Solution *Lot* 18J1000161 *Expires* 12/09/22 ~~200~~

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
09/13/21	1240	Temp	25°C	25°C	-	YES	Initial	MP
"	"	ORP	231 mV	231 mV		"	"	"
09/14/21	0842	Temp	25°C	25°C	-	No	Cont	MP
"	"	ORP	231 mV	235 mV		"	"	"
09/15/21	0831	Temp	25°C	25°C		No	Cont	MP
		ORP	231 mV	236 mV				
		Temp						
		ORP						
		Temp						
		ORP						
		Temp						
		ORP						
		Temp						
		ORP						
		Temp						
		ORP						

Boldly "X" this box if there is qualified data on this page.

YSI-550A SN#3K1274AF

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: _____ Date: 9/15/21 Meter # OAKTON Model PC 450 SN# 29180B0

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria:+/-0.3mg/l	
(CAL) ICV CCV		MP	09/15/21	0821			8.07	26.5°C	100%	8.04	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
										Acceptance Criteria: +/- 5%	
(CAL) ICV CCV		MP	09/15/21	0821	1413	04/22	210415C			1418	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
										Acceptance Criteria: +/- 0.2 SU	
(CAL) ICV CCV		MP	09/15/21	0821	7.00	10/21	200413D			7.02	(P) F
(CAL) ICV CCV		↓	↓	↓	4.00	02/22	200723B			4.11	(P) F
(CAL) ICV CCV					10.00	02/22	200723			10.06	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

DEP-SOP-001/01: Form FD 9000-8 (June 20, 2001)

Field Instrument Calibration Records

INSTRUMENT HACH 2100Q # 11 **Serial #** 16020C047691

PARAMETER: *Turbidity*

STANDARDS: *[Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]*

Standard A GELEX 0-10 NTU (+/- 10%)

Standard B GELEX 10-100 NTU (+/- 6.5%)

Standard C GELEX 100-1000 NTU (+/- 5%)

DATE (mm/dd/yy)	TIME (hr:min)	STD (A, B, C)	STD VALUE	INSTRUMENT RESPONSE	% DEV	CALIBRATED (YES, NO)	TYPE (INIT, CONT)	SAMPLER INITIALS
09/13/21	1248	A	10	9.98		NO	INITIAL	MP
"	"	B	20	19.95		"	"	"
"	"	C	100	99.99		"	"	"
09/14/21	0821	A	10	9.97		NO	Cont	MP
"	"	B	20	19.96		"	"	"
"	"	C	100	99.98		"	"	"
09/15/21	0827	A	10	9.98		NO	Cont	MP
		B	20	19.97		"		
		C	100	99.95		"		
		A				NO		
		B				"		
		C				"		
		A				NO		
		B				"		
		C				"		
		A				NO		
		B				"		
		C				"		

Boldly "X" this box if there is qualified data on this page.

YSI-550A SN#03K1274AC

Form FD9000-8 **CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)** 11-10-05

Project/Site: MLPV Date: 09/13/21 Meter # OAKton Model PC450 SN#29180880

Temperature (Quarterly) *For Date of Last Temperature Verification see* _____ *in log book* _____

Dissolved Oxygen	**DEP SOP FT 1500**	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °C	% DO	Saturation mg/L (from chart)	Pass or Fail
										Acceptance Criteria: +/- 0.3mg/l	
(CAL) ICV CCV		MP	09/13/21	1237			7.88	27.7°C	100%	7.87	(P) F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	09/14/21	0835			7.86	27.8°C	100%	7.85	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

Specific Conductance	**DEP SOP FT 1200**	Initials	Date	Time	Standard µmhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading µmhos/cm	Pass or Fail
									Acceptance Criteria: +/- 5%		
(CAL) ICV CCV		MP	09/13/21	1237	1413	04/22	210415C			1415	(P) F
CAL ICV CCV		↓	↓	↓		↓	↓				P F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	09/14/21	0835	1413					1417	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F
CAL ICV CCV											P F

pH	**DEP SOP FT 1100**	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
									Acceptance Criteria: +/- 0.2 SU		
(CAL) ICV CCV		MP	09/13/21	1237	7.00	10/21	200413D			7.02	(P) F
(CAL) ICV CCV		↓	↓	↓	4.00	02/22	200723B			4.01	(P) F
(CAL) ICV CCV					10.00	02/22	200723			10.00	(P) F
CAL ICV CCV											P F
CAL ICV (CCV)		MP	09/14/21	0835	7.00	10/21	200413B			6.98	(P) F
CAL ICV (CCV)		↓	↓	↓	↓	↓	↓			4.05	(P) F
CAL ICV (CCV)										10.02	(P) F
CAL ICV CCV											P F
CAL ICV CCV											P F

Maintenance: Weekly pH Slope: _____ Specific Conductance Probe Cleaned? Yes No Dissolved Oxygen Membrane Changed: Yes No

Notes:

Perform only in Calibrate Mode: **CAL** - Calibrate -
Perform only in Run Mode: **ICV** - Initial Calibration Verification
Perform only in Run Mode: **CCV** - Continuing Calibration Verification

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	606696
Created	9/15/2021

[redacted]

Serial Number	658928
Last Calibrated	6/23/2021

Calibration Details

Slope	1.047443
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.06 mg/L
Pre Measurement	99.92 %Sat
Post Measurement	100.00 %Sat
Temperature	22.71 °C
Barometric Pressure	992.79 mbar

[redacted]

Serial Number	672308
Last Calibrated	9/15/2021

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	0.912
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	7,496.5 µS/cm
Specific Conductivity	7,561.6 µS/cm

Post Measurement

Actual Conductivity	7,931.1 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	704529
Last Calibrated	9/15/2021

Calibration Details

Calibration Point 1

pH of Buffer	7.00 pH
pH mV	-11.4 mV
Temperature	24.55 °C

Pre Measurement

pH	7.00 pH
pH mV	-11.3 mV

Post Measurement

pH	7.00 pH
pH mV	-11.4 mV

Slope and Offset 1

Slope	-59.07 mV/pH
Offset	-11.4 mV

ORP

ORP Solution	Quick-Cal
Offset	63.6 mV
Temperature	24.55 °C
Pre Measurement	236.7 mV
Post Measurement	224.2 mV

[redacted]

Serial Number	780942
Last Calibrated	6/23/2021

Calibration Details

Slope	1.173604
Offset	-0.02 NTU

Calibration Point 1

Pre Measurement	0.00 NTU
Post Measurement	0.00 NTU

Calibration Point 2

Pre Measurement	123.02 NTU
Post Measurement	126.00 NTU

[redacted]

Serial Number	606696
Last Calibrated	Factory Defaults

Calibration Report

Instrument	Aqua TROLL 600
Serial Number	606696
Created	9/16/2021

[redacted]

Serial Number	658928
Last Calibrated	6/23/2021

Calibration Details

Slope	1.047443
Offset	0.00 mg/L

Calibration point 100%

Concentration	8.06 mg/L
Pre Measurement	99.92 %Sat
Post Measurement	100.00 %Sat
Temperature	22.71 °C
Barometric Pressure	992.79 mbar

[redacted]

Serial Number	672308
Last Calibrated	9/16/2021

Calibration Details

TDS Conversion Factor (ppm)	0.65
Cell Constant	0.857
Reference Temperature	25.00 °C

Pre Measurement

Actual Conductivity	8,992.7 µS/cm
Specific Conductivity	8,508.6 µS/cm

Post Measurement

Actual Conductivity	8,455.2 µS/cm
Specific Conductivity	8,000.0 µS/cm

[redacted]

Serial Number	704529
Last Calibrated	9/16/2021

Calibration Details

Calibration Point 1

pH of Buffer	6.98 pH
pH mV	-9.4 mV
Temperature	27.98 °C

Pre Measurement

pH	6.96 pH
pH mV	-9.4 mV

Post Measurement

pH	6.98 pH
pH mV	-9.5 mV

Slope and Offset 1

Slope	-59.75 mV/pH
Offset	-10.6 mV

ORP

ORP Solution	Quick-Cal
Offset	66.0 mV
Temperature	27.98 °C
Pre Measurement	216.8 mV
Post Measurement	219.0 mV

[redacted]

Serial Number	780942
Last Calibrated	6/23/2021

Calibration Details

Slope	1.173604
Offset	-0.02 NTU

Calibration Point 1

Pre Measurement	0.00 NTU
Post Measurement	0.00 NTU

Calibration Point 2

Pre Measurement	123.02 NTU
Post Measurement	126.00 NTU

[redacted]

Serial Number	606696
Last Calibrated	Factory Defaults

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID:	MLPV-ASMW0004-037.5-2021111	Sampler:	Madan Parsotan
Well ID:	MLPV-ASMW0004	Well Type:	Monitoring Well
QC Duplicate ID:	N/A	MS/MSD:	N/A

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	0.9
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	48	Sample Analysis:	Select VOCs

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
11/17/2021	10:10			0	0.9									
11/17/2021	10:30	0.05	1	1	1.17	7.35	3.56	0.33	4.01	25.7	-193.4		None	None
11/17/2021	10:33	0.05	0.15	1.15	1.17	7.35	3.57	0.33	3.58	25.6	-193.7		None	None
11/17/2021	10:36	0.05	0.15	1.30	1.17	7.35	3.57	0.3	3.98	25.5	-193.8		None	None

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)
10:10	10:36	21626	1.30	7.35	3.57	0.3	3.98	25.5	-193.8

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID:	MLPV-IW0063-037.5-20211117	Sampler:	Madan Parsotan
Well ID:	MLPV-IW0063	Well Type:	Monitoring Well
QC Duplicate ID:	N/A	MS/MSD:	N/A

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.66
Top of Screen (ft-BTOR):	35	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	40	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
11/17/2021	11:05			0	2.66									
11/17/2021	11:25	0.05	1	1	N/A	7.35	4.44	0.25	6.59	26.6	-194		None	None
11/17/2021	11:27	0.05	0.1	1.1	N/A	7.35	4.44	0.27	5.65	26.4	-194		None	None
11/17/2021	11:29	0.05	0.1	1.2	N/A	7.37	4.45	0.28	3.46	26.3	-189.3		None	None
11/17/2021	11:31	0.05	0.1	1.3	N/A	7.37	4.45	0.28	2.79	26.3	-189.4		None	None

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)
11:05	11:31	26	1.3	7.37	4.45	0.28	2.79	26.3	-189.4

GROUNDWATER SAMPLE LOG SHEET

AECOM

Event: Kennedy Space Center MLPV LTM

Site Name: Mobile Launch Platform Park Sites/Vehicle Assembly Building Area (SWMU 056) - Biosparge Area

Project No: 60615493

Sample ID:	MLPV-IW0064-042.5-20211117	Sampler:	Madan Parsotan
Well ID:	MLPV-IW0064	Well Type:	Monitoring Well
QC Duplicate ID:	N/A	MS/MSD:	N/A

Remark:

Well Information

Well Diameter (in.):	0.75	Static Water Level (ft-BTOR):	2.55
Top of Screen (ft-BTOR):	40	H/S PID Monitor Reading (ppm):	0
Bottom of Screen (ft-BTOR):	45	Purge/Sample Method:	Low flow - peristalic
Total Depth of Well (ft-BTOR):	40.25	Sample Analysis:	Select VOCs

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
11/17/2021	11:38			0	2.55									
11/17/2021	11:58	0.05	1	1	N/A	7.2	11.61	0.23	6.71	26.8	-183		None	None
11/17/2021	12:00	0.05	0.1	1.1	N/A	7.21	11.67	0.25	4.44	26.7	-185.3		None	None
11/17/2021	12:02	0.05	0.1	1.2	N/A	7.21	11.67	0.25	6.25	26.8	-185.4		None	None
11/17/2021	12:04	0.05	0.1	1.3	N/A	7.21	11.67	0.25	5.87	26.8	-185.4		None	None

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)
11:38	12:04	26	1.3	7.21	11.67	0.25	5.87	26.8	-185.4

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APPENDIX I

LABORATORY ANALYTICAL REPORTS –

GROUNDWATER SAMPLING

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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

Tuesday, March 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE01820

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, March 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: MLPV-IW006IR-030.5-20210316 **Lab ID: AE01820-01** **Sampled: 03/16/21 14:20** **Received: 03/17/21 15:35**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/30/21	03/18/21 14:09	03/19/21 05:07

Client ID: MLPV-IW0028I-030.5-20210316 **Lab ID: AE01820-02** **Sampled: 03/16/21 12:53** **Received: 03/17/21 15:35**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/30/21	03/18/21 14:09	03/19/21 05:35

Client ID: MLPV-IW0046-040.0-20210316 **Lab ID: AE01820-03** **Sampled: 03/16/21 13:41** **Received: 03/17/21 15:35**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/30/21	03/18/21 14:09	03/19/21 06:03

Client ID: MLPV-TB03-20210316 **Lab ID: AE01820-04** **Sampled: 03/16/21 12:30** **Received: 03/17/21 15:35**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	03/30/21	03/18/21 14:09	03/19/21 06:31

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-IW006IR-030.5-20210316 **Lab ID:** AE01820-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.77	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	3.7		0.71	1.0	ug/L	EPA 8260D	

Client ID: MLPV-IW0046-040.0-20210316 **Lab ID:** AE01820-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.3		0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	13		0.71	1.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IW006IR-030.5-20210316 **Lab Sample ID:** AE01820-01 **Received:** 03/17/21 15:35
Matrix: Ground Water **Sampled:** 03/16/21 14:20 **Work Order:** AE01820
Project: NASA KSC - MLPV **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
cis-1,2-Dichloroethene [156-59-2]^	**0.77**	I	ug/L	1	0.53	1.0	1C18040	EPA 8260D	03/19/21 05:07	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1C18040	EPA 8260D	03/19/21 05:07	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1C18040	EPA 8260D	03/19/21 05:07	KKW	
Vinyl chloride [75-01-4]^	**3.7**		ug/L	1	0.71	1.0	1C18040	EPA 8260D	03/19/21 05:07	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*97 %*	*41-142*	*1C18040*	*EPA 8260D*	*03/19/21 05:07*	*KKW*	
Dibromofluoromethane	*52*	*1*	*50.0*	*104 %*	*53-146*	*1C18040*	*EPA 8260D*	*03/19/21 05:07*	*KKW*	
Toluene-d8	*52*	*1*	*50.0*	*104 %*	*41-146*	*1C18040*	*EPA 8260D*	*03/19/21 05:07*	*KKW*	

Description: MLPV-IW0028I-030.5-20210316 **Lab Sample ID:** AE01820-02 **Received:** 03/17/21 15:35
Matrix: Ground Water **Sampled:** 03/16/21 12:53 **Work Order:** AE01820
Project: NASA KSC - MLPV **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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1C18040	EPA 8260D	03/19/21 05:35	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1C18040	EPA 8260D	03/19/21 05:35	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1C18040	EPA 8260D	03/19/21 05:35	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1C18040	EPA 8260D	03/19/21 05:35	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1C18040*	*EPA 8260D*	*03/19/21 05:35*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1C18040*	*EPA 8260D*	*03/19/21 05:35*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1C18040*	*EPA 8260D*	*03/19/21 05:35*	*KKW*	

Description: MLPV-IW0046-040.0-20210316 **Lab Sample ID:** AE01820-03 **Received:** 03/17/21 15:35
Matrix: Ground Water **Sampled:** 03/16/21 13:41 **Work Order:** AE01820
Project: NASA KSC - MLPV **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
cis-1,2-Dichloroethene [156-59-2]^	**2.3**		ug/L	1	0.53	1.0	1C18040	EPA 8260D	03/19/21 06:03	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1C18040	EPA 8260D	03/19/21 06:03	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1C18040	EPA 8260D	03/19/21 06:03	KKW	
Vinyl chloride [75-01-4]^	**13**		ug/L	1	0.71	1.0	1C18040	EPA 8260D	03/19/21 06:03	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*49*	*1*	*50.0*	*98 %*	*41-142*	*1C18040*	*EPA 8260D*	*03/19/21 06:03*	*KKW*	
Dibromofluoromethane	*50*	*1*	*50.0*	*101 %*	*53-146*	*1C18040*	*EPA 8260D*	*03/19/21 06:03*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*1C18040*	*EPA 8260D*	*03/19/21 06:03*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-TB03-20210316 | **Lab Sample ID:** AE01820-04 | **Received:** 03/17/21 15:35
Matrix: Water | **Sampled:** 03/16/21 12:30 | **Work Order:** AE01820
Project: NASA KSC - MLPV | **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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1C18040	EPA 8260D	03/19/21 06:31	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1C18040	EPA 8260D	03/19/21 06:31	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1C18040	EPA 8260D	03/19/21 06:31	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1C18040	EPA 8260D	03/19/21 06:31	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*48*	*1*	*50.0*	*96 %*	*41-142*	*1C18040*	*EPA 8260D*	*03/19/21 06:31*	*KKW*	
Dibromofluoromethane	*51*	*1*	*50.0*	*102 %*	*53-146*	*1C18040*	*EPA 8260D*	*03/19/21 06:31*	*KKW*	
Toluene-d8	*51*	*1*	*50.0*	*101 %*	*41-146*	*1C18040*	*EPA 8260D*	*03/19/21 06:31*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1C18040 - EPA 5030B_MS

Blank (1C18040-BLK1) Prepared: 03/18/2021 14:09 Analyzed: 03/18/2021 22:35

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	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	*47*			*ug/L*	*50.0*		*93*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*105*	*53-146*			
Toluene-d8	*53*			*ug/L*	*50.0*		*106*	*41-146*			

LCS (1C18040-BS1) Prepared: 03/18/2021 14:09 Analyzed: 03/18/2021 20:43

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	23		1.0	ug/L	20.0		113	56-128			
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0		100	54-134			
Trichloroethene	21		1.0	ug/L	20.0		107	62-135			
Vinyl chloride	22		1.0	ug/L	20.0		108	20-167			
4-Bromofluorobenzene	*49*			*ug/L*	*50.0*		*97*	*41-142*			
Dibromofluoromethane	*53*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*55*			*ug/L*	*50.0*		*110*	*41-146*			

Matrix Spike (1C18040-MS1) Prepared: 03/18/2021 14:09 Analyzed: 03/18/2021 21:11

Source: AE01010-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.53 U	120	56-128			
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	115	54-134			
Trichloroethene	23		1.0	ug/L	20.0	0.89 U	115	62-135			
Vinyl chloride	26		1.0	ug/L	20.0	0.71 U	130	20-167			
4-Bromofluorobenzene	*47*			*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*54*			*ug/L*	*50.0*		*107*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

Matrix Spike Dup (1C18040-MSD1) Prepared: 03/18/2021 14:09 Analyzed: 03/18/2021 21:39

Source: AE01010-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	24		1.0	ug/L	20.0	0.53 U	120	56-128	0.3	17	
trans-1,2-Dichloroethene	23		1.0	ug/L	20.0	0.73 U	113	54-134	2	20	
Trichloroethene	23		1.0	ug/L	20.0	0.89 U	114	62-135	0.6	20	
Vinyl chloride	26		1.0	ug/L	20.0	0.71 U	132	20-167	2	24	
4-Bromofluorobenzene	*48*			*ug/L*	*50.0*		*95*	*41-142*			
Dibromofluoromethane	*52*			*ug/L*	*50.0*		*104*	*53-146*			
Toluene-d8	*54*			*ug/L*	*50.0*		*108*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE01820

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO	Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1	
	Site Location: Biosparge Area		PO No.	Project No. 60615493.4	Phase:
	TO No.: 80KSC019F0071	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #		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:		Site-Spicific WS#15 from QAPP: 15-14

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) HCl: Total No. of Containers	Select VOCs by SW8260B	Comments
	MLPV-IW006IR-030.5-202103[illegible]	MLPV-IW006IR	202103[illegible]	1420	WG	N	G	3	3	
	MLPV-IW0028I-030.5-202103[illegible]	MLPV-IW0028I	202103[illegible]	1253	WG	N	G	3	3	
	MLPV-IW0046-040.0-202103[illegible]	MLPV-IW0046	202103[illegible]	1341	WG	N	G	3	3	
	MLPV-TB03-202103[illegible]	MLPV-TB03	202103[illegible]	1230	WG	TB	G	3	3	

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:** Kitted: [signature] 03-08-21

Sample Shipment and Delivery Details
Number of coolers in shipment: 1 cooler Me1379
Samples Iced?(check) Yes X No ____ 0.2°C
Shipping Company:
Tracking No:
Date Shipped:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	03/08/21	10:10	[signature]	3/15/21	0600
2	[signature]	3/17/21	1415	[signature]	3.17.21	1535
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**

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC, Hot Spot 2 (Air Asparge System Area)

60615493.4

SGS Job Number: FA83988

Sampling Dates: 03/15/21 - 03/16/21

Report to:

andrea.colby@sgs.com

Total number of pages in report: **41**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **5**
Section 3: Summary of Hits **6**
Section 4: Sample Results **9**
4.1: FA83988-1: MLPV-IW0011I-037.5-20210316 10
4.2: FA83988-2: MLPV-IW0032-035.0-20210316 11
4.3: FA83988-3: MLPV-IW0033-045.0-20210316 12
4.4: FA83988-4: MLPV-IW0034-035.0-20210315 13
4.5: FA83988-5: MLPV-IW0035-045.0-20210315 14
4.6: FA83988-6: MLPV-IW0036-042.5-20210315 15
4.7: FA83988-7: MLPV-IW0037-045.0-20210316 16
4.8: FA83988-8: MLPV-IW0038-035.0-20210315 17
4.9: FA83988-9: MLPV-IW0039-045.0-20210315 18
4.10: FA83988-10: MLPV-IW0040-035.0-20210315 19
4.11: FA83988-11: MLPV-IW0041-045.0-20210316 20
4.12: FA83988-12: MLPV-IW0042-035.0-20210316 21
4.13: FA83988-13: MLPV-IW0043-045.0-20210316 22
4.14: FA83988-14: MLPV-IW0044-045.0-20210316 23
4.15: FA83988-15: MLPV-IW0045-045.0-20210316 24
4.16: FA83988-16: MLPV-SAMW0004D-047.5-20210315 25
4.17: FA83988-17: MLPV-SAMW0004I-037.5-20210315 26
4.18: FA83988-18: MLPV-TB01-20210315 27
Section 5: Misc. Forms **28**
5.1: Chain of Custody 29
Section 6: MS Volatiles - QC Data Summaries **32**
6.1: Method Blank Summary 33
6.2: Blank Spike Summary 36
6.3: Matrix Spike/Matrix Spike Duplicate Summary 39

Sample Summary

AECOM, Inc

Job No: FA83988

NASA KSC, Hot Spot 2 (Air Asparge System Area)
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA83988-1	03/16/21	09:03	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0011I-037.5-20210316
FA83988-2	03/16/21	11:18	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0032-035.0-20210316
FA83988-3	03/16/21	11:55	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0033-045.0-20210316
FA83988-4	03/15/21	11:29	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0034-035.0-20210315
FA83988-5	03/15/21	12:09	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0035-045.0-20210315
FA83988-6	03/15/21	11:29	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0036-042.5-20210315
FA83988-7	03/16/21	09:55	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0037-045.0-20210316
FA83988-8	03/15/21	13:41	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0038-035.0-20210315
FA83988-9	03/15/21	14:26	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0039-045.0-20210315
FA83988-10	03/15/21	14:15	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0040-035.0-20210315
FA83988-11	03/16/21	09:02	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0041-045.0-20210316
FA83988-12	03/16/21	09:54	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0042-035.0-20210316
FA83988-13	03/16/21	10:34	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0043-045.0-20210316

Sample Summary
(continued)

AECOM, Inc

Job No: FA83988

NASA KSC, Hot Spot 2 (Air Asparge System Area)
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA83988-14	03/16/21	10:27	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0044-045.0-20210316
FA83988-15	03/16/21	11:21	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0045-045.0-20210316
FA83988-16	03/15/21	12:12	DSMP	03/17/21	AQ	Ground Water	MLPV-SAMW0004D-047.5-20210315
FA83988-17	03/15/21	13:35	DSMP	03/17/21	AQ	Ground Water	MLPV-SAMW0004I-037.5-20210315
FA83988-18	03/15/21	11:20	DSMP	03/17/21	AQ	Trip Blank Water	MLPV-TB01-20210315

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA83988

Site: NASA KSC, Hot Spot 2 (Air Asparge System Area) **Report Date** 3/30/2021 12:25:56

17 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on between 03/15/2021 and 03/16/2021 and were received at SGS North America Inc - Orlando on 03/17/2021 properly preserved, at 3.8 Deg. C and intact. These Samples received an SGS Orlando job number of FA83988. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1239

All samples were analyzed within the recommended method holding time.

Sample(s) FA83988-3MS, FA83988-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Vinyl Chloride are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Matrix Spike Duplicate Recovery(s) for Vinyl Chloride are outside control limits. Probable cause is due to matrix interference.

Matrix: AQ **Batch ID:** V5E1240

All samples were analyzed within the recommended method holding time.

Sample(s) FA83988-3MS, FA83988-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

RPD(s) for MSD for cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene are outside control limits for sample FA83988-3MSD. Probable cause is due to sample non-homogeneity.

FA83988-4: Confirmation run.

FA83988-8: Confirmation run.

Matrix: AQ **Batch ID:** VP3173

All samples were analyzed within the recommended method holding time.

Sample(s) FA83975-1MS, FA83975-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Vinyl Chloride are outside control limits. Outside control limits due to high level in sample relative to spike amount.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA83988
Account: AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)
Collected: 03/15/21 thru 03/16/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA83988-1	**MLPV-IW0011I-037.5-20210316**					
Vinyl Chloride		0.46 I	1.0	0.41	ug/l	SW846 8260B
FA83988-2	**MLPV-IW0032-035.0-20210316**					
cis-1,2-Dichloroethylene		0.84 I	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		1.6	1.0	0.41	ug/l	SW846 8260B
FA83988-3	**MLPV-IW0033-045.0-20210316**					
cis-1,2-Dichloroethylene		49.6	2.0	0.55	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		6.3	2.0	0.44	ug/l	SW846 8260B
Vinyl Chloride		471	10	4.1	ug/l	SW846 8260B
FA83988-4	**MLPV-IW0034-035.0-20210315**					
cis-1,2-Dichloroethylene		0.41 I	1.0	0.28	ug/l	SW846 8260B
FA83988-5	**MLPV-IW0035-045.0-20210315**					
cis-1,2-Dichloroethylene		3.2	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		2.5	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		124	2.0	0.82	ug/l	SW846 8260B
FA83988-6	**MLPV-IW0036-042.5-20210315**					
cis-1,2-Dichloroethylene		0.47 I	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		24.9	1.0	0.41	ug/l	SW846 8260B
FA83988-7	**MLPV-IW0037-045.0-20210316**					
cis-1,2-Dichloroethylene		138	2.0	0.55	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.71 I	2.0	0.44	ug/l	SW846 8260B
Vinyl Chloride		269	5.0	2.0	ug/l	SW846 8260B
FA83988-8	**MLPV-IW0038-035.0-20210315**					
cis-1,2-Dichloroethylene		1.2	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		2.3	1.0	0.41	ug/l	SW846 8260B
FA83988-9	**MLPV-IW0039-045.0-20210315**					
cis-1,2-Dichloroethylene		161	5.0	1.4	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		6.5	1.0	0.22	ug/l	SW846 8260B

Summary of Hits

Job Number: FA83988
Account: AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)
Collected: 03/15/21 thru 03/16/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
Vinyl Chloride		236	5.0	2.0	ug/l	SW846 8260B
FA83988-10	**MLPV-IW0040-035.0-20210315**					
cis-1,2-Dichloroethylene		0.50 I	1.0	0.28	ug/l	SW846 8260B
FA83988-11	**MLPV-IW0041-045.0-20210316**					
cis-1,2-Dichloroethylene		113	5.0	1.4	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		3.3	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		259	5.0	2.0	ug/l	SW846 8260B
FA83988-12	**MLPV-IW0042-035.0-20210316**					
cis-1,2-Dichloroethylene		1.2	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		0.42 I	1.0	0.41	ug/l	SW846 8260B
FA83988-13	**MLPV-IW0043-045.0-20210316**					
cis-1,2-Dichloroethylene		249	5.0	1.4	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		3.7 I	5.0	1.1	ug/l	SW846 8260B
Vinyl Chloride		180	5.0	2.0	ug/l	SW846 8260B
FA83988-14	**MLPV-IW0044-045.0-20210316**					
cis-1,2-Dichloroethylene		3.4	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		1.0	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		249	5.0	2.0	ug/l	SW846 8260B
FA83988-15	**MLPV-IW0045-045.0-20210316**					
cis-1,2-Dichloroethylene		75.8	5.0	1.4	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		7.8	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		295	5.0	2.0	ug/l	SW846 8260B
FA83988-16	**MLPV-SAMW0004D-047.5-20210315**					
cis-1,2-Dichloroethylene		2.4	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.59 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		14.6	1.0	0.41	ug/l	SW846 8260B
FA83988-17	**MLPV-SAMW0004I-037.5-20210315**					
cis-1,2-Dichloroethylene		0.61 I	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.41 I	1.0	0.22	ug/l	SW846 8260B

Summary of Hits

Job Number: FA83988
Account: AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)
Collected: 03/15/21 thru 03/16/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
Vinyl Chloride		19.4	1.0	0.41	ug/l	SW846 8260B

FA83988-18 **MLPV-TB01-20210315**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MLPV-IW0011I-037.5-20210316		
Lab Sample ID:	FA83988-1	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26952.D	1	03/22/21 15:21	SO	n/a	n/a	V5E1239
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.46	1.0	0.41	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0032-035.0-20210316		
Lab Sample ID:	FA83988-2	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26953.D	1	03/22/21 15:45	SO	n/a	n/a	V5E1239
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.84	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	1.6	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0033-045.0-20210316		
Lab Sample ID:	FA83988-3	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26954.D	2	03/22/21 16:08	SO	n/a	n/a	V5E1239
Run #2	5E26978.D	10	03/23/21 13:47	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	49.6	2.0	0.55	ug/l	
156-60-5	trans-1,2-Dichloroethylene	6.3	2.0	0.44	ug/l	
75-01-4	Vinyl Chloride	471 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	102%	79-125%
2037-26-5	Toluene-D8	104%	104%	85-112%
460-00-4	4-Bromofluorobenzene	102%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0034-035.0-20210315		
Lab Sample ID:	FA83988-4	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26955.D	1	03/22/21 16:31	SO	n/a	n/a	V5E1239
Run #2 [a]	5E26976.D	1	03/23/21 13:00	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.41	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	102%	99%	79-125%
2037-26-5	Toluene-D8	104%	102%	85-112%
460-00-4	4-Bromofluorobenzene	102%	102%	83-118%

(a) Confirmation run.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0035-045.0-20210315		
Lab Sample ID:	FA83988-5	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26956.D	1	03/22/21 16:54	SO	n/a	n/a	V5E1239
Run #2	5E26979.D	2	03/23/21 14:10	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	3.2	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	2.5	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	124 [a]	2.0	0.82	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	99%	79-125%
2037-26-5	Toluene-D8	105%	104%	85-112%
460-00-4	4-Bromofluorobenzene	102%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0036-042.5-20210315		
Lab Sample ID:	FA83988-6	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26957.D	1	03/22/21 17:17	SO	n/a	n/a	V5E1239
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.47	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	24.9	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0037-045.0-20210316		
Lab Sample ID:	FA83988-7	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26958.D	2	03/22/21 17:40	SO	n/a	n/a	V5E1239
Run #2	5E26980.D	5	03/23/21 14:33	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	138	2.0	0.55	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.71	2.0	0.44	ug/l	I
75-01-4	Vinyl Chloride	269 [a]	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	79-125%
2037-26-5	Toluene-D8	104%	105%	85-112%
460-00-4	4-Bromofluorobenzene	101%	102%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0038-035.0-20210315		
Lab Sample ID:	FA83988-8	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26959.D	1	03/22/21 18:04	SO	n/a	n/a	V5E1239
Run #2 [a]	5E26977.D	1	03/23/21 13:24	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	2.3	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	100%	79-125%
2037-26-5	Toluene-D8	104%	103%	85-112%
460-00-4	4-Bromofluorobenzene	101%	101%	83-118%

(a) Confirmation run.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0039-045.0-20210315		
Lab Sample ID:	FA83988-9	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78548.D	1	03/22/21 15:19	SO	n/a	n/a	VP3173
Run #2	5E26983.D	5	03/23/21 15:43	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	161 [a]	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	6.5	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	236 [a]	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	92%	101%	79-125%
2037-26-5	Toluene-D8	92%	104%	85-112%
460-00-4	4-Bromofluorobenzene	96%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0040-035.0-20210315		
Lab Sample ID:	FA83988-10	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26973.D	1	03/23/21 11:51	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.50	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0041-045.0-20210316		
Lab Sample ID:	FA83988-11	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78550.D	1	03/22/21 16:09	SO	n/a	n/a	VP3173
Run #2	5E26984.D	5	03/23/21 16:06	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	113 [a]	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.3	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	259 [a]	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	92%	101%	79-125%
2037-26-5	Toluene-D8	92%	104%	85-112%
460-00-4	4-Bromofluorobenzene	97%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0042-035.0-20210316		
Lab Sample ID:	FA83988-12	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26974.D	1	03/23/21 12:14	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	1.2	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.42	1.0	0.41	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0043-045.0-20210316		
Lab Sample ID:	FA83988-13	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78552.D	5	03/22/21 16:59	SO	n/a	n/a	VP3173
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	249	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.7	5.0	1.1	ug/l	I
75-01-4	Vinyl Chloride	180	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	92%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0044-045.0-20210316		
Lab Sample ID:	FA83988-14	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78553.D	1	03/22/21 17:24	SO	n/a	n/a	VP3173
Run #2	5E26985.D	5	03/23/21 16:29	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	3.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	1.0	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	249 [a]	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	93%	102%	79-125%
2037-26-5	Toluene-D8	91%	104%	85-112%
460-00-4	4-Bromofluorobenzene	96%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0045-045.0-20210316		
Lab Sample ID:	FA83988-15	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78554.D	1	03/22/21 17:49	SO	n/a	n/a	VP3173
Run #2	5E26986.D	5	03/23/21 16:52	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	75.8 [a]	5.0	1.4	ug/l	
156-60-5	trans-1,2-Dichloroethylene	7.8	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	295 [a]	5.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	92%	101%	79-125%
2037-26-5	Toluene-D8	91%	104%	85-112%
460-00-4	4-Bromofluorobenzene	96%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-SAMW0004D-047.5-20210315		
Lab Sample ID:	FA83988-16	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26975.D	1	03/23/21 12:37	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	2.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.59	1.0	0.22	ug/l	I
75-01-4	Vinyl Chloride	14.6	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-SAMW0004I-037.5-20210315		
Lab Sample ID:	FA83988-17	**Date Sampled:**	03/15/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78556.D	1	03/22/21 18:39	SO	n/a	n/a	VP3173
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.61	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.41	1.0	0.22	ug/l	I
75-01-4	Vinyl Chloride	19.4	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	90%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range

I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-TB01-20210315		
Lab Sample ID:	FA83988-18	**Date Sampled:**	03/15/21
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78540.D	1	03/22/21 11:59	SO	n/a	n/a	VP3173
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	95%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	96%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA83988

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Hot Spot 2 | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-13

Lab Name: SGS Orlando | 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) HCl / Total No. of Containers	Select VOCs by SW8260B	Comments
1	MLPV-IW0011I-037.5-202103 16	MLPV-IW0011I	202103 16	0903	WG	N	G	3	3	
2	MLPV-IW0032-035.0-202103 16	MLPV-IW0032	202103 16	1118	WG	N	G	3	3	
3	MLPV-IW0033-045.0-202103 16	MLPV-IW0033	202103 16	1155	WG	N	G	3	3	
4	MLPV-IW0034-035.0-202103 15	MLPV-IW0034	202103 15	1129	WG	N	G	3	3	
5	MLPV-IW0035-045.0-202103 15	MLPV-IW0035	202103 15	1209	WG	N	G	3	3	
6	MLPV-IW0036-042.5-202103 15	MLPV-IW0036	202103 15	1129	WG	N	G	3	3	
7	MLPV-IW0037-045.0-202103 16	MLPV-IW0037	202103 16	0945	WG	N	G	3	3	
8	MLPV-IW0038-035.0-202103 15	MLPV-IW0038	202103 15	1341	WG	N	G	3	3	
9	MLPV-IW0039-045.0-202103 15	MLPV-IW0039	202103 15	1426	WG	N	G	3	3	
10	MLPV-IW0040-035.0-202103 15	MLPV-IW0040	202103 15	1415	WG	N	G	3	3	
11	MLPV-IW0041-045.0-202103 16	MLPV-IW0041	202103 16	0902	WG	N	G	3	3	
12	MLPV-IW0042-035.0-202103 16	MLPV-IW0042	202103 16	0954	WG	N	G	3	3	

INITIAL ASSESSMENT NS
LABEL VERIFICATION AF

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		3/16/21	1140		3/15/21	0600
2		3/17/21	1435		3/17/21	1455
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**

3.8 IR#4

FA83988: Chain of Custody
Page 1 of 3

FA83988

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 2 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Hot Spot 2 | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-13

Lab Name: SGS Orlando | 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	HCl Select VOCs by SW8260B										Comments
13	MLPV-IW0043-045.0-20210316	MLPV-IW0043	20210316	1034	WG	N	G	3	3										
14	MLPV-IW0044-045.0-202103 16	MLPV-IW0044	20210316	1027	WG	N	G	3	3										
15	MLPV-IW0045-045.0-202103 16	MLPV-IW0045	20210316	1121	WG	N	G	3	3										
16	MLPV-SAMW0004D-047.5-202103 15	MLPV-SAMW0004D	20210315	1212	WG	N	G	3	3										
17	MLPV-SAMW004I-037.5-202103 15	MLPV-SAMW004I	20210315	1335	WG	N	G	3	3										
18	MLPV-TB01-20210315	MLPV-TB01	20210315	1120	WG	TB	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	3/17/21	1140	1	3/17/21	0600
2	3/17/21	1435	2	3/17/21	1435
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**

FA83988: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FA83988 **Client:** AECOM **Project:** NASA KSC

Date / Time Received: 3/17/2021 2:35:00 PM **Delivery Method:** D/O **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (5.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.8);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 3/17/2021 2:35:00 PM Reviewer: _____ Date: _____

5.1

5

FA83988: Chain of Custody
Page 3 of 3

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1239-MB	5E26941.D	1	03/22/21	SO	n/a	n/a	V5E1239

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-1, FA83988-2, FA83988-3, FA83988-4, FA83988-5, FA83988-6, FA83988-7, FA83988-8

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

Method Blank Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP3173-MB	P78538.D	1	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-9, FA83988-11, FA83988-13, FA83988-14, FA83988-15, FA83988-17, FA83988-18

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	79-125%
2037-26-5	Toluene-D8	92%	85-112%
460-00-4	4-Bromofluorobenzene	94%	83-118%

Method Blank Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-MB	5E26971.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-3, FA83988-5, FA83988-7, FA83988-9, FA83988-10, FA83988-11, FA83988-12, FA83988-14, FA83988-15, FA83988-16

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

Blank Spike Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1239-BS	5E26938.D	1	03/22/21	SO	n/a	n/a	V5E1239

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-1, FA83988-2, FA83988-3, FA83988-4, FA83988-5, FA83988-6, FA83988-7, FA83988-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.4	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.2	101	76-127
75-01-4	Vinyl Chloride	25	24.5	98	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	101%	85-112%
460-00-4	4-Bromofluorobenzene	97%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP3173-BS	P78536.D	1	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-9, FA83988-11, FA83988-13, FA83988-14, FA83988-15, FA83988-17, FA83988-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	27.9	112	78-120
156-60-5	trans-1,2-Dichloroethylene	25	27.1	108	76-127
75-01-4	Vinyl Chloride	25	28.0	112	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	91%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-BS	5E26968.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-3, FA83988-5, FA83988-7, FA83988-9, FA83988-10, FA83988-11, FA83988-12, FA83988-14, FA83988-15, FA83988-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	25.1	100	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.6	102	76-127
75-01-4	Vinyl Chloride	25	24.1	96	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83975-1MS	P78557.D	10	03/22/21	SO	n/a	n/a	VP3173
FA83975-1MSD	P78558.D	10	03/22/21	SO	n/a	n/a	VP3173
FA83975-1	P78542.D	10	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-9, FA83988-11, FA83988-13, FA83988-14, FA83988-15, FA83988-17, FA83988-18

CAS No.	Compound	FA83975-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	14.7		250	314	120	250	289	110	8	78-120/15
156-60-5	trans-1,2-Dichloroethylene	4.1	I	250	293	116	250	270	106	8	76-127/17
75-01-4	Vinyl Chloride	806		250	1260	182* [a]	250	1160	142	8	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83975-1	Limits
1868-53-7	Dibromofluoromethane	102%	102%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	90%	91%	94%	79-125%
2037-26-5	Toluene-D8	91%	92%	92%	85-112%
460-00-4	4-Bromofluorobenzene	95%	96%	94%	83-118%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83988-3MS	5E26962.D	10	03/22/21	SO	n/a	n/a	V5E1239
FA83988-3MSD	5E26963.D	10	03/22/21	SO	n/a	n/a	V5E1239
FA83988-3	5E26954.D	2	03/22/21	SO	n/a	n/a	V5E1239

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-1, FA83988-2, FA83988-3, FA83988-4, FA83988-5, FA83988-6, FA83988-7, FA83988-8

CAS No.	Compound	FA83988-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	49.6		250	298	99	250	283	93	5	78-120/15
156-60-5	trans-1,2-Dichloroethylene	6.3		250	269	105	250	251	98	7	76-127/17
75-01-4	Vinyl Chloride	516	L	250	649	53* [a]	250	631	46* [a]	3	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83988-3	Limits
1868-53-7	Dibromofluoromethane	95%	95%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	100%	101%	79-125%
2037-26-5	Toluene-D8	100%	100%	104%	85-112%
460-00-4	4-Bromofluorobenzene	97%	99%	102%	83-118%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83988
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83988-3MS	5E26992.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3MSD	5E26993.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3	5E26978.D	10	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83988-3, FA83988-5, FA83988-7, FA83988-9, FA83988-10, FA83988-11, FA83988-12, FA83988-14, FA83988-15, FA83988-16

CAS No.	Compound	FA83988-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	42.8		250	240	79	250	302	104	23*	78-120/15
156-60-5	trans-1,2-Dichloroethylene	5.9	I	250	208	81	250	272	106	27*	76-127/17
75-01-4	Vinyl Chloride	471		250	703	93	250	754	113	7	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83988-3	Limits
1868-53-7	Dibromofluoromethane	94%	94%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	102%	79-125%
2037-26-5	Toluene-D8	99%	99%	104%	85-112%
460-00-4	4-Bromofluorobenzene	94%	96%	101%	83-118%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC, Biosparge Area (BSA)

60615493.4

SGS Job Number: FA83975

Sampling Dates: 03/16/21 - 03/17/21

Report to:

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Orlando, FL 32801
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ATTN: Jennifer Joyal

Total number of pages in report: 35

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **7**
4.1: FA83975-1: MLPV-IW0057-045.0-20210317 8
4.2: FA83975-2: MLPV-IW0058-047.5-20210317 9
4.3: FA83975-3: MLPV-IW0059-047.5-20210317 10
4.4: FA83975-4: MLPV-IW0060-045.0-20210317 11
4.5: FA83975-5: MLPV-ASMW0004-037.5-20210317 12
4.6: FA83975-6: MLPV-ASMW0005-037.5-20210317 13
4.7: FA83975-7: MLPV-ASMW0006-037.5-20210317 14
4.8: FA83975-8: MLPV-IW0031-030.0-20210317 15
4.9: FA83975-9: MLPV-IW0061-037.5-20210316 16
4.10: FA83975-10: MLPV-IW0062-042.5-20210316 17
4.11: FA83975-11: MLPV-IW0063-037.5-20210317 18
4.12: FA83975-12: MLPV-IW0064-042.5-20210317 19
4.13: FA83975-13: MLPV-TB02-20210316 20
Section 5: Misc. Forms **21**
5.1: Chain of Custody 22
Section 6: MS Volatiles - QC Data Summaries **26**
6.1: Method Blank Summary 27
6.2: Blank Spike Summary 30
6.3: Matrix Spike/Matrix Spike Duplicate Summary 33

Sample Summary

AECOM, Inc

Job No: FA83975

NASA KSC, Biosparge Area (BSA)
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA83975-1	03/17/21	07:49	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0057-045.0-20210317
FA83975-2	03/17/21	08:34	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0058-047.5-20210317
FA83975-3	03/17/21	09:16	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0059-047.5-20210317
FA83975-4	03/17/21	10:59	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0060-045.0-20210317
FA83975-5	03/17/21	10:32	DSMP	03/17/21	AQ	Ground Water	MLPV-ASMW0004-037.5-20210317
FA83975-6	03/17/21	11:24	DSMP	03/17/21	AQ	Ground Water	MLPV-ASMW0005-037.5-20210317
FA83975-7	03/17/21	10:02	DSMP	03/17/21	AQ	Ground Water	MLPV-ASMW0006-037.5-20210317
FA83975-8	03/17/21	07:52	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0031-030.0-20210317
FA83975-9	03/16/21	13:23	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0061-037.5-20210316
FA83975-10	03/16/21	14:01	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0062-042.5-20210316
FA83975-11	03/17/21	08:34	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0063-037.5-20210317
FA83975-12	03/17/21	09:31	DSMP	03/17/21	AQ	Ground Water	MLPV-IW0064-042.5-20210317
FA83975-13	03/16/21	13:15	DSMP	03/17/21	AQ	Trip Blank Water	MLPV-TB02-20210316

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA83975

Site: NASA KSC, Biosparge Area (BSA) **Report Date** 3/30/2021 10:12:35

12 Sample(s), 1 Trip Blank(s) and 0 Field Blank(s) were collected on between 03/16/2021 and 03/17/2021 and were received at SGS North America Inc - Orlando on 03/17/2021 properly preserved, at 4 Deg. C and intact. These Samples received an SGS Orlando job number of FA83975. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1240

All samples were analyzed within the recommended method holding time.

Sample(s) FA83988-3MS, FA83988-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Trichloroethylene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Trichloroethylene are outside control limits for sample FA83988-3MSD. Probable cause is due to sample non-homogeneity.

Matrix: AQ **Batch ID:** VC5939

All samples were analyzed within the recommended method holding time.

Sample(s) FA83861-44MS, FA83861-44MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** VP3173

All samples were analyzed within the recommended method holding time.

Sample(s) FA83975-1MS, FA83975-1MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Vinyl Chloride are outside control limits. Outside control limits due to high level in sample relative to spike amount.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA83975
Account: AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)
Collected: 03/16/21 thru 03/17/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA83975-1	**MLPV-IW0057-045.0-20210317**					
cis-1,2-Dichloroethylene		14.4	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		4.9	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		806	10	4.1	ug/l	SW846 8260B
FA83975-2	**MLPV-IW0058-047.5-20210317**					
cis-1,2-Dichloroethylene		10.8	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.70 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		107	2.0	0.82	ug/l	SW846 8260B
FA83975-3	**MLPV-IW0059-047.5-20210317**					
cis-1,2-Dichloroethylene		0.73 I	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		1.3	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		46.1	1.0	0.41	ug/l	SW846 8260B
FA83975-4	**MLPV-IW0060-045.0-20210317**					
Vinyl Chloride		1.3	1.0	0.41	ug/l	SW846 8260B
FA83975-5	**MLPV-ASMW0004-037.5-20210317**					
trans-1,2-Dichloroethylene		0.30 I	1.0	0.22	ug/l	SW846 8260B
FA83975-6	**MLPV-ASMW0005-037.5-20210317**					
No hits reported in this sample.						
FA83975-7	**MLPV-ASMW0006-037.5-20210317**					
No hits reported in this sample.						
FA83975-8	**MLPV-IW0031-030.0-20210317**					
No hits reported in this sample.						
FA83975-9	**MLPV-IW0061-037.5-20210316**					
cis-1,2-Dichloroethylene		0.50 I	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		15.7	1.0	0.41	ug/l	SW846 8260B

Summary of Hits

Job Number: FA83975
Account: AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)
Collected: 03/16/21 thru 03/17/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA83975-10	**MLPV-IW0062-042.5-20210316**					
cis-1,2-Dichloroethylene		4.3	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.48 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		430	10	4.1	ug/l	SW846 8260B
FA83975-11	**MLPV-IW0063-037.5-20210317**					
cis-1,2-Dichloroethylene		1.3	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		1.0	1.0	0.41	ug/l	SW846 8260B
FA83975-12	**MLPV-IW0064-042.5-20210317**					
cis-1,2-Dichloroethylene		4.1	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		5.0	1.0	0.41	ug/l	SW846 8260B
FA83975-13	**MLPV-TB02-20210316**					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MLPV-IW0057-045.0-20210317		
Lab Sample ID:	FA83975-1	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147522.D	1	03/19/21 19:24	SO	n/a	n/a	VC5939
Run #2	P78542.D	10	03/22/21 12:49	SO	n/a	n/a	VP3173

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	14.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	4.9	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	806 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	94%	79-125%
2037-26-5	Toluene-D8	93%	92%	85-112%
460-00-4	4-Bromofluorobenzene	101%	94%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0058-047.5-20210317		
Lab Sample ID:	FA83975-2	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147523.D	1	03/19/21 19:50	SO	n/a	n/a	VC5939
Run #2	P78543.D	2	03/22/21 13:14	SO	n/a	n/a	VP3173

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	10.8	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.70	1.0	0.22	ug/l	I
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	107 [a]	2.0	0.82	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	96%	79-125%
2037-26-5	Toluene-D8	92%	92%	85-112%
460-00-4	4-Bromofluorobenzene	100%	96%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0059-047.5-20210317		
Lab Sample ID:	FA83975-3	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147524.D	1	03/19/21 20:17	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.73	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	1.3	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	46.1	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	93%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0060-045.0-20210317		
Lab Sample ID:	FA83975-4	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147525.D	1	03/19/21 20:43	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	1.3	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	90%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	99%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0004-037.5-20210317		
Lab Sample ID:	FA83975-5	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147526.D	1	03/19/21 21:09	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.30	1.0	0.22	ug/l	I
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	93%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0005-037.5-20210317		
Lab Sample ID:	FA83975-6	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147527.D	1	03/19/21 21:35	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	92%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0006-037.5-20210317		
Lab Sample ID:	FA83975-7	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147528.D	1	03/19/21 22:01	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	92%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0031-030.0-20210317		
Lab Sample ID:	FA83975-8	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0147529.D	1	03/19/21 22:27	SO	n/a	n/a	VC5939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		83-118%
17060-07-0	1,2-Dichloroethane-D4	91%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	100%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0061-037.5-20210316		
Lab Sample ID:	FA83975-9	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26981.D	1	03/23/21 14:56	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.50	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	15.7	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	95%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0062-042.5-20210316		
Lab Sample ID:	FA83975-10	**Date Sampled:**	03/16/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78545.D	1	03/22/21 14:04	SO	n/a	n/a	VP3173
Run #2	5E26982.D	10	03/23/21 15:19	SO	n/a	n/a	V5E1240

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	4.3	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.48	1.0	0.22	ug/l	I
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	430 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	101%	79-125%
2037-26-5	Toluene-D8	91%	104%	85-112%
460-00-4	4-Bromofluorobenzene	95%	101%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0063-037.5-20210317		
Lab Sample ID:	FA83975-11	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26972.D	1	03/23/21 11:28	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	1.3	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	1.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	100%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	102%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0064-042.5-20210317		
Lab Sample ID:	FA83975-12	**Date Sampled:**	03/17/21
Matrix:	AQ - Ground Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78547.D	1	03/22/21 14:54	SO	n/a	n/a	VP3173
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	4.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	5.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		83-118%
17060-07-0	1,2-Dichloroethane-D4	95%		79-125%
2037-26-5	Toluene-D8	91%		85-112%
460-00-4	4-Bromofluorobenzene	94%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-TB02-20210316		
Lab Sample ID:	FA83975-13	**Date Sampled:**	03/16/21
Matrix:	AQ - Trip Blank Water	**Date Received:**	03/17/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	P78539.D	1	03/22/21 11:34	SO	n/a	n/a	VP3173
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		83-118%
17060-07-0	1,2-Dichloroethane-D4	93%		79-125%
2037-26-5	Toluene-D8	93%		85-112%
460-00-4	4-Bromofluorobenzene	95%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA83975

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Biosparge Area | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-14

Lab Name: SGS Orlando | 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) HCl / Total No. of Containers	Select VOCs by SW8260B											Comments
1	MLPV-IW0057-045.0-202103**17**	MLPV-IW0057	202103**17**	0749	WG	N	G	3	3											
2	MLPV-IW0058-047.5-202103**17**	MLPV-IW0058	202103**17**	0834	WG	N	G	3	3											
3	MLPV-IW0059-47.5-202103**17**	MLPV-IW0059	202103**17**	0916	WG	N	G	3	3											
4	MLPV-IW0060-045.0-202103**17**	MLPV-IW0060	202103**17**	1059	WG	N	G	3	3											
5	MLPV-ASMW0004-037.5-202103**17**	MLPV-ASMW0004	202103**17**	1032	WG	N	G	3	3											
6	MLPV-ASMW0005-037.5-202103 **17**	MLPV-ASMW0005	202103 **17**	1124	WG	N	G	3	3											
7	MLPV-ASMW0006-037.5-202103 **17**	MLPV-ASMW0006	202103 **17**	1002	WG	N	G	3	3											
8	MLPV-IW0031-030.0-202103 **17**	MLPV-IW0031	202103 **17**	0752	WG	N	G	3	3											
9	MLPV-IW0061-037.5-202103 **16**	MLPV-IW0061	202103**16**	1323	WG	N	G	3	3											
10	MLPV-IW0062-042.5-202103 **16**	MLPV-IW0062	202103**16**	1401	WG	N	G	3	3											
11	MLPV-IW0063-~~17~~ (D)	202103 **17**	0834	WG	N	G	3	3												

INITIAL ASSESSMENT
LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	KC	03/08/21	11:10		3/15/21	0600
2		3/17/21	1435		3/17/21	1435
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

0 lk #4

5.1 5

FA83975: Chain of Custody
Page 1 of 4

FA83975

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 2 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Biosparge Area | Send Invoice To: Instructions in MSA # 195-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-14

Lab Name: SGS Orlando | 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	HCl Select VOCs by SW8260B	4 DEG Select PFAS by 537									Comments
12	MLPV-IW0064-042.5-202103**17**	MLPV-IW0064-042.5	202103**17**	0931	WG	N	G	5	3	2									
13	MLPV-TB02-202103**16**	MLPV-TB02	202103**16**	1315	WG	TB	G	3	3										

***Field* Comments:** Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details

Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	[signature]	03/08/21	11:10	[signature]	3/15/21	0600
2	[signature]	3/17/21	1435	[signature]	3/17/21	1435
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**

5.1 5

FA83975: Chain of Custody
Page 2 of 4

SGS Sample Receipt Summary

Job Number: FA83975 **Client:** SGS **Project:** NASA KSC

Date / Time Received: 3/17/2021 2:35:00 PM **Delivery Method:** D/O **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (5.8);

Cooler Temps (Corrected) °C: Cooler 1: (4.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 3/17/2021 2:35:00 PM Reviewer: _____ Date: _____

Job Change Order: FA83975

Requested Date:	3/18/2021	**Received Date:**	3/17/2021
Account Name:	AECOM, Inc	**Due Date:**	3/24/2021
Project Description:	NASA KSC, Biosparge Area (BSA)	**Deliverable:**	COMMBN
CSR:	AC	**TAT (Days):**	14

==========

Sample #: FA83975-12

Dept:

TAT: 14

MLPV-IW0064-042.5-20210317

Change:
Please cancel PFAS

==========

Above Changes Per: Teresa Amentt Jennings **Date/Time:** 3/18/2021 2:40:52 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Page 1 of 1

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5939-MB	C0147510.D	1	03/19/21	SO	n/a	n/a	VC5939

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-3, FA83975-4, FA83975-5, FA83975-6, FA83975-7, FA83975-8

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	105%	83-118%
17060-07-0	1,2-Dichloroethane-D4	90%	79-125%
2037-26-5	Toluene-D8	88%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Method Blank Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP3173-MB	P78538.D	1	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-10, FA83975-12, FA83975-13

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	95%	79-125%
2037-26-5	Toluene-D8	92%	85-112%
460-00-4	4-Bromofluorobenzene	94%	83-118%

Method Blank Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-MB	5E26971.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-9, FA83975-10, FA83975-11

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

Blank Spike Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VC5939-BS	C0147507.D	1	03/19/21	SO	n/a	n/a	VC5939

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-3, FA83975-4, FA83975-5, FA83975-6, FA83975-7, FA83975-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	29.2	117	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.3	113	76-127
79-01-6	Trichloroethylene	25	26.6	106	81-126
75-01-4	Vinyl Chloride	25	26.9	108	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	104%	83-118%
17060-07-0	1,2-Dichloroethane-D4	89%	79-125%
2037-26-5	Toluene-D8	89%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VP3173-BS	P78536.D	1	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-10, FA83975-12, FA83975-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	27.9	112	78-120
156-60-5	trans-1,2-Dichloroethylene	25	27.1	108	76-127
79-01-6	Trichloroethylene	25	27.3	109	81-126
75-01-4	Vinyl Chloride	25	28.0	112	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	91%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-BS	5E26968.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-9, FA83975-10, FA83975-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	25.1	100	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.6	102	76-127
79-01-6	Trichloroethylene	25	24.5	98	81-126
75-01-4	Vinyl Chloride	25	24.1	96	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83861-44MS	C0147532.D	1	03/19/21	SO	n/a	n/a	VC5939
FA83861-44MSD	C0147533.D	1	03/20/21	SO	n/a	n/a	VC5939
FA83861-44	C0147521.D	1	03/19/21	SO	n/a	n/a	VC5939

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-3, FA83975-4, FA83975-5, FA83975-6, FA83975-7, FA83975-8

CAS No.	Compound	FA83861-44 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	ND		25	27.1	108	25	25.6	102	6	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		25	27.2	109	25	25.3	101	7	76-127/17
79-01-6	Trichloroethylene	ND		25	25.0	100	25	23.4	94	7	81-126/15
75-01-4	Vinyl Chloride	ND		25	28.0	112	25	25.7	103	9	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83861-44	Limits
1868-53-7	Dibromofluoromethane	102%	101%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	91%	91%	91%	79-125%
2037-26-5	Toluene-D8	96%	97%	91%	85-112%
460-00-4	4-Bromofluorobenzene	101%	102%	101%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83975-1MS	P78557.D	10	03/22/21	SO	n/a	n/a	VP3173
FA83975-1MSD	P78558.D	10	03/22/21	SO	n/a	n/a	VP3173
FA83975-1	P78542.D	10	03/22/21	SO	n/a	n/a	VP3173

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-1, FA83975-2, FA83975-10, FA83975-12, FA83975-13

CAS No.	Compound	FA83975-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	14.7		250	314	120	250	289	110	8	78-120/15
156-60-5	trans-1,2-Dichloroethylene	4.1	I	250	293	116	250	270	106	8	76-127/17
79-01-6	Trichloroethylene	10 U		250	294	118	250	269	108	9	81-126/15
75-01-4	Vinyl Chloride	806		250	1260	182* [a]	250	1160	142	8	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83975-1	Limits
1868-53-7	Dibromofluoromethane	102%	102%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	90%	91%	94%	79-125%
2037-26-5	Toluene-D8	91%	92%	92%	85-112%
460-00-4	4-Bromofluorobenzene	95%	96%	94%	83-118%

(a) Outside control limits due to high level in sample relative to spike amount.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83975
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83988-3MS	5E26992.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3MSD	5E26993.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3	5E26978.D	10	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83975-9, FA83975-10, FA83975-11

CAS No.	Compound	FA83988-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	42.8		250	240	79	250	302	104	23*	78-120/15
156-60-5	trans-1,2-Dichloroethylene	5.9	I	250	208	81	250	272	106	27*	76-127/17
79-01-6	Trichloroethylene	10 U		250	195	78*	250	258	103	28*	81-126/15
75-01-4	Vinyl Chloride	471		250	703	93	250	754	113	7	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83988-3	Limits
1868-53-7	Dibromofluoromethane	94%	94%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	102%	79-125%
2037-26-5	Toluene-D8	99%	99%	104%	85-112%
460-00-4	4-Bromofluorobenzene	94%	96%	101%	83-118%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC MLPV IDW

60615493.4

SGS Job Number: FA83977

Sampling Date: 03/17/21

Report to:

AECOM
150 N Orange Ave Suite 200
Orlando, FL 32801
gloria.richie@aecom.com; linnea.king@aecom.com;
megan.garcia@aecom.com; jennifer.chastain@aecom.com;
ATTN: Krista Sommerfeldt

Total number of pages in report: **14**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FA83977-1: MLPV-IDW-20210317 7
Section 5: Misc. Forms **8**
5.1: Chain of Custody 9
Section 6: MS Volatiles - QC Data Summaries **11**
6.1: Method Blank Summary 12
6.2: Blank Spike Summary 13
6.3: Matrix Spike/Matrix Spike Duplicate Summary 14

SGS North America Inc.

Sample Summary

AECOM, Inc

Job No: FA83977

NASA KSC MLPV IDW
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA83977-1	03/17/21	11:50	DSMP	03/18/21	AQ	Water	MLPV-IDW-20210317

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA83977

Site: NASA KSC MLPV IDW **Report Date** 3/30/2021 10:20:40

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 03/17/2021 and were received at SGS North America Inc - Orlando on 03/18/2021 properly preserved, at 2 Deg. C and intact. These Samples received an SGS Orlando job number of FA83977. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1240

All samples were analyzed within the recommended method holding time.

Sample(s) FA83988-3MS, FA83988-3MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

Matrix Spike Recovery(s) for Trichloroethylene are outside control limits. Probable cause is due to matrix interference.

RPD(s) for MSD for cis-1,2-Dichloroethylene, trans-1,2-Dichloroethylene, Trichloroethylene are outside control limits for sample FA83988-3MSD. Probable cause is due to sample non-homogeneity.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA83977
Account: AECOM, Inc
Project: NASA KSC MLPV IDW
Collected: 03/17/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA83977-1	**MLPV-IDW-20210317**					
cis-1,2-Dichloroethylene		13.5	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.52 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		42.9	1.0	0.41	ug/l	SW846 8260B

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MLPV-IDW-20210317
Lab Sample ID: FA83977-1
Matrix: AQ - Water
Method: SW846 8260B
Project: NASA KSC MLPV IDW

Date Sampled: 03/17/21
Date Received: 03/18/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E26987.D	1	03/23/21 17:15	SO	n/a	n/a	V5E1240
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	13.5	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.52	1.0	0.22	ug/l	I
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	42.9	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	103%		85-112%
460-00-4	4-Bromofluorobenzene	101%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA83977

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name:	NASA KSC - MLPV		COC No.	Page: 1 of 1	
Site Location:	MLP/VAB-HS2 and HS3		PO No. 120307	Project No. 60615493.4	Phase:
TO No.: 80KSC019F0071	AECOM Project Manager:	**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:	SGS Orlando	Turnaround Time(specify): Standard 14 day	Deliver Samples To:		Site-Spicific WS#15 from QAPP: 15-14

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	(3) HCl Select VOCs by SW8260B	Comments
1	MLPV-IDW-20210317	MLPV-IDW	20210317	1150	IDW	IDW	G	3	3	pH<2 ok

INITIAL ASSESSMENT
LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	3/18	10:53	1	3/15/21	0600
2	3/17/21	1935	2	3/17/21	1935
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**

2.0 IR#4

FA83977: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA83977 **Client:** SGS **Project:** NASA KSC

Date / Time Received: 3/18/2021 2:35:00 PM **Delivery Method:** FX **Airbill #'s:** 7731 1466 6563

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.8);

Cooler Temps (Corrected) °C: Cooler 1: (2.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: PETERH Date: 3/18/2021 2:35:00 PM Reviewer: _____ Date: _____

5.1

5

FA83977: Chain of Custody
Page 2 of 2

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA83977
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-MB	5E26971.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83977-1

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	103%	83-118%

Blank Spike Summary

Job Number: FA83977
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1240-BS	5E26968.D	1	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83977-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	25.1	100	78-120
156-60-5	trans-1,2-Dichloroethylene	25	25.6	102	76-127
79-01-6	Trichloroethylene	25	24.5	98	81-126
75-01-4	Vinyl Chloride	25	24.1	96	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA83977
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA83988-3MS	5E26992.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3MSD	5E26993.D	10	03/23/21	SO	n/a	n/a	V5E1240
FA83988-3	5E26978.D	10	03/23/21	SO	n/a	n/a	V5E1240

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA83977-1

CAS No.	Compound	FA83988-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	42.8		250	240	79	250	302	104	23*	78-120/15
156-60-5	trans-1,2-Dichloroethylene	5.9	I	250	208	81	250	272	106	27*	76-127/17
79-01-6	Trichloroethylene	10 U		250	195	78*	250	258	103	28*	81-126/15
75-01-4	Vinyl Chloride	471		250	703	93	250	754	113	7	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA83988-3	Limits
1868-53-7	Dibromofluoromethane	94%	94%	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	102%	79-125%
2037-26-5	Toluene-D8	99%	99%	104%	85-112%
460-00-4	4-Bromofluorobenzene	94%	96%	101%	83-118%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

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Automated Report

Technical Report for

AECOM, Inc

NASA KSC MLPV IDW

60615493.4

SGS Job Number: FA84050

Sampling Date: 03/19/21

Report to:

AECOM
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Orlando, FL 32801
gloria.richie@aecom.com; linnea.king@aecom.com;
megan.garcia@aecom.com; jennifer.chastain@aecom.com;
ATTN: Krista Sommerfeldt

Total number of pages in report: 22

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), IL(200063), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AK, AR, IA, KY, MA, MS, ND, NH, NV, OK, OR, UT, WA, WV

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FA84050-1: MLPV-IDW-20210319 7
Section 5: Misc. Forms **9**
5.1: Certification Exceptions 10
5.2: Chain of Custody 11
Section 6: MS Semi-volatiles - QC Data Summaries **13**
6.1: Method Blank Summary 14
6.2: Blank Spike Summary 19
6.3: Matrix Spike Summary 20
6.4: Duplicate Summary 21

SGS North America Inc.

Sample Summary

AECOM, Inc

Job No: FA84050

NASA KSC MLPV IDW
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA84050-1	03/19/21	10:52	DSMP	03/19/21	AQ	Water	MLPV-IDW-20210319

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA84050

Site: NASA KSC MLPV IDW **Report Date** 4/2/2021 8:26:07 PM

1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were collected on 03/19/2021 and were received at SGS North America Inc - Orlando on 03/19/2021 properly preserved, at 1.2 Deg. C and intact. These Samples received an SGS Orlando job number of FA84050. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section. Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP84587

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) FA84016-11MS, FA84017-4DUP were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

RPD(s) for Duplicate for Perfluoroheptanoic acid, Perfluorohexanesulfonic acid are outside control limits for sample OP84587-DUP. Probable cause is due to sample non-homogeneity.

SGS Orlando certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS Orlando and as stated on the COC. SGS Orlando certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Orlando Quality Manual except as noted above. This report is to be used in its entirety. SGS Orlando is not responsible for any assumptions of data quality if partial data packages are used.

Narrative prepared by:

_____

Ariel Hartney, Client Services (signature on file)

Summary of Hits

Job Number: FA84050
Account: AECOM, Inc
Project: NASA KSC MLPV IDW
Collected: 03/19/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA84050-1	**MLPV-IDW-20210319**					
Perfluorohexanoic acid		0.0039 I	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid		0.0022 I	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorooctanoic acid		0.0225	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid		0.0073	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid		0.0129	0.0040	0.0020	ug/l	EPA 537M BY ID

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MLPV-IDW-20210319
Lab Sample ID: FA84050-1
Matrix: AQ - Water
Method: EPA 537M BY ID EPA 537 MOD
Project: NASA KSC MLPV IDW

Date Sampled: 03/19/21
Date Received: 03/19/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Q65061.D	1	03/25/21 01:49	NAF	03/22/21 10:30	OP84587	S2Q945
Run #2							

	Initial Volume	Final Volume
Run #1	125 ml	1.0 ml
Run #2		

EPA 537.1 Method List

CAS No.	Compound	Result	PQL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
307-24-4	Perfluorohexanoic acid	0.0039	0.0040	0.0020	ug/l	I
375-85-9	Perfluoroheptanoic acid	0.0022	0.0040	0.0020	ug/l	I
335-67-1	Perfluorooctanoic acid	0.0225	0.0040	0.0020	ug/l	
375-95-1	Perfluorononanoic acid	0.0020 U	0.0040	0.0020	ug/l	
335-76-2	Perfluorodecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
307-55-1	Perfluorododecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	0.0020 U	0.0040	0.0020	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0073	0.0040	0.0020	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.0129	0.0040	0.0020	ug/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	0.0040 U	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	0.0040 U	0.0080	0.0040	ug/l	
NEXT GENERATION PFAS ANALYTES						
13252-13-6	HFPO-DA (GenX)	0.0040 U	0.0080	0.0040	ug/l	
919005-14-4	ADONA	0.0040 U	0.016	0.0040	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0040 U	0.016	0.0040	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0040 U	0.016	0.0040	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	80%		50-150%
	13C4-PFHpA	87%		50-150%
	13C8-PFOA	89%		50-150%
	13C9-PFNA	91%		50-150%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MLPV-IDW-20210319
Lab Sample ID: FA84050-1
Matrix: AQ - Water
Method: EPA 537M BY ID EPA 537 MOD
Project: NASA KSC MLPV IDW

Date Sampled: 03/19/21
Date Received: 03/19/21
Percent Solids: n/a

EPA 537.1 Method List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C6-PFDA	90%		50-150%
	13C7-PFUnDA	82%		40-140%
	13C2-PFDoDA	71%		40-140%
	13C2-PFTeDA	67%		30-130%
	13C3-PFBS	75%		50-150%
	13C3-PFHxS	73%		50-150%
	13C8-PFOS	72%		50-150%
	d3-MeFOSAA	89%		40-140%
	d5-EtFOSAA	83%		40-140%
	13C3-HFPO-DA	64%		50-150%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
ADONA	919005-14-4	EPA 537M BY ID	AQ	Certified by SOP MS014
11Cl-PF3OUdS (F-53B Minor)	763051-92-9	EPA 537M BY ID	AQ	Certified by SOP MS014
9Cl-PF3ONS (F-53B Major)	756426-58-1	EPA 537M BY ID	AQ	Certified by SOP MS014
EtFOSAA	2991-50-6	EPA 537M BY ID	AQ	Certified by SOP MS014
HFPO-DA (GenX)	13252-13-6	EPA 537M BY ID	AQ	Certified by SOP MS014
MeFOSAA	2355-31-9	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorobutanesulfonic acid	375-73-5	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorodecanoic acid	335-76-2	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorododecanoic acid	307-55-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluoroheptanoic acid	375-85-9	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorohexanesulfonic acid	355-46-4	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorohexanoic acid	307-24-4	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorononanoic acid	375-95-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorooctanesulfonic acid	1763-23-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorooctanoic acid	335-67-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorotetradecanoic acid	376-06-7	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorotridecanoic acid	72629-94-8	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluoroundecanoic acid	2058-94-8	EPA 537M BY ID	AQ	Certified by SOP MS014

FA84050

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 1

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: MLP/VAB-HS2 and HS3 | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-14

Lab Name: SGS Orlando | 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) HCl / Total No. of Containers / LCID537LIST18	Comments
1	MLPV-IDW-20210319	MLPV-IDW	20210319	1052	IDW	IDW	G	2 / 2	

INITIAL ASSESSMENT LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	3/18/21	14:52	1 M. Parsotan	03/19/21	0935
2 M. Parsotan	3/19/21	1240	2	3/19/21	12:45
3			3	3/20/21	09:30

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

1.2.3.2.4

5.2 5

FA84050: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA84050 **Client:** AECOM **Project:** NASA KSC

Date / Time Received: 3/19/2021 12:45:00 PM **Delivery Method:** DROP OFF **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** -1.8; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (3.0);

Cooler Temps (Corrected) °C: Cooler 1: (1.2);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☐	☑
2. Trip Blank listed on COC	☐		☐	☑

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☐	☑
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: MAGALEAK Date: 3/19/2021 12:45:00 P Reviewer: _____ Date: _____

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP84587-MB	2Q65060.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA84050-1

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0020	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0020	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0020	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0020	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0020	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0020	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0020	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0020	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0020	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0020	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0040	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0040	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0020	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C5-PFHxA	78%	50-150%
	13C4-PFHpA	82%	50-150%
	13C8-PFOA	78%	50-150%
	13C9-PFNA	80%	50-150%
	13C6-PFDA	80%	50-150%
	13C7-PFUnDA	76%	40-140%
	13C2-PFDoDA	71%	40-140%
	13C2-PFTeDA	71%	30-130%
	13C3-PFBS	73%	50-150%
	13C3-PFHxS	68%	50-150%
	13C8-PFOS	63%	50-150%
	d3-MeFOSAA	79%	40-140%
	d5-EtFOSAA	81%	40-140%

Instrument Blank

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q945-IBLK	2Q65021.D	1	03/24/21	NAF	n/a	n/a	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA84050-1

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0080	0.0020	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	106%	50-150%
	13C5-PFPeA	104%	50-150%
	13C5-PFHxA	101%	50-150%
	13C4-PFHpA	109%	50-150%
	13C8-PFOA	106%	50-150%
	13C9-PFNA	111%	50-150%
	13C6-PFDA	115%	50-150%
	13C7-PFUnDA	115%	50-150%
	13C2-PFDoDA	110%	50-150%
	13C2-PFTeDA	110%	50-150%
	13C3-PFBS	98%	50-150%
	13C3-PFHxS	96%	50-150%
	13C8-PFOS	99%	50-150%
	13C8-FOSA	111%	50-150%

Instrument Blank

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q945-IBLK	2Q65021.D	1	03/24/21	NAF	n/a	n/a	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA84050-1

CAS No.	ID Standard Recoveries		Limits
	d3-MeFOSAA	114%	50-150%
	d5-EtFOSAA	114%	50-150%
	13C2-4:2FTS	98%	50-150%
	13C2-6:2FTS	105%	50-150%
	13C2-8:2FTS	103%	50-150%

Instrument Blank

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q946-IBLK	2Q65084.D	1	03/25/21	NAF	n/a	n/a	S2Q946

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

OP84587-DUP

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0080	0.0020	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	89%	50-150%
	13C5-PFPeA	91%	50-150%
	13C5-PFHxA	90%	50-150%
	13C4-PFHpA	92%	50-150%
	13C8-PFOA	88%	50-150%
	13C9-PFNA	88%	50-150%
	13C6-PFDA	89%	50-150%
	13C7-PFUnDA	87%	50-150%
	13C2-PFDoDA	84%	50-150%
	13C2-PFTeDA	88%	50-150%
	13C3-PFBS	84%	50-150%
	13C3-PFHxS	76%	50-150%
	13C8-PFOS	77%	50-150%
	13C8-FOSA	87%	50-150%

Instrument Blank

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S2Q946-IBLK	2Q65084.D	1	03/25/21	NAF	n/a	n/a	S2Q946

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

OP84587-DUP

CAS No.	ID Standard Recoveries		Limits
	d3-MeFOSAA	84%	50-150%
	d5-EtFOSAA	84%	50-150%
	13C2-4:2FTS	86%	50-150%
	13C2-6:2FTS	85%	50-150%
	13C2-8:2FTS	82%	50-150%

Blank Spike Summary

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP84587-BS	2Q65059.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA84050-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0849	106	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0826	103	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0835	104	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0908	114	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0883	110	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0848	106	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0860	108	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0819	102	60-140
376-06-7	Perfluorotetradecanoic acid	0.08	0.0896	112	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0841	105	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0907	113	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0862	108	70-130
2355-31-9	MeFOSAA	0.08	0.0889	111	70-130
2991-50-6	EtFOSAA	0.08	0.0906	113	70-130
13252-13-6	HFPO-DA (GenX)	0.08	0.102	128	70-130
919005-14-4	ADONA	0.08	0.0818	102	60-140
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.08	0.0720	90	60-140
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.08	0.0808	101	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C5-PFHxA	81%	50-150%
	13C4-PFHpA	84%	50-150%
	13C8-PFOA	78%	50-150%
	13C9-PFNA	77%	50-150%
	13C6-PFDA	75%	50-150%
	13C7-PFUnDA	74%	40-140%
	13C2-PFDoDA	69%	40-140%
	13C2-PFTeDA	69%	30-130%
	13C3-PFBS	76%	50-150%
	13C3-PFHxS	68%	50-150%
	13C8-PFOS	61%	50-150%
	d3-MeFOSAA	74%	40-140%
	d5-EtFOSAA	76%	40-140%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP84587-MS	2Q65069.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945
FA84016-11	2Q65068.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA84050-1

CAS No.	Compound	FA84016-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
307-24-4	Perfluorohexanoic acid	0.0077		0.16	0.170	101	70-130
375-85-9	Perfluoroheptanoic acid	0.0052		0.16	0.162	98	70-130
335-67-1	Perfluorooctanoic acid	0.0124		0.16	0.173	100	70-130
375-95-1	Perfluorononanoic acid	0.0042		0.16	0.176	107	70-130
335-76-2	Perfluorodecanoic acid	ND		0.16	0.167	104	70-130
2058-94-8	Perfluoroundecanoic acid	ND		0.16	0.162	101	70-130
307-55-1	Perfluorododecanoic acid	ND		0.16	0.166	104	70-130
72629-94-8	Perfluorotridecanoic acid	ND		0.16	0.161	101	60-140
376-06-7	Perfluorotetradecanoic acid	ND		0.16	0.167	104	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0092		0.16	0.169	100	70-130
355-46-4	Perfluorohexanesulfonic acid	0.0022	J	0.16	0.171	106	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.0020	J	0.16	0.164	101	70-130
2355-31-9	MeFOSAA	ND		0.16	0.168	105	70-130
2991-50-6	EtFOSAA	ND		0.16	0.172	108	70-130
13252-13-6	HFPO-DA (GenX)	ND		0.16	0.198	124	70-130
919005-14-4	ADONA	ND		0.16	0.148	93	60-140
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		0.16	0.145	91	60-140
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND		0.16	0.162	101	60-140

CAS No.	ID Standard Recoveries	MS	FA84016-11	Limits
	13C5-PFHxA	80%	82%	50-150%
	13C4-PFHpA	84%	87%	50-150%
	13C8-PFOA	81%	84%	50-150%
	13C9-PFNA	85%	86%	50-150%
	13C6-PFDA	86%	85%	50-150%
	13C7-PFUnDA	82%	79%	40-140%
	13C2-PFDoDA	79%	75%	40-140%
	13C2-PFTeDA	84%	79%	30-130%
	13C3-PFBS	78%	76%	50-150%
	13C3-PFHxS	77%	73%	50-150%
	13C8-PFOS	76%	74%	50-150%
	d3-MeFOSAA	73%	75%	40-140%
	d5-EtFOSAA	70%	71%	40-140%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP84587-DUP	2Q65100.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q946
FA84017-4	2Q65072.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA84050-1

CAS No.	Compound	FA84017-4 ug/l	Q	DUP ug/l	Q	RPD	Limits
307-24-4	Perfluorohexanoic acid	0.0022		0.0022		0	30
375-85-9	Perfluoroheptanoic acid	ND		0.00095	J	200*	30
335-67-1	Perfluorooctanoic acid	0.0028		0.0030		7	30
375-95-1	Perfluorononanoic acid	ND		ND		nc	30
335-76-2	Perfluorodecanoic acid	ND		ND		nc	30
2058-94-8	Perfluoroundecanoic acid	ND		ND		nc	30
307-55-1	Perfluorododecanoic acid	ND		ND		nc	30
72629-94-8	Perfluorotridecanoic acid	ND		ND		nc	30
376-06-7	Perfluorotetradecanoic acid	ND		ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	ND		ND		nc	30
355-46-4	Perfluorohexanesulfonic acid	ND		0.0012	J	200*	30
1763-23-1	Perfluorooctanesulfonic acid	0.0028		0.0028		0	30
2355-31-9	MeFOSAA	ND		ND		nc	30
2991-50-6	EtFOSAA	ND		ND		nc	30
13252-13-6	HFPO-DA (GenX)	ND		ND		nc	30
919005-14-4	ADONA	ND		ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND		ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND		ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FA84017-4	Limits
	13C4-PFBA		78%	35-135%
	13C5-PFPeA		79%	50-150%
	13C5-PFHxA	67%	78%	50-150%
	13C4-PFHpA	68%	83%	50-150%
	13C8-PFOA	68%	83%	50-150%
	13C9-PFNA	69%	88%	50-150%
	13C6-PFDA	65%	84%	50-150%
	13C7-PFUnDA	44%	68%	40-140%
	13C2-PFDoDA	28%* [a]	62%	40-140%
	13C2-PFTeDA	18%* [a]	36%	30-130%
	13C3-PFBS	61%	74%	50-150%
	13C3-PFHxS	54%	73%	50-150%
	13C8-PFOS	50%	67%	50-150%
	13C8-FOSA		68%	30-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA84050
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP84587-DUP	2Q65100.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q946
FA84017-4	2Q65072.D	1	03/25/21	NAF	03/22/21	OP84587	S2Q945

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA84050-1

CAS No.	ID Standard Recoveries	DUP	FA84017-4	Limits
	d3-MeFOSAA	59%	90%	40-140%
	d5-EtFOSAA	54%	86%	40-140%
	13C2-4:2FTS		82%	50-150%
	13C2-6:2FTS		86%	50-150%
	13C2-8:2FTS		86%	50-150%
	13C3-HFPO-DA		61%	50-150%

(a) Outside control limits.

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC, Biosparge Area (BSA)

SGS Job Number: FA88950

Sampling Dates: 09/13/21 - 09/15/21

Report to:

andrea.colby@sgs.com

Total number of pages in report: 39

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **7**
4.1: FA88950-1: MLPV-IW0057-045.0-20210914 8
4.2: FA88950-2: MLPV-IW0058-047.5-20210914 9
4.3: FA88950-3: MLPV-IW0059-047.5-20210914 10
4.4: FA88950-4: MLPV-IW0060-045.0-20210915 11
4.5: FA88950-5: MLPV-ASMW0004-037.5-20210915 12
4.6: FA88950-6: MLPV-ASMW0005-037.5-20210915 13
4.7: FA88950-7: MLPV-ASMW0006-037.5-20210915 14
4.8: FA88950-8: MLPV-IW0031-030.0-20210915 15
4.9: FA88950-9: MLPV-IW0061-037.5-20210913 16
4.10: FA88950-10: MLPV-IW0062-042.5-20210913 17
4.11: FA88950-11: MLPV-IW0063-037.5-20210914 18
4.12: FA88950-12: MLPV-IW0064-042.5-20210914 19
4.13: FA88950-13: MLPV-TB02-20210913 20
Section 5: Misc. Forms **21**
5.1: Chain of Custody 22
Section 6: MS Volatiles - QC Data Summaries **25**
6.1: Method Blank Summary 26
6.2: Blank Spike Summary 31
6.3: Matrix Spike/Matrix Spike Duplicate Summary 36

Sample Summary

AECOM, Inc

Job No: FA88950

NASA KSC, Biosparge Area (BSA)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA88950-1	09/14/21	09:31	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0057-045.0-20210914
FA88950-2	09/14/21	10:14	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0058-047.5-20210914
FA88950-3	09/14/21	11:04	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0059-047.5-20210914
FA88950-4	09/15/21	09:44	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0060-045.0-20210915
FA88950-5	09/15/21	11:06	DSMP	09/15/21	AQ	Ground Water	MLPV-ASMW0004-037.5-20210915
FA88950-6	09/15/21	10:25	DSMP	09/15/21	AQ	Ground Water	MLPV-ASMW0005-037.5-20210915
FA88950-7	09/15/21	09:05	DSMP	09/15/21	AQ	Ground Water	MLPV-ASMW0006-037.5-20210915
FA88950-8	09/15/21	12:07	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0031-030.0-20210915
FA88950-9	09/13/21	13:34	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0061-037.5-20210913
FA88950-10	09/13/21	14:15	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0062-042.5-20210913
FA88950-11	09/14/21	12:54	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0063-037.5-20210914
FA88950-12	09/14/21	13:39	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0064-042.5-20210914
FA88950-13	09/13/21	13:15	DSMP	09/15/21	AQ	Trip Blank Water	MLPV-TB02-20210913

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA88950

Site: NASA KSC, Biosparge Area (BSA) **Report Date** 9/27/2021 10:29:12

On 09/15/2021, 12 Sample(s), 1 Trip Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 4.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of FA88950 was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1405

FA88950-1: Confirmation run.

Matrix: AQ **Batch ID:** V5E1406

Sample(s) FA88949-5MS, FA88949-5MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VI2320

Sample(s) FA89153-1MS, FA89153-1MSD were used as the QC samples indicated.

VI2320-MB: Sample was treated with an anti-foaming agent.

Matrix: AQ **Batch ID:** VY2424

Sample(s) FA88843-10MS, FA88843-10MSD were used as the QC samples indicated.

FA88950-6: Confirmation run.

Matrix: AQ **Batch ID:** VY2426

Sample(s) FA88950-10MS, FA88950-10MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** VY2427

FA88950-5: Sample vial(s) contained significant headspace; reported results are considered minimum values.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives exceptas noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Ariel Hartney, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA88950
Account: AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)
Collected: 09/13/21 thru 09/15/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA88950-1	**MLPV-IW0057-045.0-20210914**					
cis-1,2-Dichloroethylene		8.8 I	10	2.8	ug/l	SW846 8260B
Vinyl Chloride		457	10	4.1	ug/l	SW846 8260B
FA88950-2	**MLPV-IW0058-047.5-20210914**					
cis-1,2-Dichloroethylene		5.5	2.0	0.55	ug/l	SW846 8260B
Vinyl Chloride		101	2.0	0.82	ug/l	SW846 8260B
FA88950-3	**MLPV-IW0059-047.5-20210914**					
Vinyl Chloride		4.4	1.0	0.41	ug/l	SW846 8260B
FA88950-4	**MLPV-IW0060-045.0-20210915**					
Vinyl Chloride		0.90 I	1.0	0.41	ug/l	SW846 8260B
FA88950-5	**MLPV-ASMW0004-037.5-20210915**					
cis-1,2-Dichloroethylene		11.4	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		8.3	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride [a]		926	50	20	ug/l	SW846 8260B
FA88950-6	**MLPV-ASMW0005-037.5-20210915**					
cis-1,2-Dichloroethylene		1.1	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		3.0	1.0	0.41	ug/l	SW846 8260B
FA88950-7	**MLPV-ASMW0006-037.5-20210915**					
No hits reported in this sample.						
FA88950-8	**MLPV-IW0031-030.0-20210915**					
Vinyl Chloride		3.4	1.0	0.41	ug/l	SW846 8260B
FA88950-9	**MLPV-IW0061-037.5-20210913**					
Vinyl Chloride		13.0	1.0	0.41	ug/l	SW846 8260B
FA88950-10	**MLPV-IW0062-042.5-20210913**					
cis-1,2-Dichloroethylene		3.9	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		240	10	4.1	ug/l	SW846 8260B

Summary of Hits

Job Number: FA88950
Account: AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)
Collected: 09/13/21 thru 09/15/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA88950-11	**MLPV-IW0063-037.5-20210914**					
cis-1,2-Dichloroethylene		4.4	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		185	10	4.1	ug/l	SW846 8260B
FA88950-12	**MLPV-IW0064-042.5-20210914**					
cis-1,2-Dichloroethylene		15.3	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		235	10	4.1	ug/l	SW846 8260B
FA88950-13	**MLPV-TB02-20210913**					

No hits reported in this sample.

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MLPV-IW0057-045.0-20210914		
Lab Sample ID:	FA88950-1	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E30624.D	1	09/17/21 20:51	LR	n/a	n/a	V5E1405
Run #2	I71094.D	10	09/25/21 12:37	SO	n/a	n/a	VI2320

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	8.8 [b]	10	2.8	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	2.2 U [b]	10	2.2	ug/l	
79-01-6	Trichloroethylene	3.5 U [b]	10	3.5	ug/l	
75-01-4	Vinyl Chloride	457 [b]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	114%	98%	79-125%
2037-26-5	Toluene-D8	105%	92%	85-112%
460-00-4	4-Bromofluorobenzene	106%	91%	83-118%

(a) Confirmation run.
(b) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0058-047.5-20210914		
Lab Sample ID:	FA88950-2	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30641.D	2	09/20/21 14:56	SO	n/a	n/a	V5E1406
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	5.5	2.0	0.55	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.44 U	2.0	0.44	ug/l	
79-01-6	Trichloroethylene	0.69 U	2.0	0.69	ug/l	
75-01-4	Vinyl Chloride	101	2.0	0.82	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		83-118%
17060-07-0	1,2-Dichloroethane-D4	114%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0059-047.5-20210914		
Lab Sample ID:	FA88950-3	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58374.D	1	09/17/21 15:18	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	4.4	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	102%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	106%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0060-045.0-20210915		
Lab Sample ID:	FA88950-4	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58375.D	1	09/17/21 15:43	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.90	1.0	0.41	ug/l	I

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	104%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0004-037.5-20210915		
Lab Sample ID:	FA88950-5	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58376.D	1	09/17/21 16:07	LV	n/a	n/a	VY2424
Run #2 [a]	Y58461.D	50	09/22/21 16:45	LV	n/a	n/a	VY2427

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	11.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	8.3	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	926 [b]	50	20	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	106%	83-118%
17060-07-0	1,2-Dichloroethane-D4	106%	123%	79-125%
2037-26-5	Toluene-D8	94%	100%	85-112%
460-00-4	4-Bromofluorobenzene	105%	104%	83-118%

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.
(b) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0005-037.5-20210915		
Lab Sample ID:	FA88950-6	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58434.D	1	09/21/21 16:12	LV	n/a	n/a	VY2426
Run #2 [a]	Y58377.D	1	09/17/21 16:32	LV	n/a	n/a	VY2424

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	1.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	3.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	105%	79-125%
2037-26-5	Toluene-D8	101%	94%	85-112%
460-00-4	4-Bromofluorobenzene	101%	105%	83-118%

(a) Confirmation run.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-ASMW0006-037.5-20210915		
Lab Sample ID:	FA88950-7	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58378.D	1	09/17/21 16:56	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0031-030.0-20210915		
Lab Sample ID:	FA88950-8	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58379.D	1	09/17/21 17:20	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	3.4	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	92%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0061-037.5-20210913		
Lab Sample ID:	FA88950-9	**Date Sampled:**	09/13/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58380.D	1	09/17/21 17:45	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	13.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	95%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0062-042.5-20210913		
Lab Sample ID:	FA88950-10	**Date Sampled:**	09/13/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58381.D	1	09/17/21 18:09	LV	n/a	n/a	VY2424
Run #2	Y58435.D	10	09/21/21 16:37	LV	n/a	n/a	VY2426

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	3.9	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	240 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	111%	112%	79-125%
2037-26-5	Toluene-D8	93%	100%	85-112%
460-00-4	4-Bromofluorobenzene	107%	102%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0063-037.5-20210914		
Lab Sample ID:	FA88950-11	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58382.D	1	09/17/21 18:34	LV	n/a	n/a	VY2424
Run #2	Y58436.D	10	09/21/21 17:03	LV	n/a	n/a	VY2426

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	4.4	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	185 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	115%	79-125%
2037-26-5	Toluene-D8	95%	101%	85-112%
460-00-4	4-Bromofluorobenzene	106%	102%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0064-042.5-20210914		
Lab Sample ID:	FA88950-12	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58383.D	1	09/17/21 18:58	LV	n/a	n/a	VY2424
Run #2	Y58437.D	10	09/21/21 17:29	LV	n/a	n/a	VY2426

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	15.3	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	235 [a]	10	4.1	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%	106%	83-118%
17060-07-0	1,2-Dichloroethane-D4	110%	118%	79-125%
2037-26-5	Toluene-D8	94%	103%	85-112%
460-00-4	4-Bromofluorobenzene	105%	100%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-TB02-20210913		
Lab Sample ID:	FA88950-13	**Date Sampled:**	09/13/21
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Biosparge Area (BSA)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y58373.D	1	09/17/21 14:53	LV	n/a	n/a	VY2424
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		83-118%
17060-07-0	1,2-Dichloroethane-D4	98%		79-125%
2037-26-5	Toluene-D8	94%		85-112%
460-00-4	4-Bromofluorobenzene	104%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA88950

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 1 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Biosparge Area | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-14

Lab Name: SGS Orlando | 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) HCl / Total No. of Containers	Select VOCs by SW8260B											Comments
1	MLPV-IW0057-045.0-202109 14	MLPV-IW0057	202109 14	0931	WG	N	G	3	3											
2	MLPV-IW0058-047.5-202109 14	MLPV-IW0058	202109 14	1014	WG	N	G	3	3											
3	MLPV-IW0059-047.5-202109 14	MLPV-IW0059	202109 14	1104	WG	N	G	3	3											
4	MLPV-IW0060-045.0-202109 15	MLPV-IW0060	202109 15	0944	WG	N	G	3	3											
5	MLPV-ASMW0004-037.5-202109 15	MLPV-ASMW0004	202109 15	1106	WG	N	G	3	3											
6	MLPV-ASMW0005-037.5-202109 15	MLPV-ASMW0005	202109 15	1025	WG	N	G	3	3											
7	MLPV-ASMW0006-037.5-202109 15	MLPV-ASMW0006	202109 15	0905	WG	N	G	3	3											
8	MLPV-IW0031-030.0-202109 15	MLPV-IW0031	202109 15	1207	WG	N	G	3	3											
9	MLPV-IW0061-037.5-202109 13	MLPV-IW0061	202109 13	1334	WG	N	G	3	3											
10	MLPV-IW0062-042.5-202109 13	MLPV-IW0062	202109 13	1415	WG	N	G	3	3											
11	MLPV-IW0063-037.5-202109 14	MLPV-IW0063	202109 14	1254	WG	N	G	3	3											

INITIAL ASSESSMENT

LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		9/13/21	1206		9/13/21	0800
2		9/15/21			9/15/21	1347
3						

Sample Shipment and Delivery Details
Number of coolers in shipment: 2 4 | 2.8 | 1.2 | 4.2
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**

FA88950: Chain of Custody
Page 1 of 3

FA88950

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - MLPV			COC No.	Page: 2 of 2	
Site Location: Biosparge Area			PO No. 120307	Project No. 60615493.4	Phase:
TO No.: 80KSC019F0071	AECOM Project Manager: **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: SGS Orlando	Turnaround Time(specify): Standard 14 day		Deliver Samples To:		Site-Spicific WS#15 from QAPP: 15-14

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) HCl / Total No. of Containers	Select VOCs by SW8260B												Comments
12	MLPV-IW0064-042.5-202109**14**	MLPV-IW0064	202109**14**	1339	WG	N	G	3	3												
13	MLPV-TB02-202109**13**	MLPV-TB02	202109**13**	1315	WQ	TB	G	3	3												

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		9/8/21	1206		9/13/21	0700
2		9/15/21			9/15/21	1347
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**

5.1
5

FA88950: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FA88950 **Client:** NASA KSC **Project:** 120307

Date / Time Received: 9/15/2021 1:47:00 PM **Delivery Method:** DROP OFF **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (4.2);

Cooler Temps (Corrected) °C: Cooler 1: (4.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments

SM001
Rev. Date 05/24/17

Technician: STEPHENP Date: 9/15/2021 1:47:00 PM Reviewer: _____ Date: _____

MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2424-MB	Y58372.D	1	09/17/21	LV	n/a	n/a	VY2424

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-3, FA88950-4, FA88950-5, FA88950-7, FA88950-8, FA88950-9, FA88950-10, FA88950-11, FA88950-12, FA88950-13

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	95%	83-118%
17060-07-0	1,2-Dichloroethane-D4	96%	79-125%
2037-26-5	Toluene-D8	94%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

Method Blank Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1406-MB	5E30633.D	1	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-2

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	104%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	2.49	54	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Method Blank Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2426-MB	Y58426.D	1	09/21/21	LV	n/a	n/a	VY2426

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-6, FA88950-10, FA88950-11, FA88950-12

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

Method Blank Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2427-MB	Y58458.D	1	09/22/21	LV	n/a	n/a	VY2427

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-5

CAS No.	Compound	Result	RL	MDL	Units	Q
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	83-118%
17060-07-0	1,2-Dichloroethane-D4	116%	79-125%
2037-26-5	Toluene-D8	100%	85-112%
460-00-4	4-Bromofluorobenzene	100%	83-118%

Method Blank Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2320-MB [a]	I71091.D	1	09/25/21	SO	n/a	n/a	VI2320

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-1

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	92%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	92%	85-112%
460-00-4	4-Bromofluorobenzene	94%	83-118%

(a) Sample was treated with an anti-foaming agent.

Blank Spike Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2424-BS	Y58369.D	1	09/17/21	LV	n/a	n/a	VY2424

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-3, FA88950-4, FA88950-5, FA88950-7, FA88950-8, FA88950-9, FA88950-10, FA88950-11, FA88950-12, FA88950-13

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	25.2	101	78-120
156-60-5	trans-1,2-Dichloroethylene	25	23.6	94	76-127
79-01-6	Trichloroethylene	25	26.1	104	81-126
75-01-4	Vinyl Chloride	25	18.2	73	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	97%	83-118%
17060-07-0	1,2-Dichloroethane-D4	94%	79-125%
2037-26-5	Toluene-D8	94%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1406-BS	5E30630.D	1	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	21.3	85	78-120
156-60-5	trans-1,2-Dichloroethylene	25	23.5	94	76-127
79-01-6	Trichloroethylene	25	22.3	89	81-126
75-01-4	Vinyl Chloride	25	22.4	90	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	86%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2426-BS	Y58423.D	1	09/21/21	LV	n/a	n/a	VY2426

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-6, FA88950-10, FA88950-11, FA88950-12

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.1	96	78-120
156-60-5	trans-1,2-Dichloroethylene	25	24.9	100	76-127
79-01-6	Trichloroethylene	25	24.2	97	81-126
75-01-4	Vinyl Chloride	25	21.6	86	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	97%	79-125%
2037-26-5	Toluene-D8	103%	85-112%
460-00-4	4-Bromofluorobenzene	99%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY2427-BS	Y58455.D	1	09/22/21	LV	n/a	n/a	VY2427

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
75-01-4	Vinyl Chloride	25	21.5	86	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	83-118%
17060-07-0	1,2-Dichloroethane-D4	119%	79-125%
2037-26-5	Toluene-D8	103%	85-112%
460-00-4	4-Bromofluorobenzene	96%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2320-BS	I71089.D	1	09/25/21	SO	n/a	n/a	VI2320

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	23.1	92	78-120
156-60-5	trans-1,2-Dichloroethylene	25	22.8	91	76-127
79-01-6	Trichloroethylene	25	23.3	93	81-126
75-01-4	Vinyl Chloride	25	18.6	74	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	79-125%
2037-26-5	Toluene-D8	97%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88843-10MS	Y58393.D	10	09/17/21	LV	n/a	n/a	VY2424
FA88843-10MSD	Y58394.D	10	09/17/21	LV	n/a	n/a	VY2424
FA88843-10 [a]	Y58392.D	10	09/17/21	LV	n/a	n/a	VY2424

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-3, FA88950-4, FA88950-5, FA88950-7, FA88950-8, FA88950-9, FA88950-10, FA88950-11, FA88950-12, FA88950-13

CAS No.	Compound	FA88843-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	205		250	447	97	250	442	95	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	10 U		250	242	97	250	231	92	5	76-127/17
79-01-6	Trichloroethylene	438		250	706	107	250	674	94	5	81-126/15
75-01-4	Vinyl Chloride	10 U		250	196	78	250	184	74	6	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88843-10	Limits
1868-53-7	Dibromofluoromethane	106%	104%	100%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	109%	109%	79-125%
2037-26-5	Toluene-D8	97%	92%	93%	85-112%
460-00-4	4-Bromofluorobenzene	103%	102%	103%	83-118%

(a) Confirmation run.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88949-5MS	5E30654.D	5	09/20/21	SO	n/a	n/a	V5E1406
FA88949-5MSD	5E30655.D	5	09/20/21	SO	n/a	n/a	V5E1406
FA88949-5	5E30639.D	2.5	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-2

CAS No.	Compound	FA88949-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	76.9		125	185	86	125	188	89	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	3.3		125	132	103	125	134	105	2	76-127/17
79-01-6	Trichloroethylene	2.5 U		125	126	101	125	123	98	2	81-126/15
75-01-4	Vinyl Chloride	191		125	305	91	125	312	97	2	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88949-5	Limits
1868-53-7	Dibromofluoromethane	91%	90%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	111%	111%	79-125%
2037-26-5	Toluene-D8	100%	99%	105%	85-112%
460-00-4	4-Bromofluorobenzene	96%	100%	108%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88950-10MS	Y58446.D	10	09/21/21	LV	n/a	n/a	VY2426
FA88950-10MSD	Y58447.D	10	09/21/21	LV	n/a	n/a	VY2426
FA88950-10	Y58435.D	10	09/21/21	LV	n/a	n/a	VY2426

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-6, FA88950-10, FA88950-11, FA88950-12

CAS No.	Compound	FA88950-10 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	10 U		250	239	96	250	227	91	5	78-120/15
156-60-5	trans-1,2-Dichloroethylene	10 U		250	260	104	250	257	103	1	76-127/17
79-01-6	Trichloroethylene	10 U		250	259	104	250	233	93	11	81-126/15
75-01-4	Vinyl Chloride	240		250	493	101	250	500	104	1	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88950-10	Limits
1868-53-7	Dibromofluoromethane	110%	110%	102%	83-118%
17060-07-0	1,2-Dichloroethane-D4	130%* [a]	127%* [a]	112%	79-125%
2037-26-5	Toluene-D8	103%	102%	100%	85-112%
460-00-4	4-Bromofluorobenzene	98%	98%	102%	83-118%

(a) Outside DOD QSM control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88950
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Biosparge Area (BSA)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA89153-1MS	I71110.D	1	09/25/21	SO	n/a	n/a	VI2320
FA89153-1MSD	I71111.D	1	09/25/21	SO	n/a	n/a	VI2320
FA89153-1 [a]	I71102.D	1	09/25/21	SO	n/a	n/a	VI2320

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88950-1

CAS No.	Compound	FA89153-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	1.0 U		25	27.5	110	25	26.7	107	3	78-120/15
156-60-5	trans-1,2-Dichloroethylene	1.0 U		25	26.3	105	25	26.0	104	1	76-127/17
79-01-6	Trichloroethylene	1.0 U		25	27.5	110	25	26.6	106	3	81-126/15
75-01-4	Vinyl Chloride	1.0 U		25	21.6	86	25	21.1	84	2	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA89153-1	Limits
1868-53-7	Dibromofluoromethane	102%	103%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	99%	100%	96%	79-125%
2037-26-5	Toluene-D8	96%	96%	92%	85-112%
460-00-4	4-Bromofluorobenzene	94%	94%	92%	83-118%

(a) Sample was not preserved to a pH < 2.

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC, Hot Spot 2 (Air Asparge System Area)

60615493.4

SGS Job Number: FA88949

Sampling Dates: 09/13/21 - 09/14/21

Report to:

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ATTN: Linnea King Clark

Total number of pages in report: **26**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

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Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FA88949-1: MLPV-IW0011I-037.5-20210913 7
4.2: FA88949-2: MLPV-IW0034-035.0-20210914 8
4.3: FA88949-3: MLPV-IW0036-042.5-20210914 9
4.4: FA88949-4: MLPV-IW0037-045.0-20210913 10
4.5: FA88949-5: MLPV-IW0039-045.0-20210914 11
4.6: FA88949-6: MLPV-IW0041-045.0-20210914 12
4.7: FA88949-7: MLPV-SAMW0004D-047.5-20210914 13
4.8: FA88949-8: MLPV-SAMW0004I-037.5-20210914 14
4.9: FA88949-9: MLPV-TB01-20210913 15
Section 5: Misc. Forms **16**
5.1: Chain of Custody 17
Section 6: MS Volatiles - QC Data Summaries **20**
6.1: Method Blank Summary 21
6.2: Blank Spike Summary 23
6.3: Matrix Spike/Matrix Spike Duplicate Summary 25

SGS North America Inc.

Sample Summary

AECOM, Inc

Job No: FA88949

NASA KSC, Hot Spot 2 (Air Asparge System Area)
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA88949-1	09/13/21	13:31	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0011I-037.5-20210913
FA88949-2	09/14/21	09:57	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0034-035.0-20210914
FA88949-3	09/14/21	11:25	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0036-042.5-20210914
FA88949-4	09/13/21	14:14	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0037-045.0-20210913
FA88949-5	09/14/21	11:52	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0039-045.0-20210914
FA88949-6	09/14/21	10:43	DSMP	09/15/21	AQ	Ground Water	MLPV-IW0041-045.0-20210914
FA88949-7	09/14/21	12:37	DSMP	09/15/21	AQ	Ground Water	MLPV-SAMW0004D-047.5-20210914
FA88949-8	09/14/21	12:00	DSMP	09/15/21	AQ	Ground Water	MLPV-SAMW0004I-037.5-20210914
FA88949-9	09/13/21	13:15	DSMP	09/15/21	AQ	Trip Blank Water	MLPV-TB01-20210913

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA88949

Site: NASA KSC, Hot Spot 2 (Air Asparge System Area) **Report Date** 9/22/2021 10:52:03

On 09/15/2021, 8 Sample(s), 1 Trip Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 1.4 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of FA88949 was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1405

Sample(s) FA88917-1MS, FA88917-1MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V5E1406

Sample(s) FA88949-5MS, FA88949-5MSD were used as the QC samples indicated.

FA88949-8: Confirmation run.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Ariel Hartney, Client Services (signature on file)

Summary of Hits

Job Number: FA88949
Account: AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)
Collected: 09/13/21 thru 09/14/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA88949-1	**MLPV-IW0011I-037.5-20210913**					
No hits reported in this sample.						
FA88949-2	**MLPV-IW0034-035.0-20210914**					
No hits reported in this sample.						
FA88949-3	**MLPV-IW0036-042.5-20210914**					
cis-1,2-Dichloroethylene		0.60 I	1.0	0.28	ug/l	SW846 8260B
Vinyl Chloride		32.3	1.0	0.41	ug/l	SW846 8260B
FA88949-4	**MLPV-IW0037-045.0-20210913**					
cis-1,2-Dichloroethylene		25.1	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.47 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		99.3	2.0	0.82	ug/l	SW846 8260B
FA88949-5	**MLPV-IW0039-045.0-20210914**					
cis-1,2-Dichloroethylene		76.9	2.5	0.69	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		3.3	2.5	0.55	ug/l	SW846 8260B
Vinyl Chloride		191	2.5	1.0	ug/l	SW846 8260B
FA88949-6	**MLPV-IW0041-045.0-20210914**					
cis-1,2-Dichloroethylene		1.9 I	2.5	0.69	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.92 I	2.5	0.55	ug/l	SW846 8260B
Vinyl Chloride		146	2.5	1.0	ug/l	SW846 8260B
FA88949-7	**MLPV-SAMW0004D-047.5-20210914**					
cis-1,2-Dichloroethylene		0.65 I	1.0	0.28	ug/l	SW846 8260B
trans-1,2-Dichloroethylene		0.67 I	1.0	0.22	ug/l	SW846 8260B
Vinyl Chloride		5.0	1.0	0.41	ug/l	SW846 8260B
FA88949-8	**MLPV-SAMW0004I-037.5-20210914**					
Vinyl Chloride		15.5	1.0	0.41	ug/l	SW846 8260B
FA88949-9	**MLPV-TB01-20210913**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MLPV-IW0011I-037.5-20210913		
Lab Sample ID:	FA88949-1	**Date Sampled:**	09/13/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30615.D	1	09/17/21 17:27	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		83-118%
17060-07-0	1,2-Dichloroethane-D4	114%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	109%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0034-035.0-20210914		
Lab Sample ID:	FA88949-2	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30616.D	1	09/17/21 17:49	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		83-118%
17060-07-0	1,2-Dichloroethane-D4	114%		79-125%
2037-26-5	Toluene-D8	104%		85-112%
460-00-4	4-Bromofluorobenzene	106%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0036-042.5-20210914		
Lab Sample ID:	FA88949-3	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30617.D	1	09/17/21 18:12	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.60	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	32.3	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		83-118%
17060-07-0	1,2-Dichloroethane-D4	113%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0037-045.0-20210913		
Lab Sample ID:	FA88949-4	**Date Sampled:**	09/13/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30618.D	1	09/17/21 18:35	LR	n/a	n/a	V5E1405
Run #2	5E30638.D	2	09/20/21 13:48	SO	n/a	n/a	V5E1406

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	25.1	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.47	1.0	0.22	ug/l	I
75-01-4	Vinyl Chloride	99.3 [a]	2.0	0.82	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	112%	79-125%
2037-26-5	Toluene-D8	106%	105%	85-112%
460-00-4	4-Bromofluorobenzene	107%	105%	83-118%

(a) Result is from Run# 2

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0039-045.0-20210914		
Lab Sample ID:	FA88949-5	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30639.D	2.5	09/20/21 14:11	SO	n/a	n/a	V5E1406
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	76.9	2.5	0.69	ug/l	
156-60-5	trans-1,2-Dichloroethylene	3.3	2.5	0.55	ug/l	
75-01-4	Vinyl Chloride	191	2.5	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		83-118%
17060-07-0	1,2-Dichloroethane-D4	111%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	108%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-IW0041-045.0-20210914		
Lab Sample ID:	FA88949-6	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30640.D	2.5	09/20/21 14:33	SO	n/a	n/a	V5E1406
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	1.9	2.5	0.69	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.92	2.5	0.55	ug/l	I
75-01-4	Vinyl Chloride	146	2.5	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		83-118%
17060-07-0	1,2-Dichloroethane-D4	113%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	108%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-SAMW0004D-047.5-20210914		
Lab Sample ID:	FA88949-7	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30607.D	1	09/17/21 14:24	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.65	1.0	0.28	ug/l	I
156-60-5	trans-1,2-Dichloroethylene	0.67	1.0	0.22	ug/l	I
75-01-4	Vinyl Chloride	5.0	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		83-118%
17060-07-0	1,2-Dichloroethane-D4	110%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-SAMW0004I-037.5-20210914		
Lab Sample ID:	FA88949-8	**Date Sampled:**	09/14/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30620.D	1	09/17/21 19:21	LR	n/a	n/a	V5E1405
Run #2 [a]	5E30635.D	1	09/20/21 12:39	SO	n/a	n/a	V5E1406

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	15.5	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%	88%	83-118%
17060-07-0	1,2-Dichloroethane-D4	114%	108%	79-125%
2037-26-5	Toluene-D8	106%	105%	85-112%
460-00-4	4-Bromofluorobenzene	106%	107%	83-118%

(a) Confirmation run.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MLPV-TB01-20210913		
Lab Sample ID:	FA88949-9	**Date Sampled:**	09/13/21
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 2 (Air Asparge System Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30606.D	1	09/17/21 14:01	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	117%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	109%		85-112%
460-00-4	4-Bromofluorobenzene	110%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA88949

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - MLPV			COC No.	Page: 1 of 2	
Site Location: Former Hot Spot 2			PO No. 120307	Project No. 60615493.4	Phase:
TO No.: 80KSC019F0071	AECOM Project Manager: **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 321-766-6000	Deliver Sample Kits To: AECOM Depot, 523 18th Street, Orlando		Report to:Jennifer Chastain Cc: Teresa Amentt Jennings
Lab Name: SGS Orlando		Turnaround Time(specify): Standard 14 day	Deliver Samples To:		Site-Spiclfic WS#15 from QAPP: 15-13

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	HCl Select VOCs by SW8260B	Comments
1	MLPV-IW0011I-037.5-202109 13	MLPV-IW0011I	202109 13	1331	WG	N	G	3	3	
~~DSO~~	~~MLPV-IW0033-045.0-202109~~	~~MLPV-IW0033~~	~~202109~~		WG	N	G	3	3	
2	MLPV-IW0034-035.0-202109 14	MLPV-IW0034	202109 14	0957	WG	N	G	3	3	
~~4~~	~~MLPV-IW0035-045.0-202109~~	~~MLPV-IW0035~~	~~202109~~		WG	N	G	3	3	
3	MLPV-IW0036-042.5-202109 14	MLPV-IW0036	202109 14	1125	WG	N	G	3	3	
4	MLPV-IW0037-045.0-202109 13	MLPV-IW0037	202109 13	1414	WG	N	G	3	3	
5	MLPV-IW0039-045.0-202109 14	MLPV-IW0039	202109 14	1152	WG	N	G	3	3	
6	MLPV-IW0041-045.0-202109 14	MLPV-IW0041	202109 14	1043	WG	N	G	3	3	
	~~MLPV-IW0043-045.0-202109~~	~~MLPV-IW0043~~	~~202109~~		WG	N	G	3	3	
	~~MLPV-IW0044-045.0-202109~~	~~MLPV-IW0044~~	~~202109~~		WG	N	G	3	3	
	~~MLPV-IW0045-045.0-202109~~	~~MLPV-IW0045~~	~~202109~~		WG	N	G	3	3	

INITIAL ASSESSMENT

LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15-13

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	9/8/21	1115	1	9/13/21	0700
2	9/15/21		2	9/15/21	1349
3			3		

Sample Shipment and Delivery Details
Number of coolers in shipment: 2, 4/2, 4.2
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, **HNa04S**=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**

FA88949: Chain of Custody
Page 1 of 3

FA88949

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

COC No. | Page: 2 of 2

Project Name: NASA KSC - MLPV | PO No. 120307 | Project No. 60615493.4 | Phase:

Site Location: Former Hot Spot 2 | Send Invoice To: Instructions in MSA # 19S-24548-GV03 | EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings

TO No.: 80KSC019F0071 | AECOM Project Manager: **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: | Site-Spicific WS#15 from QAPP: 15-13

Lab Name: SGS Orlando | 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	HCl Select VOCs by SW8260B										Comments
7	MLPV-SAMW0004D-047.5-202109**14**	MLPV-SAMW0004D	202109**14**	1237	WG	N	G	3	3										
8	MLPV-SAMW0004I-037.5-202109 **14**	MLPV-SAMW0004I	202109**14**	1200	WG	N	G	3	3										
9	MLPV-TB01-202109**13**	MLPV-TB01	202109**13**	1315	WQ	TB	G	3	3										

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment:

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1		9/9/21	1115		9/13/21	0700
2		9/15/21			9/15/21	1347
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**

5.1 5

FA88949: Chain of Custody
Page 2 of 3

SGS Sample Receipt Summary

Job Number: FA88949 **Client:** NASA KSC **Project:** 120307

Date / Time Received: 9/15/2021 1:47:00 PM **Delivery Method:** DROP OFF **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (1.2);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments COC STATES THREE VIALS RECEIVED FOR TRIP BLANK (SAMPLE #9, ID MLPV-TB01-202109) ONLY RECEIVED TWO VIALS.

SM001
Rev. Date 05/24/17

Technician: STEPHENP Date: 9/15/2021 1:47:00 PM Reviewer: _____ Date: _____

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1405-MB	5E30604.D	1	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-1, FA88949-2, FA88949-3, FA88949-4, FA88949-7, FA88949-8, FA88949-9

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	108%	83-118%

Method Blank Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1406-MB	5E30633.D	1	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-4, FA88949-5, FA88949-6

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	104%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	101%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
124-38-9	Carbon dioxide	2.49	54	ug/l	JN
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1405-BS	5E30601.D	1	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-1, FA88949-2, FA88949-3, FA88949-4, FA88949-7, FA88949-8, FA88949-9

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.7	99	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.4	114	76-127
75-01-4	Vinyl Chloride	25	25.5	102	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	106%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1406-BS	5E30630.D	1	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-4, FA88949-5, FA88949-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	21.3	85	78-120
156-60-5	trans-1,2-Dichloroethylene	25	23.5	94	76-127
75-01-4	Vinyl Chloride	25	22.4	90	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	86%	83-118%
17060-07-0	1,2-Dichloroethane-D4	98%	79-125%
2037-26-5	Toluene-D8	102%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88917-1MS	5E30625.D	50	09/17/21	LR	n/a	n/a	V5E1405
FA88917-1MSD	5E30626.D	50	09/17/21	LR	n/a	n/a	V5E1405
FA88917-1	5E30623.D	50	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-1, FA88949-2, FA88949-3, FA88949-4, FA88949-7, FA88949-8, FA88949-9

CAS No.	Compound	FA88917-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	50 U		1250	1230	98	1250	1220	98	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	50 U		1250	1460	117	1250	1450	116	1	76-127/17
75-01-4	Vinyl Chloride	50 U		1250	1420	114	1250	1290	103	10	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88917-1	Limits
1868-53-7	Dibromofluoromethane	89%	88%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	105%	114%	79-125%
2037-26-5	Toluene-D8	99%	101%	103%	85-112%
460-00-4	4-Bromofluorobenzene	98%	101%	99%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88949
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 2 (Air Asparge System Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88949-5MS	5E30654.D	5	09/20/21	SO	n/a	n/a	V5E1406
FA88949-5MSD	5E30655.D	5	09/20/21	SO	n/a	n/a	V5E1406
FA88949-5	5E30639.D	2.5	09/20/21	SO	n/a	n/a	V5E1406

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88949-4, FA88949-5, FA88949-6

CAS No.	Compound	FA88949-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	76.9		125	185	86	125	188	89	2	78-120/15
156-60-5	trans-1,2-Dichloroethylene	3.3		125	132	103	125	134	105	2	76-127/17
75-01-4	Vinyl Chloride	191		125	305	91	125	312	97	2	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88949-5	Limits
1868-53-7	Dibromofluoromethane	91%	90%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	112%	111%	111%	79-125%
2037-26-5	Toluene-D8	100%	99%	105%	85-112%
460-00-4	4-Bromofluorobenzene	96%	100%	108%	83-118%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC, Hot Spot 3 (OFW Area)

60615493.4

SGS Job Number: FA88948

Sampling Date: 09/15/21

Report to:

AECOM
150 N Orange Ave Suite 200
Orlando, FL 32801
gloria.richie@aecom.com; linnea.king@aecom.com;
megan.garcia@aecom.com; jennifer.chastain@aecom.com;
ATTN: Linnea King Clark

Total number of pages in report: **18**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FA88948-1: VABRA-MW0011-030.0-20210915 7
4.2: FA88948-2: VABRA-MW0012-020.0-20210915 8
4.3: FA88948-3: VABRA-MW0013-022.5-20210915 9
4.4: FA88948-4: VABRA-MW0014-027.5-20210915 10
4.5: FA88948-5: VABRA-TB01-20210915 11
Section 5: Misc. Forms **12**
5.1: Chain of Custody 13
Section 6: MS Volatiles - QC Data Summaries **15**
6.1: Method Blank Summary 16
6.2: Blank Spike Summary 17
6.3: Matrix Spike/Matrix Spike Duplicate Summary 18

SGS North America Inc.

Sample Summary

AECOM, Inc

Job No: FA88948

NASA KSC, Hot Spot 3 (OFW Area)
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA88948-1	09/15/21	10:39	DSMP	09/15/21	AQ	Ground Water	VABRA-MW0011-030.0-20210915
FA88948-2	09/15/21	11:22	DSMP	09/15/21	AQ	Ground Water	VABRA-MW0012-020.0-20210915
FA88948-3	09/15/21	09:08	DSMP	09/15/21	AQ	Ground Water	VABRA-MW0013-022.5-20210915
FA88948-4	09/15/21	09:52	DSMP	09/15/21	AQ	Ground Water	VABRA-MW0014-027.5-20210915
FA88948-5	09/15/21	09:00	DSMP	09/15/21	AQ	Trip Blank Water	VABRA-TB01-20210915

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA88948

Site: NASA KSC, Hot Spot 3 (OFW Area) **Report Date:** 9/21/2021 12:32:28

On 09/15/2021, 4 Sample(s), 1 Trip Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 3 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of FA88948 was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V5E1405

Sample(s) FA88917-1MS, FA88917-1MSD were used as the QC samples indicated.

FA88948-5: Sample vial(s) contained significant headspace; reported results are considered minimum values. Sample is a Trip Blank.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Kim Benham, Client Services *(Signature on File)*

Summary of Hits

Job Number: FA88948
Account: AECOM, Inc
Project: NASA KSC, Hot Spot 3 (OFW Area)
Collected: 09/15/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method

FA88948-1 **VABRA-MW0011-030.0-20210915**

No hits reported in this sample.

FA88948-2 **VABRA-MW0012-020.0-20210915**

No hits reported in this sample.

FA88948-3 **VABRA-MW0013-022.5-20210915**

No hits reported in this sample.

FA88948-4 **VABRA-MW0014-027.5-20210915**

No hits reported in this sample.

FA88948-5 **VABRA-TB01-20210915**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	VABRA-MW0011-030.0-20210915		
Lab Sample ID:	FA88948-1	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 3 (OFW Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30611.D	1	09/17/21 15:55	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		83-118%
17060-07-0	1,2-Dichloroethane-D4	107%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	108%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	VABRA-MW0012-020.0-20210915		
Lab Sample ID:	FA88948-2	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 3 (OFW Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30612.D	1	09/17/21 16:18	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	106%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	VABRA-MW0013-022.5-20210915		
Lab Sample ID:	FA88948-3	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 3 (OFW Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30613.D	1	09/17/21 16:41	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		83-118%
17060-07-0	1,2-Dichloroethane-D4	109%		79-125%
2037-26-5	Toluene-D8	107%		85-112%
460-00-4	4-Bromofluorobenzene	107%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	VABRA-MW0014-027.5-20210915		
Lab Sample ID:	FA88948-4	**Date Sampled:**	09/15/21
Matrix:	AQ - Ground Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 3 (OFW Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5E30614.D	1	09/17/21 17:04	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		83-118%
17060-07-0	1,2-Dichloroethane-D4	111%		79-125%
2037-26-5	Toluene-D8	107%		85-112%
460-00-4	4-Bromofluorobenzene	108%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	VABRA-TB01-20210915		
Lab Sample ID:	FA88948-5	**Date Sampled:**	09/15/21
Matrix:	AQ - Trip Blank Water	**Date Received:**	09/15/21
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	NASA KSC, Hot Spot 3 (OFW Area)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	5E30605.D	1	09/17/21 13:38	LR	n/a	n/a	V5E1405
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	0.41 U	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		83-118%
17060-07-0	1,2-Dichloroethane-D4	108%		79-125%
2037-26-5	Toluene-D8	105%		85-112%
460-00-4	4-Bromofluorobenzene	108%		83-118%

(a) Sample vial(s) contained significant headspace; reported results are considered minimum values.

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

FA88948

SGS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

Project Name: NASA KSC - MLPV			COC No.	Page: 1 of 1	
Site Location: Hot Spot 3 OFW			PO No. 120307	Project No. 60615493.4	Phase:
TO No.: 80KSC019F0071	AECOM Project Manager: **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:		Site-Spicific WS#15 from QAPP: 15-40
Lab Name: SGS Orlando	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) HCl / Total No. of Containers	Select VOCs by SW8260B	Comments
1	VABRA-MW0011-030.0-202109 IK	VABRA-MW0011	202109 IK	1039	WG	N	G	3	3	
2	VABRA-MW0012-020.0-202109 IK	VABRA-MW0012	202109 IK	1122	WG	N	G	3	3	
3	VABRA-MW0013-022.5-202109 IK	VABRA-MW0013	202109 IK	0908	WG	N	G	3	3	
4	VABRA-MW0014-027.5-202109 IK	VABRA-MW0014	202109 IK	0952	WG	N	G	3	3	
5	VABRA-TB-202109 IK	VABRA-TB	202109 IK	0900	WQ	N	G	3	3	

INITIAL ASSESSMENT

LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15-40

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1 Caitlin Mason	9/8/21	1040	1	9/13/21	0900
2	9/15/21		2	9/15/21	1347
3			3		

Sample Shipment and Delivery Details
Number of coolers in shipment: 2-4,2,1,8,1,2,1,4,2
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**

FA88948: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA88948 **Client:** NASA KSC **Project:** 120307

Date / Time Received: 9/15/2021 1:47:00 PM **Delivery Method:** DROP OFF **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☑		☐	☐
2. Trip Blank listed on COC	☑		☐	☐

	W	or	S	N/A
3. Type Of TB Received	☑		☐	☐

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments COC STATES THREE VIALS FOR THE TRIP BLANK (SAMPLE #5, ID VABRA-TB-202109) ONLY RECEIVED TWO VIALS.

SM001
Rev. Date 05/24/17

Technician: STEPHENP Date: 9/15/2021 1:47:00 PM Reviewer: _____ Date: _____

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA88948
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 3 (OFW Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1405-MB	5E30604.D	1	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88948-1, FA88948-2, FA88948-3, FA88948-4, FA88948-5

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	107%	79-125%
2037-26-5	Toluene-D8	104%	85-112%
460-00-4	4-Bromofluorobenzene	108%	83-118%

Blank Spike Summary

Job Number: FA88948
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 3 (OFW Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V5E1405-BS	5E30601.D	1	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88948-1, FA88948-2, FA88948-3, FA88948-4, FA88948-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.7	99	78-120
156-60-5	trans-1,2-Dichloroethylene	25	28.4	114	76-127
79-01-6	Trichloroethylene	25	26.1	104	81-126
75-01-4	Vinyl Chloride	25	25.5	102	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	87%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	106%	85-112%
460-00-4	4-Bromofluorobenzene	102%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88948
Account: MEFLOR AECOM, Inc
Project: NASA KSC, Hot Spot 3 (OFW Area)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA88917-1MS	5E30625.D	50	09/17/21	LR	n/a	n/a	V5E1405
FA88917-1MSD	5E30626.D	50	09/17/21	LR	n/a	n/a	V5E1405
FA88917-1	5E30623.D	50	09/17/21	LR	n/a	n/a	V5E1405

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88948-1, FA88948-2, FA88948-3, FA88948-4, FA88948-5

CAS No.	Compound	FA88917-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	50	U	1250	1230	98	1250	1220	98	1	78-120/15
156-60-5	trans-1,2-Dichloroethylene	50	U	1250	1460	117	1250	1450	116	1	76-127/17
79-01-6	Trichloroethylene	50	U	1250	1380	110	1250	1350	108	2	81-126/15
75-01-4	Vinyl Chloride	50	U	1250	1420	114	1250	1290	103	10	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	FA88917-1	Limits
1868-53-7	Dibromofluoromethane	89%	88%	91%	83-118%
17060-07-0	1,2-Dichloroethane-D4	108%	105%	114%	79-125%
2037-26-5	Toluene-D8	99%	101%	103%	85-112%
460-00-4	4-Bromofluorobenzene	98%	101%	99%	83-118%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

AECOM, Inc

NASA KSC MLPV IDW

60615493.4

SGS Job Number: FA88947

Sampling Date: 09/15/21

Report to:

AECOM
150 N Orange Ave Suite 200
Orlando, FL 32801
gloria.richie@aecom.com; linnea.king@aecom.com;
megan.garcia@aecom.com; jennifer.chastain@aecom.com;
ATTN: Linnea King

Total number of pages in report: **28**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Norm Farmer
Technical Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL(E83510), LA(03051), KS(E-10327), NC(573), NJ(FL002), NY(12022), SC(96038001) DoD ELAP(ANAB L2229), AZ(AZ0806), CA(2937), TX(T104704404), PA(68-03573), VA(460177), AL, AK, AR, CT, IA, KY, MA, MI. MS, ND, NH, NV, OK, OR, UT, VT, WA, WV

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EHS.US.CustomerCare@sgs.com

Sections: 1 2 3 4 5 6 7

Table of Contents

Section 1: Sample Summary **3**
Section 2: Case Narrative/Conformance Summary **4**
Section 3: Summary of Hits **5**
Section 4: Sample Results **6**
4.1: FA88947-1: MLPV-IDW-01-20210915 7
Section 5: Misc. Forms **10**
5.1: Certification Exceptions 11
5.2: Chain of Custody 12
Section 6: MS Volatiles - QC Data Summaries **14**
6.1: Method Blank Summary 15
6.2: Blank Spike Summary 16
6.3: Matrix Spike/Matrix Spike Duplicate Summary 17
Section 7: MS Semi-volatiles - QC Data Summaries **18**
7.1: Method Blank Summary 19
7.2: Blank Spike Summary 23
7.3: Matrix Spike Summary 25
7.4: Duplicate Summary 27

Sample Summary

AECOM, Inc

Job No: FA88947

NASA KSC MLPV IDW
Project No: 60615493.4

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
FA88947-1	09/15/21	12:20	DSMP	09/15/21	AQ	Water	MLPV-IDW-01-20210915

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: AECOM, Inc **Job No:** FA88947

Site: NASA KSC MLPV IDW **Report Date** 10/1/2021 5:44:03 PM

On 09/15/2021, 1 Sample(s), 0 Trip Blank(s) were received at SGS North America Inc. at a maximum corrected temperature of 2.6 C. Samples were intact and chemically preserved, unless noted below. A SGS North America Inc. Job Number of FA88947 was Assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** VI2325

Sample(s) JD31710-1MS, JD31710-1MSD were used as the QC samples indicated.

MS Semi-volatiles By Method EPA 537M BY ID

Matrix: AQ **Batch ID:** OP87376

Sample(s) FA88919-34MS, FA88947-1DUP were used as the QC samples indicated.

SGS North America Inc. certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted. Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria. SGS North America Inc. is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety.

Narrative prepared by:

_____

Ariel Hartney, Client Services (signature on file)

Summary of Hits

Job Number: FA88947
Account: AECOM, Inc
Project: NASA KSC MLPV IDW
Collected: 09/15/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	PQL	MDL	Units	Method
FA88947-1	**MLPV-IDW-01-20210915**					
Vinyl Chloride		11.2	1.0	0.41	ug/l	SW846 8260B
Perfluorohexanoic acid		0.0151	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluoroheptanoic acid		0.0047	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorooctanoic acid		0.0162	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorobutanesulfonic acid		0.0128	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorohexanesulfonic acid		0.0768	0.0040	0.0020	ug/l	EPA 537M BY ID
Perfluorooctanesulfonic acid		0.324	0.0040	0.0020	ug/l	EPA 537M BY ID

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MLPV-IDW-01-20210915
Lab Sample ID: FA88947-1
Matrix: AQ - Water
Method: SW846 8260B
Project: NASA KSC MLPV IDW

Date Sampled: 09/15/21
Date Received: 09/15/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	I71179.D	1	09/28/21 22:23	SO	n/a	n/a	VI2325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	PQL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	0.28 U	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	0.22 U	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	0.35 U	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	11.2	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		83-118%
17060-07-0	1,2-Dichloroethane-D4	101%		79-125%
2037-26-5	Toluene-D8	91%		85-112%
460-00-4	4-Bromofluorobenzene	91%		83-118%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MLPV-IDW-01-20210915
Lab Sample ID: FA88947-1
Matrix: AQ - Water
Method: EPA 537M BY ID EPA 537 MOD
Project: NASA KSC MLPV IDW

Date Sampled: 09/15/21
Date Received: 09/15/21
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4Q19307.D	1	09/25/21 22:01	MRE	09/20/21 10:00	OP87376	S4Q270
Run #2							

	Initial Volume	Final Volume
Run #1	125 ml	1.0 ml
Run #2		

EPA 537.1 Method List

CAS No.	Compound	Result	PQL	MDL	Units	Q
PERFLUOROALKYLCARBOXYLIC ACIDS						
307-24-4	Perfluorohexanoic acid	0.0151	0.0040	0.0020	ug/l	
375-85-9	Perfluoroheptanoic acid	0.0047	0.0040	0.0020	ug/l	
335-67-1	Perfluorooctanoic acid	0.0162	0.0040	0.0020	ug/l	
375-95-1	Perfluorononanoic acid	0.0020 U	0.0040	0.0020	ug/l	
335-76-2	Perfluorodecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
2058-94-8	Perfluoroundecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
307-55-1	Perfluorododecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
72629-94-8	Perfluorotridecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
376-06-7	Perfluorotetradecanoic acid	0.0020 U	0.0040	0.0020	ug/l	
PERFLUOROALKYLSULFONIC ACIDS						
375-73-5	Perfluorobutanesulfonic acid	0.0128	0.0040	0.0020	ug/l	
355-46-4	Perfluorohexanesulfonic acid	0.0768	0.0040	0.0020	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	0.324	0.0040	0.0020	ug/l	
PERFLUOROOCTANESULFONAMIDOACETIC ACIDS						
2355-31-9	MeFOSAA	0.0040 U	0.0080	0.0040	ug/l	
2991-50-6	EtFOSAA	0.0040 U	0.0080	0.0040	ug/l	
NEXT GENERATION PFAS ANALYTES						
13252-13-6	HFPO-DA (GenX)	0.0040 U	0.0080	0.0040	ug/l	
919005-14-4	ADONA	0.0040 U	0.016	0.0040	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.0040 U	0.016	0.0040	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.0040 U	0.016	0.0040	ug/l	

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C5-PFHxA	76%		50-150%
	13C4-PFHpA	79%		50-150%
	13C8-PFOA	82%		50-150%
	13C9-PFNA	81%		50-150%

U = Not detected MDL = Method Detection Limit
PQL = Practical Quantitation Limit
L = Indicates value exceeds calibration range
I = Result > = MDL but < PQL J = Estimated value
V = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MLPV-IDW-01-20210915
Lab Sample ID: FA88947-1
Matrix: AQ - Water
Method: EPA 537M BY ID EPA 537 MOD
Project: NASA KSC MLPV IDW

Date Sampled: 09/15/21
Date Received: 09/15/21
Percent Solids: n/a

EPA 537.1 Method List

CAS No.	ID Standard Recoveries	Run# 1	Run# 2	Limits
	13C6-PFDA	81%		50-150%
	13C7-PFUnDA	76%		40-140%
	13C2-PFDoDA	59%		40-140%
	13C2-PFTeDA	38%		30-130%
	13C3-PFBS	74%		50-150%
	13C3-PFHxS	77%		50-150%
	13C8-PFOS	78%		50-150%
	d3-MeFOSAA	78%		40-140%
	d5-EtFOSAA	78%		40-140%
	13C3-HFPO-DA	71%		50-150%

U = Not detected MDL = Method Detection Limit I = Result > = MDL but < PQL J = Estimated value
PQL = Practical Quantitation Limit V = Indicates analyte found in associated method blank
L = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

Parameter Certification Exceptions

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
ADONA	919005-14-4	EPA 537M BY ID	AQ	Certified by SOP MS014
11Cl-PF3OUdS (F-53B Minor)	763051-92-9	EPA 537M BY ID	AQ	Certified by SOP MS014
9Cl-PF3ONS (F-53B Major)	756426-58-1	EPA 537M BY ID	AQ	Certified by SOP MS014
EtFOSAA	2991-50-6	EPA 537M BY ID	AQ	Certified by SOP MS014
HFPO-DA (GenX)	13252-13-6	EPA 537M BY ID	AQ	Certified by SOP MS014
MeFOSAA	2355-31-9	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorobutanesulfonic acid	375-73-5	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorodecanoic acid	335-76-2	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorododecanoic acid	307-55-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluoroheptanoic acid	375-85-9	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorohexanesulfonic acid	355-46-4	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorohexanoic acid	307-24-4	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorononanoic acid	375-95-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorooctanesulfonic acid	1763-23-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorooctanoic acid	335-67-1	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorotetradecanoic acid	376-06-7	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluorotridecanoic acid	72629-94-8	EPA 537M BY ID	AQ	Certified by SOP MS014
Perfluoroundecanoic acid	2058-94-8	EPA 537M BY ID	AQ	Certified by SOP MS014

FA88947

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

SGS

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: MLP/VAB - HS2, BSA and HS3		PO No. 120307	Project No. 60615493.4 Phase:
TO No.: 80KSC019F0071	AECOM Project Manager: **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:	Site-Spicific WS#15 from QAPP: 15-14 & 15-2
Lab Name: SGS Orlando	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	HCl Select VOCs by SW8260B	4 DEG C Select PFAS by 537	Comments
1	MLPV-IDW-01-202109 15	MLPV-IDW-01	202109 15	1220	IDW	IDW	G	5	3	2	
2	MLPV-IDW-02-202109	MLPV-IDW-02	202109		IDW	IDW	G	5	3	2	

INITIAL ASSESSMENT CM

LABEL VERIFICATION

***Field* Comments:**
Report only per QAPP WS #15

***Lab* Comments:**

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	9/3/21	1130	1	9/3/21	0700
2	9/15/21		2	9/16/21	1347
3			3		

Sample Shipment and Delivery Details
Number of coolers in shipment: 2 4/28, 1.4, 2
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**

5.2 5

FA88947: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

Job Number: FA88947 **Client:** NASA KSC **Project:** 120307

Date / Time Received: 9/15/2021 1:47:00 PM **Delivery Method:** D/O **Airbill #'s:**

Therm ID: IR 1; **Therm CF:** 0.2; **# of Coolers:** 1

Cooler Temps (Raw Measured) °C: Cooler 1: (2.4);

Cooler Temps (Corrected) °C: Cooler 1: (2.6);

Cooler Information	Y	or	N
1. Custody Seals Present	☑		☐
2. Custody Seals Intact	☑		☐
3. Temp criteria achieved	☑		☐
4. Cooler temp verification	IR Gun		
5. Cooler media	Ice (Bag)		

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler	☐		☑	☐
2. Trip Blank listed on COC	☐		☑	☐

	W	or	S	N/A
3. Type Of TB Received	☐		☐	☑

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles	☑		☐	
2. Samples preserved properly	☑		☐	
3. Sufficient volume/containers recvd for analysis:	☑		☐	
4. Condition of sample	Intact			
5. Sample recvd within HT	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. VOCs have headspace	☐		☑	☐
8. Bottles received for unspecified tests	☐		☑	
9. Compositing instructions clear	☐		☐	☑
10. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
11. % Solids Jar received?	☐		☐	☑
12. Residual Chlorine Present?	☐		☐	☑

Misc. Information

Number of Encores: 25-Gram _____ 5-Gram _____ Number of 5035 Field Kits: _____ Number of Lab Filtered Metals: _____

Test Strip Lot #s: pH 0-3 230315 pH 10-12 219813A Other: (Specify) _____ _____

Residual Chlorine Test Strip Lot #: _____

Comments SAMPLE #2 RECEIVED WITH EMPTY VIALS AND BOTTLES.

SM001
Rev. Date 05/24/17

Technician: STEPHENP Date: 9/15/2021 1:47:00 PM Reviewer: _____ Date: _____

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2325-MB	I71175.D	1	09/28/21	SO	n/a	n/a	VI2325

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88947-1

CAS No.	Compound	Result	RL	MDL	Units	Q
156-59-2	cis-1,2-Dichloroethylene	ND	1.0	0.28	ug/l	
156-60-5	trans-1,2-Dichloroethylene	ND	1.0	0.22	ug/l	
79-01-6	Trichloroethylene	ND	1.0	0.35	ug/l	
75-01-4	Vinyl Chloride	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	94%	83-118%
17060-07-0	1,2-Dichloroethane-D4	100%	79-125%
2037-26-5	Toluene-D8	92%	85-112%
460-00-4	4-Bromofluorobenzene	91%	83-118%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.12	20	ug/l	J
	Total TIC, Volatile		0	ug/l	

Blank Spike Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VI2325-BS	I71173.D	1	09/28/21	SO	n/a	n/a	VI2325

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88947-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
156-59-2	cis-1,2-Dichloroethylene	25	24.4	98	78-120
156-60-5	trans-1,2-Dichloroethylene	25	24.3	97	76-127
79-01-6	Trichloroethylene	25	25.0	100	81-126
75-01-4	Vinyl Chloride	25	25.7	103	69-159

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	83-118%
17060-07-0	1,2-Dichloroethane-D4	103%	79-125%
2037-26-5	Toluene-D8	95%	85-112%
460-00-4	4-Bromofluorobenzene	95%	83-118%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD31710-1MS	I71191.D	2.5	09/29/21	SO	n/a	n/a	VI2325
JD31710-1MSD	I71192.D	2.5	09/29/21	SO	n/a	n/a	VI2325
JD31710-1	I71183.D	1	09/29/21	SO	n/a	n/a	VI2325

The QC reported here applies to the following samples: **Method:** SW846 8260B

FA88947-1

CAS No.	Compound	JD31710-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
156-59-2	cis-1,2-Dichloroethylene	ND		62.5	65.2	104	62.5	63.3	101	3	78-120/15
156-60-5	trans-1,2-Dichloroethylene	ND		62.5	64.3	103	62.5	61.8	99	4	76-127/17
79-01-6	Trichloroethylene	ND		62.5	66.6	107	62.5	62.1	99	7	81-126/15
75-01-4	Vinyl Chloride	ND		62.5	61.4	98	62.5	61.9	99	1	69-159/18

CAS No.	Surrogate Recoveries	MS	MSD	JD31710-1	Limits
1868-53-7	Dibromofluoromethane	103%	103%	96%	83-118%
17060-07-0	1,2-Dichloroethane-D4	101%	101%	102%	79-125%
2037-26-5	Toluene-D8	92%	92%	91%	85-112%
460-00-4	4-Bromofluorobenzene	91%	93%	90%	83-118%

* = Outside of Control Limits.

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-MB	4Q19295.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0020	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0020	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0020	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0020	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0020	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0020	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0020	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0020	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0020	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0020	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0020	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0020	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0040	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0040	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0040	0.0020	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	75%	35-135%
	13C5-PFPeA	77%	50-150%
	13C5-PFHxA	75%	50-150%
	13C4-PFHpA	77%	50-150%
	13C8-PFOA	73%	50-150%
	13C9-PFNA	71%	50-150%
	13C6-PFDA	72%	50-150%
	13C7-PFUnDA	71%	40-140%
	13C2-PFDoDA	61%	40-140%
	13C2-PFTeDA	62%	30-130%
	13C3-PFBS	74%	50-150%
	13C3-PFHxS	72%	50-150%
	13C8-PFOS	68%	50-150%
	13C8-FOSA	69%	30-130%

Method Blank Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-MB	4Q19295.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	ID Standard Recoveries		Limits
	d3-MeFOSAA	72%	40-140%
	d5-EtFOSAA	74%	40-140%
	13C2-4:2FTS	74%	50-150%
	13C2-6:2FTS	68%	50-150%
	13C2-8:2FTS	69%	50-150%
	13C3-HFPO-DA	67%	50-150%

Instrument Blank

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q270-IBLK	4Q19262.D	1	09/25/21	MRE	n/a	n/a	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA88947-1

CAS No.	Compound	Result	RL	MDL	Units	Q
307-24-4	Perfluorohexanoic acid	ND	0.0040	0.0010	ug/l	
375-85-9	Perfluoroheptanoic acid	ND	0.0040	0.0010	ug/l	
335-67-1	Perfluorooctanoic acid	ND	0.0040	0.0010	ug/l	
375-95-1	Perfluorononanoic acid	ND	0.0040	0.0010	ug/l	
335-76-2	Perfluorodecanoic acid	ND	0.0040	0.0010	ug/l	
2058-94-8	Perfluoroundecanoic acid	ND	0.0040	0.0010	ug/l	
307-55-1	Perfluorododecanoic acid	ND	0.0040	0.0010	ug/l	
72629-94-8	Perfluorotridecanoic acid	ND	0.0040	0.0010	ug/l	
376-06-7	Perfluorotetradecanoic acid	ND	0.0040	0.0010	ug/l	
375-73-5	Perfluorobutanesulfonic acid	ND	0.0040	0.0010	ug/l	
355-46-4	Perfluorohexanesulfonic acid	ND	0.0040	0.0010	ug/l	
1763-23-1	Perfluorooctanesulfonic acid	ND	0.0040	0.0010	ug/l	
2355-31-9	MeFOSAA	ND	0.0080	0.0020	ug/l	
2991-50-6	EtFOSAA	ND	0.0080	0.0020	ug/l	
13252-13-6	HFPO-DA (GenX)	ND	0.0080	0.0020	ug/l	
919005-14-4	ADONA	ND	0.0080	0.0020	ug/l	
756426-58-1	9Cl-PF3ONS (F-53B Major)	ND	0.0080	0.0020	ug/l	
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	ND	0.0080	0.0020	ug/l	

CAS No.	ID Standard Recoveries		Limits
	13C4-PFBA	84%	50-150%
	13C5-PFPeA	84%	50-150%
	13C5-PFHxA	83%	50-150%
	13C4-PFHpA	82%	50-150%
	13C8-PFOA	84%	50-150%
	13C9-PFNA	86%	50-150%
	13C6-PFDA	88%	50-150%
	13C7-PFUnDA	89%	50-150%
	13C2-PFDoDA	86%	50-150%
	13C2-PFTeDA	85%	50-150%
	13C3-PFBS	82%	50-150%
	13C3-PFHxS	81%	50-150%
	13C8-PFOS	87%	50-150%
	13C8-FOSA	101%	50-150%

Instrument Blank

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
S4Q270-IBLK	4Q19262.D	1	09/25/21	MRE	n/a	n/a	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M QSM5.3 B-15

FA88947-1

CAS No.	ID Standard Recoveries		Limits
	d3-MeFOSAA	89%	50-150%
	d5-EtFOSAA	91%	50-150%
	13C2-4:2FTS	76%	50-150%
	13C2-6:2FTS	79%	50-150%
	13C2-8:2FTS	87%	50-150%

Blank Spike Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-BS	4Q19294.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
307-24-4	Perfluorohexanoic acid	0.08	0.0768	96	70-130
375-85-9	Perfluoroheptanoic acid	0.08	0.0752	94	70-130
335-67-1	Perfluorooctanoic acid	0.08	0.0770	96	70-130
375-95-1	Perfluorononanoic acid	0.08	0.0758	95	70-130
335-76-2	Perfluorodecanoic acid	0.08	0.0742	93	70-130
2058-94-8	Perfluoroundecanoic acid	0.08	0.0783	98	70-130
307-55-1	Perfluorododecanoic acid	0.08	0.0801	100	70-130
72629-94-8	Perfluorotridecanoic acid	0.08	0.0795	99	60-140
376-06-7	Perfluorotetradecanoic acid	0.08	0.0814	102	70-130
375-73-5	Perfluorobutanesulfonic acid	0.08	0.0784	98	70-130
355-46-4	Perfluorohexanesulfonic acid	0.08	0.0762	95	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.08	0.0747	93	70-130
2355-31-9	MeFOSAA	0.08	0.0760	95	70-130
2991-50-6	EtFOSAA	0.08	0.0762	95	70-130
13252-13-6	HFPO-DA (GenX)	0.08	0.0791	99	70-130
919005-14-4	ADONA	0.08	0.0819	102	60-140
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.08	0.0673	84	60-140
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.08	0.0838	105	60-140

CAS No.	ID Standard Recoveries	BSP	Limits
	13C4-PFBA	74%	35-135%
	13C5-PFPeA	75%	50-150%
	13C5-PFHxA	74%	50-150%
	13C4-PFHpA	76%	50-150%
	13C8-PFOA	71%	50-150%
	13C9-PFNA	68%	50-150%
	13C6-PFDA	68%	50-150%
	13C7-PFUnDA	68%	40-140%
	13C2-PFDoDA	59%	40-140%
	13C2-PFTeDA	63%	30-130%
	13C3-PFBS	74%	50-150%
	13C3-PFHxS	69%	50-150%
	13C8-PFOS	65%	50-150%
	13C8-FOSA	61%	30-130%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-BS	4Q19294.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	ID Standard Recoveries	BSP	Limits
	d3-MeFOSAA	69%	40-140%
	d5-EtFOSAA	69%	40-140%
	13C2-4:2FTS	77%	50-150%
	13C2-6:2FTS	71%	50-150%
	13C2-8:2FTS	69%	50-150%
	13C3-HFPO-DA	67%	50-150%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-MS	4Q19300.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270
FA88919-34	4Q19299.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	Compound	FA88919-34 ug/l	Q	Spike ug/l	MS ug/l	MS %	Limits
307-24-4	Perfluorohexanoic acid	0.265		0.16	0.405	88	70-130
375-85-9	Perfluoroheptanoic acid	0.247		0.16	0.384	86	70-130
335-67-1	Perfluorooctanoic acid	0.136		0.16	0.284	93	70-130
375-95-1	Perfluorononanoic acid	0.0478		0.16	0.197	93	70-130
335-76-2	Perfluorodecanoic acid	0.0040	U	0.16	0.146	91	70-130
2058-94-8	Perfluoroundecanoic acid	0.0040	U	0.16	0.154	96	70-130
307-55-1	Perfluorododecanoic acid	0.0040	U	0.16	0.156	98	70-130
72629-94-8	Perfluorotridecanoic acid	0.0040	U	0.16	0.157	98	60-140
376-06-7	Perfluorotetradecanoic acid	0.0040	U	0.16	0.157	98	70-130
375-73-5	Perfluorobutanesulfonic acid	0.0036	I	0.16	0.156	95	70-130
355-46-4	Perfluorohexanesulfonic acid	0.0643		0.16	0.211	92	70-130
1763-23-1	Perfluorooctanesulfonic acid	0.0252		0.16	0.165	87	70-130
2355-31-9	MeFOSAA	0.0080	U	0.16	0.156	98	70-130
2991-50-6	EtFOSAA	0.0080	U	0.16	0.157	98	70-130
13252-13-6	HFPO-DA (GenX)	0.0080	U	0.16	0.161	101	70-130
919005-14-4	ADONA	0.016	U	0.16	0.155	97	60-140
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.016	U	0.16	0.135	84	60-140
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.016	U	0.16	0.164	103	60-140

CAS No.	ID Standard Recoveries	MS	FA88919-34	Limits
	13C4-PFBA	58%		35-135%
	13C5-PFPeA	72%		50-150%
	13C5-PFHxA	75%	66%	50-150%
	13C4-PFHpA	80%	70%	50-150%
	13C8-PFOA	79%	71%	50-150%
	13C9-PFNA	82%	74%	50-150%
	13C6-PFDA	84%	73%	50-150%
	13C7-PFUnDA	83%	72%	40-140%
	13C2-PFDoDA	68%	59%	40-140%
	13C2-PFTeDA	67%	57%	30-130%
	13C3-PFBS	74%	65%	50-150%
	13C3-PFHxS	77%	68%	50-150%
	13C8-PFOS	80%	72%	50-150%
	13C8-FOSA	48%	51%	30-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-MS	4Q19300.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270
FA88919-34	4Q19299.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	ID Standard Recoveries	MS	FA88919-34	Limits
	d3-MeFOSAA	89%	75%	40-140%
	d5-EtFOSAA	87%	80%	40-140%
	13C2-4:2FTS	84%		50-150%
	13C2-6:2FTS	86%		50-150%
	13C2-8:2FTS	91%		50-150%
	13C3-HFPO-DA	68%	63%	50-150%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-DUP	4Q19308.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270
FA88947-1	4Q19307.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	Compound	FA88947-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
307-24-4	Perfluorohexanoic acid	0.0151		0.0152		1	30
375-85-9	Perfluoroheptanoic acid	0.0047		0.0048		2	30
335-67-1	Perfluorooctanoic acid	0.0162		0.0154		5	30
375-95-1	Perfluorononanoic acid	0.0040	U	ND		nc	30
335-76-2	Perfluorodecanoic acid	0.0040	U	ND		nc	30
2058-94-8	Perfluoroundecanoic acid	0.0040	U	ND		nc	30
307-55-1	Perfluorododecanoic acid	0.0040	U	ND		nc	30
72629-94-8	Perfluorotridecanoic acid	0.0040	U	ND		nc	30
376-06-7	Perfluorotetradecanoic acid	0.0040	U	ND		nc	30
375-73-5	Perfluorobutanesulfonic acid	0.0128		0.0120		6	30
355-46-4	Perfluorohexanesulfonic acid	0.0768		0.0765		0	30
1763-23-1	Perfluorooctanesulfonic acid	0.324		0.325		0	30
2355-31-9	MeFOSAA	0.0080	U	ND		nc	30
2991-50-6	EtFOSAA	0.0080	U	ND		nc	30
13252-13-6	HFPO-DA (GenX)	0.0080	U	ND		nc	30
919005-14-4	ADONA	0.016	U	ND		nc	30
756426-58-1	9Cl-PF3ONS (F-53B Major)	0.016	U	ND		nc	30
763051-92-9	11Cl-PF3OUdS (F-53B Minor)	0.016	U	ND		nc	30

CAS No.	ID Standard Recoveries	DUP	FA88947-1	Limits
	13C4-PFBA	61%		35-135%
	13C5-PFPeA	71%		50-150%
	13C5-PFHxA	72%	76%	50-150%
	13C4-PFHpA	77%	79%	50-150%
	13C8-PFOA	78%	82%	50-150%
	13C9-PFNA	79%	81%	50-150%
	13C6-PFDA	79%	81%	50-150%
	13C7-PFUnDA	77%	76%	40-140%
	13C2-PFDoDA	64%	59%	40-140%
	13C2-PFTeDA	68%	38%	30-130%
	13C3-PFBS	71%	74%	50-150%
	13C3-PFHxS	73%	77%	50-150%
	13C8-PFOS	74%	78%	50-150%
	13C8-FOSA	45%		30-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: FA88947
Account: MEFLOR AECOM, Inc
Project: NASA KSC MLPV IDW

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP87376-DUP	4Q19308.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270
FA88947-1	4Q19307.D	1	09/25/21	MRE	09/20/21	OP87376	S4Q270

The QC reported here applies to the following samples: **Method:** EPA 537M BY ID

FA88947-1

CAS No.	ID Standard Recoveries	DUP	FA88947-1	Limits
	d3-MeFOSAA	79%	78%	40-140%
	d5-EtFOSAA	81%	78%	40-140%
	13C2-4:2FTS	74%		50-150%
	13C2-6:2FTS	80%		50-150%
	13C2-8:2FTS	78%		50-150%
	13C3-HFPO-DA	68%	71%	50-150%

* = Outside of Control Limits.

ENCO Laboratories
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Tuesday, September 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE07164

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, September 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: MLPV-IW006IR-030.5-20210915 **Lab ID: AE07164-01** **Sampled: 09/15/21 12:01** **Received: 09/15/21 15:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/29/21	09/20/21 10:23	09/21/21 05:30

Client ID: MLPV-IW0028I-030.5-20210914 **Lab ID: AE07164-02** **Sampled: 09/14/21 13:22** **Received: 09/15/21 15:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/28/21	09/20/21 10:23	09/21/21 05:59

Client ID: MLPV-IW0046-040.0-20210914 **Lab ID: AE07164-03** **Sampled: 09/14/21 14:03** **Received: 09/15/21 15:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/28/21	09/20/21 10:23	09/21/21 06:27

Client ID: MLPV-TB03-20210914 **Lab ID: AE07164-04** **Sampled: 09/14/21 13:00** **Received: 09/15/21 15:50**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	09/28/21	09/20/21 10:23	09/21/21 06:56

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-IW006IR-030.5-20210915 **Lab ID:** AE07164-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	1.8		0.71	1.0	ug/L	EPA 8260D	

Client ID: MLPV-IW0028I-030.5-20210914 **Lab ID:** AE07164-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	2.3		0.71	1.0	ug/L	EPA 8260D	

Client ID: MLPV-IW0046-040.0-20210914 **Lab ID:** AE07164-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	2.7		0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	10		0.71	1.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IW006IR-030.5-20210915 **Lab Sample ID:** AE07164-01 **Received:** 09/15/21 15:50
Matrix: Ground Water **Sampled:** 09/15/21 12:01 **Work Order:** AE07164
Project: NASA KSC - MLPV **Sampled By:** Dustin Slater

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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1I20042	EPA 8260D	09/21/21 05:30	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1I20042	EPA 8260D	09/21/21 05:30	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1I20042	EPA 8260D	09/21/21 05:30	nmc	
Vinyl chloride [75-01-4]^	**1.8**		ug/L	1	0.71	1.0	1I20042	EPA 8260D	09/21/21 05:30	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*51*	*1*	*50.0*	*101 %*	*41-142*	*1I20042*	*EPA 8260D*	*09/21/21 05:30*	*nmc*	
Dibromofluoromethane	*54*	*1*	*50.0*	*108 %*	*53-146*	*1I20042*	*EPA 8260D*	*09/21/21 05:30*	*nmc*	
Toluene-d8	*49*	*1*	*50.0*	*98 %*	*41-146*	*1I20042*	*EPA 8260D*	*09/21/21 05:30*	*nmc*	

Description: MLPV-IW0028I-030.5-20210914 **Lab Sample ID:** AE07164-02 **Received:** 09/15/21 15:50
Matrix: Ground Water **Sampled:** 09/14/21 13:22 **Work Order:** AE07164
Project: NASA KSC - MLPV **Sampled By:** Dustin Slater

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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1I20042	EPA 8260D	09/21/21 05:59	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1I20042	EPA 8260D	09/21/21 05:59	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1I20042	EPA 8260D	09/21/21 05:59	nmc	
Vinyl chloride [75-01-4]^	**2.3**		ug/L	1	0.71	1.0	1I20042	EPA 8260D	09/21/21 05:59	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*91 %*	*41-142*	*1I20042*	*EPA 8260D*	*09/21/21 05:59*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1I20042*	*EPA 8260D*	*09/21/21 05:59*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*92 %*	*41-146*	*1I20042*	*EPA 8260D*	*09/21/21 05:59*	*nmc*	

Description: MLPV-IW0046-040.0-20210914 **Lab Sample ID:** AE07164-03 **Received:** 09/15/21 15:50
Matrix: Ground Water **Sampled:** 09/14/21 14:03 **Work Order:** AE07164
Project: NASA KSC - MLPV **Sampled By:** Dustin Slater

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
cis-1,2-Dichloroethene [156-59-2]^	**2.7**		ug/L	1	0.53	1.0	1I20042	EPA 8260D	09/21/21 06:27	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1I20042	EPA 8260D	09/21/21 06:27	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1I20042	EPA 8260D	09/21/21 06:27	nmc	
Vinyl chloride [75-01-4]^	**10**		ug/L	1	0.71	1.0	1I20042	EPA 8260D	09/21/21 06:27	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*46*	*1*	*50.0*	*92 %*	*41-142*	*1I20042*	*EPA 8260D*	*09/21/21 06:27*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1I20042*	*EPA 8260D*	*09/21/21 06:27*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*93 %*	*41-146*	*1I20042*	*EPA 8260D*	*09/21/21 06:27*	*nmc*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-TB03-20210914 | **Lab Sample ID:** AE07164-04 | **Received:** 09/15/21 15:50

Matrix: Ground Water | **Sampled:** 09/14/21 13:00 | **Work Order:** AE07164

Project: NASA KSC - MLPV | **Sampled By:** Dustin Slater

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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1I20042	EPA 8260D	09/21/21 06:56	nmc	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1I20042	EPA 8260D	09/21/21 06:56	nmc	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1I20042	EPA 8260D	09/21/21 06:56	nmc	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1I20042	EPA 8260D	09/21/21 06:56	nmc	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*45*	*1*	*50.0*	*90 %*	*41-142*	*1I20042*	*EPA 8260D*	*09/21/21 06:56*	*nmc*	
Dibromofluoromethane	*52*	*1*	*50.0*	*103 %*	*53-146*	*1I20042*	*EPA 8260D*	*09/21/21 06:56*	*nmc*	
Toluene-d8	*46*	*1*	*50.0*	*92 %*	*41-146*	*1I20042*	*EPA 8260D*	*09/21/21 06:56*	*nmc*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1I20042 - EPA 5030B_MS

Blank (1I20042-BLK1) Prepared: 09/20/2021 10:23 Analyzed: 09/20/2021 23:19

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	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	*47*			*ug/L*	*50.0*		*94*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*103*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*94*	*41-146*			

LCS (1I20042-BS1) Prepared: 09/20/2021 10:23 Analyzed: 09/20/2021 20:55

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0		106	56-128			
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0		109	54-134			
Trichloroethene	21		1.0	ug/L	20.0		105	62-135			
Vinyl chloride	22		1.0	ug/L	20.0		110	20-167			
4-Bromofluorobenzene	*45*			*ug/L*	*50.0*		*90*	*41-142*			
Dibromofluoromethane	*51*			*ug/L*	*50.0*		*102*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

Matrix Spike (1I20042-MS1) Prepared: 09/20/2021 10:23 Analyzed: 09/20/2021 21:24

Source: AE07048-08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	2200		100	ug/L	2000	53 U	109	56-128			
trans-1,2-Dichloroethene	2200		100	ug/L	2000	73 U	112	54-134			
Trichloroethene	2300		100	ug/L	2000	89 U	116	62-135			
Vinyl chloride	2100		100	ug/L	2000	71 U	105	20-167			
4-Bromofluorobenzene	*4800*			*ug/L*	*5000*		*96*	*41-142*			
Dibromofluoromethane	*5100*			*ug/L*	*5000*		*103*	*53-146*			
Toluene-d8	*4700*			*ug/L*	*5000*		*95*	*41-146*			

Matrix Spike Dup (1I20042-MSD1) Prepared: 09/20/2021 10:23 Analyzed: 09/20/2021 21:53

Source: AE07048-08

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	2200		100	ug/L	2000	53 U	109	56-128	0	17	
trans-1,2-Dichloroethene	2300		100	ug/L	2000	73 U	113	54-134	0.8	20	
Trichloroethene	2300		100	ug/L	2000	89 U	115	62-135	0.7	20	
Vinyl chloride	2100		100	ug/L	2000	71 U	105	20-167	0.3	24	
4-Bromofluorobenzene	*4800*			*ug/L*	*5000*		*96*	*41-142*			
Dibromofluoromethane	*5200*			*ug/L*	*5000*		*104*	*53-146*			
Toluene-d8	*4800*			*ug/L*	*5000*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AG07164

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV			COC No.	Page: 1 of 1
Site Location: Biosparge Area			PO No. 133847	Project No. 60615493.4 / Phase:
TO No.: 80KSC019F0075	AECOM Project Manager: **Linnea King Clark**		Send Invoice To: Instructions in MSA #	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:	Site-Spicific WS#15 from QAPP: 15-14
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) HCl: Total No. of Containers	Select VOCs by SW8260B	Comments
	MLPV-IW006IR-030.5-202109 14	MLPV-IW006IR	202109 14	1201	WG	N	G	3	3	
	MLPV-IW0028I-030.5-202109 14	MLPV-IW0028I	202109 14	1322	WG	N	G	3	3	
	MLPV-IW0046-040.0-202109 14	MLPV-IW0046	202109 14	1403	WG	N	G	3	3	
	MLPV-TB03-202109 14	MLPV-TB03	202109 14	1300	WQ	TB	G	3	3	

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:**

Sample Shipment and Delivery Details
Number of coolers in shipment: 1

	Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	Cadence P. Pacipanki	9/8/21	12:30		9/13/21	0700
2		9/15/21	1345		9/15/21	1550
3						

Samples Iced?(check) Yes ✓ No____
Shipping Company: Lab pickup
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**

Mid-399 4.0°C

ENCO Laboratories
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10775 Central Port Drive
Orlando FL, 32824
Phone: 407.826.5314 FAX: 407.850.6945

Tuesday, November 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: 60615493.4, Project Name/Desc: NASA KSC - MLPV
ENCO Workorder(s): AE08985

Dear Teresa Amentt Jennings,

Enclosed is a copy of your laboratory report for test samples received by our laboratory on Wednesday, November 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: MLPV-ASMW0004-037.5-20211117 **Lab ID: AE08985-01** **Sampled: 11/17/21 10:37** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/19/21 09:19	11/19/21 14:45

Client ID: MLPV-ASMW0004-037.5-20211117 **Lab ID: AE08985-01RE1** **Sampled: 11/17/21 10:37** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/22/21 00:00	11/22/21 12:27

Client ID: MLPV-IW0063-037.5-20211117 **Lab ID: AE08985-02** **Sampled: 11/17/21 11:32** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/19/21 09:19	11/19/21 15:13

Client ID: MLPV-IW0064-042.5-20211117 **Lab ID: AE08985-03** **Sampled: 11/17/21 12:06** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/19/21 09:19	11/19/21 15:41

Client ID: MLPV-IDW01-20211117 **Lab ID: AE08985-04** **Sampled: 11/17/21 12:28** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/19/21 09:19	11/19/21 16:08

Client ID: MLPV-TB01-20211117 **Lab ID: AE08985-05** **Sampled: 11/17/21 09:30** **Received: 11/17/21 14:21**

Parameter	Preparation	Hold Date/Time(s)	Prep Date/Time(s)	Analysis Date/Time(s)
EPA 8260D	EPA 5030B_MS	12/01/21	11/19/21 09:19	11/19/21 16:36

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

SAMPLE DETECTION SUMMARY

Client ID: MLPV-ASMW0004-037.5-20211117 **Lab ID:** AE08985-01

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
Vinyl chloride	500		7.1	10	ug/L	EPA 8260D	

Client ID: MLPV-ASMW0004-037.5-20211117 **Lab ID:** AE08985-01RE1

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	8.0		2.6	5.0	ug/L	EPA 8260D	
trans-1,2-Dichloroethene	8.0		3.6	5.0	ug/L	EPA 8260D	

Client ID: MLPV-IW0063-037.5-20211117 **Lab ID:** AE08985-02

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	3.0		1.3	2.5	ug/L	EPA 8260D	
Vinyl chloride	190		1.8	2.5	ug/L	EPA 8260D	

Client ID: MLPV-IW0064-042.5-20211117 **Lab ID:** AE08985-03

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	14		2.6	5.0	ug/L	EPA 8260D	
Vinyl chloride	380		3.6	5.0	ug/L	EPA 8260D	

Client ID: MLPV-IDW01-20211117 **Lab ID:** AE08985-04

Analyte	Results	Flag	MDL	PQL	Units	Method	Notes
cis-1,2-Dichloroethene	0.69	I	0.53	1.0	ug/L	EPA 8260D	
Vinyl chloride	22		0.71	1.0	ug/L	EPA 8260D	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-ASMW0004-037.5-20211117 **Lab Sample ID:** AE08985-01 **Received:** 11/17/21 14:21
Matrix: Water **Sampled:** 11/17/21 10:37 **Work Order:** AE08985
Project: NASA KSC - MLPV **Sampled By:** Madan 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
cis-1,2-Dichloroethene [156-59-2]^	**8.0**		ug/L	5	2.6	5.0	1K22012	EPA 8260D	11/22/21 12:27	nmc	
trans-1,2-Dichloroethene [156-60-5]^	**8.0**		ug/L	5	3.6	5.0	1K22012	EPA 8260D	11/22/21 12:27	nmc	
Trichloroethene [79-01-6]^	4.4	U	ug/L	5	4.4	5.0	1K22012	EPA 8260D	11/22/21 12:27	nmc	
Vinyl chloride [75-01-4]^	**500**		ug/L	10	7.1	10	1K19019	EPA 8260D	11/19/21 14:45	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*105 %*	*41-142*	*1K19019*	*EPA 8260D*	*11/19/21 14:45*	*KKW*	
4-Bromofluorobenzene	*41*	*1*	*50.0*	*81 %*	*41-142*	*1K22012*	*EPA 8260D*	*11/22/21 12:27*	*nmc*	
Dibromofluoromethane	*48*	*1*	*50.0*	*95 %*	*53-146*	*1K19019*	*EPA 8260D*	*11/19/21 14:45*	*KKW*	
Dibromofluoromethane	*48*	*1*	*50.0*	*95 %*	*53-146*	*1K22012*	*EPA 8260D*	*11/22/21 12:27*	*nmc*	
Toluene-d8	*51*	*1*	*50.0*	*102 %*	*41-146*	*1K19019*	*EPA 8260D*	*11/19/21 14:45*	*KKW*	
Toluene-d8	*47*	*1*	*50.0*	*94 %*	*41-146*	*1K22012*	*EPA 8260D*	*11/22/21 12:27*	*nmc*	

Description: MLPV-IW0063-037.5-20211117 **Lab Sample ID:** AE08985-02 **Received:** 11/17/21 14:21
Matrix: Water **Sampled:** 11/17/21 11:32 **Work Order:** AE08985
Project: NASA KSC - MLPV **Sampled By:** Madan 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
cis-1,2-Dichloroethene [156-59-2]^	**3.0**		ug/L	2.5	1.3	2.5	1K19019	EPA 8260D	11/19/21 15:13	KKW	
trans-1,2-Dichloroethene [156-60-5]^	1.8	U	ug/L	2.5	1.8	2.5	1K19019	EPA 8260D	11/19/21 15:13	KKW	
Trichloroethene [79-01-6]^	2.2	U	ug/L	2.5	2.2	2.5	1K19019	EPA 8260D	11/19/21 15:13	KKW	
Vinyl chloride [75-01-4]^	**190**		ug/L	2.5	1.8	2.5	1K19019	EPA 8260D	11/19/21 15:13	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*54*	*1*	*50.0*	*108 %*	*41-142*	*1K19019*	*EPA 8260D*	*11/19/21 15:13*	*KKW*	
Dibromofluoromethane	*47*	*1*	*50.0*	*95 %*	*53-146*	*1K19019*	*EPA 8260D*	*11/19/21 15:13*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*1K19019*	*EPA 8260D*	*11/19/21 15:13*	*KKW*	

Description: MLPV-IW0064-042.5-20211117 **Lab Sample ID:** AE08985-03 **Received:** 11/17/21 14:21
Matrix: Water **Sampled:** 11/17/21 12:06 **Work Order:** AE08985
Project: NASA KSC - MLPV **Sampled By:** Madan 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
cis-1,2-Dichloroethene [156-59-2]^	**14**		ug/L	5	2.6	5.0	1K19019	EPA 8260D	11/19/21 15:41	KKW	
trans-1,2-Dichloroethene [156-60-5]^	3.6	U	ug/L	5	3.6	5.0	1K19019	EPA 8260D	11/19/21 15:41	KKW	
Trichloroethene [79-01-6]^	4.4	U	ug/L	5	4.4	5.0	1K19019	EPA 8260D	11/19/21 15:41	KKW	
Vinyl chloride [75-01-4]^	**380**		ug/L	5	3.6	5.0	1K19019	EPA 8260D	11/19/21 15:41	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1K19019*	*EPA 8260D*	*11/19/21 15:41*	*KKW*	
Dibromofluoromethane	*47*	*1*	*50.0*	*94 %*	*53-146*	*1K19019*	*EPA 8260D*	*11/19/21 15:41*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*99 %*	*41-146*	*1K19019*	*EPA 8260D*	*11/19/21 15:41*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

ANALYTICAL RESULTS

Description: MLPV-IDW01-20211117 **Lab Sample ID:** AE08985-04 **Received:** 11/17/21 14:21
Matrix: Water **Sampled:** 11/17/21 12:28 **Work Order:** AE08985
Project: NASA KSC - MLPV **Sampled By:** Madan 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
cis-1,2-Dichloroethene [156-59-2]^	**0.69**	I	ug/L	1	0.53	1.0	1K19019	EPA 8260D	11/19/21 16:08	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1K19019	EPA 8260D	11/19/21 16:08	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1K19019	EPA 8260D	11/19/21 16:08	KKW	
Vinyl chloride [75-01-4]^	**22**		ug/L	1	0.71	1.0	1K19019	EPA 8260D	11/19/21 16:08	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*53*	*1*	*50.0*	*106 %*	*41-142*	*1K19019*	*EPA 8260D*	*11/19/21 16:08*	*KKW*	
Dibromofluoromethane	*46*	*1*	*50.0*	*93 %*	*53-146*	*1K19019*	*EPA 8260D*	*11/19/21 16:08*	*KKW*	
Toluene-d8	*49*	*1*	*50.0*	*99 %*	*41-146*	*1K19019*	*EPA 8260D*	*11/19/21 16:08*	*KKW*	

Description: MLPV-TB01-20211117 **Lab Sample ID:** AE08985-05 **Received:** 11/17/21 14:21
Matrix: Water **Sampled:** 11/17/21 09:30 **Work Order:** AE08985
Project: NASA KSC - MLPV **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
cis-1,2-Dichloroethene [156-59-2]^	0.53	U	ug/L	1	0.53	1.0	1K19019	EPA 8260D	11/19/21 16:36	KKW	
trans-1,2-Dichloroethene [156-60-5]^	0.73	U	ug/L	1	0.73	1.0	1K19019	EPA 8260D	11/19/21 16:36	KKW	
Trichloroethene [79-01-6]^	0.89	U	ug/L	1	0.89	1.0	1K19019	EPA 8260D	11/19/21 16:36	KKW	
Vinyl chloride [75-01-4]^	0.71	U	ug/L	1	0.71	1.0	1K19019	EPA 8260D	11/19/21 16:36	KKW	

Surrogates	*Results*	*DF*	*Spike Lvl*	*% Rec*	*% Rec Limits*	*Batch*	*Method*	*Analyzed*	*By*	Notes
4-Bromofluorobenzene	*52*	*1*	*50.0*	*104 %*	*41-142*	*1K19019*	*EPA 8260D*	*11/19/21 16:36*	*KKW*	
Dibromofluoromethane	*47*	*1*	*50.0*	*94 %*	*53-146*	*1K19019*	*EPA 8260D*	*11/19/21 16:36*	*KKW*	
Toluene-d8	*50*	*1*	*50.0*	*100 %*	*41-146*	*1K19019*	*EPA 8260D*	*11/19/21 16:36*	*KKW*	

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1K19019 - EPA 5030B_MS

Blank (1K19019-BLK1) Prepared: 11/19/2021 00:00 Analyzed: 11/19/2021 10:09

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	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	*47*			*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*49*			*ug/L*	*50.0*		*98*	*41-146*			

LCS (1K19019-BS1) Prepared: 11/19/2021 00:00 Analyzed: 11/19/2021 09:14

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	19		1.0	ug/L	20.0		93	56-128			
trans-1,2-Dichloroethene	20		1.0	ug/L	20.0		100	54-134			
Trichloroethene	18		1.0	ug/L	20.0		90	62-135			
Vinyl chloride	14		1.0	ug/L	20.0		72	20-167			
4-Bromofluorobenzene	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*96*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*100*	*41-146*			

Matrix Spike (1K19019-MS1) Prepared: 11/19/2021 00:00 Analyzed: 11/19/2021 12:00

Source: AE08915-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	105	56-128			
trans-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.73 U	106	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	*52*			*ug/L*	*50.0*		*103*	*41-142*			
Dibromofluoromethane	*47*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Matrix Spike Dup (1K19019-MSD1) Prepared: 11/19/2021 00:00 Analyzed: 11/19/2021 12:27

Source: AE08915-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	103	56-128	2	17	
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.73 U	108	54-134	1	20	
Trichloroethene	19		1.0	ug/L	20.0	0.89 U	97	62-135	4	20	
Vinyl chloride	18		1.0	ug/L	20.0	0.71 U	88	20-167	6	24	
4-Bromofluorobenzene	*54*			*ug/L*	*50.0*		*108*	*41-142*			
Dibromofluoromethane	*47*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*51*			*ug/L*	*50.0*		*102*	*41-146*			

Batch 1K22012 - EPA 5030B_MS

Blank (1K22012-BLK1) Prepared: 11/22/2021 00:00 Analyzed: 11/22/2021 10:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	0.53	U	1.0	ug/L							

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

QUALITY CONTROL DATA

Volatile Organic Compounds by GCMS - Quality Control

Batch 1K22012 - EPA 5030B_MS - Continued

Blank (1K22012-BLK1) Continued Prepared: 11/22/2021 00:00 Analyzed: 11/22/2021 10:31

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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	*40*			*ug/L*	*50.0*		*80*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*95*	*53-146*			
Toluene-d8	*47*			*ug/L*	*50.0*		*93*	*41-146*			

LCS (1K22012-BS1) Prepared: 11/22/2021 00:00 Analyzed: 11/22/2021 08:07

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	22		1.0	ug/L	20.0		110	56-128			
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0		111	54-134			
Trichloroethene	23		1.0	ug/L	20.0		115	62-135			
Vinyl chloride	23		1.0	ug/L	20.0		115	20-167			
4-Bromofluorobenzene	*43*			*ug/L*	*50.0*		*86*	*41-142*			
Dibromofluoromethane	*47*			*ug/L*	*50.0*		*93*	*53-146*			
Toluene-d8	*50*			*ug/L*	*50.0*		*99*	*41-146*			

Matrix Spike (1K22012-MS1) Prepared: 11/22/2021 00:00 Analyzed: 11/22/2021 08:36

Source: AE09240-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	21		1.0	ug/L	20.0	0.53 U	106	56-128			
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.73 U	111	54-134			
Trichloroethene	23		1.0	ug/L	20.0	0.89 U	115	62-135			
Vinyl chloride	27		1.0	ug/L	20.0	0.71 U	133	20-167			
4-Bromofluorobenzene	*43*			*ug/L*	*50.0*		*85*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*96*	*53-146*			
Toluene-d8	*49*			*ug/L*	*50.0*		*99*	*41-146*			

Matrix Spike Dup (1K22012-MSD1) Prepared: 11/22/2021 00:00 Analyzed: 11/22/2021 09:05

Source: AE09240-01

Analyte	Result	Flag	PQL	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
cis-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.53 U	108	56-128	1	17	
trans-1,2-Dichloroethene	22		1.0	ug/L	20.0	0.73 U	112	54-134	1	20	
Trichloroethene	22		1.0	ug/L	20.0	0.89 U	109	62-135	5	20	
Vinyl chloride	27		1.0	ug/L	20.0	0.71 U	134	20-167	0.2	24	
4-Bromofluorobenzene	*42*			*ug/L*	*50.0*		*85*	*41-142*			
Dibromofluoromethane	*48*			*ug/L*	*50.0*		*96*	*53-146*			
Toluene-d8	*48*			*ug/L*	*50.0*		*96*	*41-146*			

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

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.

This report relates only to the sample as received by the laboratory, and may only be reproduced in full.

AE08985

CHAIN OF CUSTODY AND ANALYTICAL REQUEST RECORD

ENCO

Project Name: NASA KSC - MLPV		COC No.	Page: 1 of 1
Site Location: Biosparge Area		PO No. 133847	Project No. 60615493.4 / Phase:
TO No.: 80KSC019F0075	AECOM Project Manager: **Linnea King Clark**	Send Invoice To: Instructions in MSA #	EDD to: Jennifer Chastain Cc: Teresa Amentt Jennings
Sampler/Phone # 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: 15-14

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) HCl 4 DEG C — Total No. of Containers	Select VOCs by SW8260B	Select PFAS by 537	Comments
	MLPV-ASMW0004-037.5-20211117	**MLPV-ASMW0004**	**20211117**	1037	**WG**	**N**	**G**	**3**	**3**		
	MLPV-IW0063-037.5-20211117	**MLPV-IW0063**	**20211117**	1132	**WG**	**N**	**G**	**3**	**3**		
	MLPV-IW0064-042.5-20211117	**MLPV-IW0064**	**20211117**	1206	**WG**	**N**	**G**	**3**	**3**		
	MLPV-IDW01-20211117	**MLPV-IDW01**	**20211117**	1228	**IDW**	**IDW**	**G**	**5**	**3**	**2**	
	MLPV-TB01-20211117	**MLPV-TB01**	**20211117**	0930	**WQ**	**TB**	**G**	**2**	**2**		

***Field* Comments:**
Report only per QAPP WS #15-14

***Lab* Comments:** MEO 407 1.4°C

Relinquished by (signature)	Date	Time	Received by (signature)	Date	Time
1	11/17/21	1730	1	11/17/21	0750
2 M. Parsotan	11/17/21	14:21	2	11/17/21	14:21
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**

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

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December 01, 2021

Kaitlin Dylnicki
Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida 32824

Re: NASA PFAS - Dylnicki
Work Order: 562471
SDG: AE08985

Dear Kaitlin Dylnicki:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on November 18, 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,

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: AE08985 GEL Work Order: 562471

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

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 _____

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 1, 2021

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	MLPV-IDW01-20211117	Project:	ENCL00421
Sample ID:	562471001	Client ID:	ENCL001
Matrix:	GW		
Collect Date:	17-NOV-21 12:28		
Receive Date:	18-NOV-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	0.000584	0.00167	ug/L	0.0177	1	JMB3	11/24/21	1248	2200867	1
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	U	ND	0.000584	0.00165	ug/L	0.0177	1					
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	U	ND	0.00117	0.00354	ug/L	0.0177	1					
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	U	ND	0.00117	0.00354	ug/L	0.0177	1					
Perfluorobutane sulfonic acid (PFBS)		0.0125	0.000584	0.00158	ug/L	0.0177	1					
Perfluorodecanoic acid (PFDA)	U	ND	0.000691	0.00177	ug/L	0.0177	1					
Perfluorododecanoic acid (PFDOA)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
Perfluoroheptanoic acid (PFHpA)		0.00560	0.000584	0.00177	ug/L	0.0177	1					
Perfluorohexane sulfonic acid (PFHxS)		0.0861	0.000584	0.00161	ug/L	0.0177	1					
Perfluorohexanoic acid (PFHxA)		0.0249	0.000708	0.00177	ug/L	0.0177	1					
Perfluorononanoic acid (PFNA)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
Perfluorooctanoic acid (PFOA)		0.0208	0.000708	0.00177	ug/L	0.0177	1					
Perfluorotetradecanoic acid (PFTDA)	U	ND	0.000708	0.00177	ug/L	0.0177	1					
Perfluorotridecanoic acid (PFTrDA)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
Perfluoroundecanoic acid (PFUnDA)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	U	ND	0.000584	0.00177	ug/L	0.0177	1					
Perfluorooctane sulfonic acid (PFOS)		0.370	0.00354	0.00885	ug/L	0.0177	5	JMB3	11/24/21	1237	2200867	2

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
EPA 537.1 Mod, PFAS, Compl PFCs	Extraction in Liquid	TC2	11/24/21	0712	2200866

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: December 1, 2021

Company :	Environmental Conservation Laboratories, Inc.
Address :	10775 Central Port Drive
	Orlando, Florida 32824
Contact:	Kaitlin Dylnicki
Project:	NASA PFAS - Dylnicki

Client Sample ID:	MLPV-IDW01-20211117	Project:	ENCL00421
Sample ID:	562471001	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	
2	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: December 1, 2021

Environmental Conservation Laboratories, Inc.
10775 Central Port Drive
Orlando, Florida

Contact: **Kaitlin Dylnicki**

Workorder: **562471**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2200867											
QC1204964440 LCS											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0187			0.0205	ug/L		110	(59%-144%)	JMB3	11/24/21	11:24
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0198			0.0212	ug/L		107	(67%-136%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0185			0.0218	ug/L		118	(68%-135%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0198			0.0207	ug/L		104	(67%-144%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0198			0.0186	ug/L		94	(57%-139%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0198			0.0195	ug/L		98	(59%-145%)			
Perfluorobutane sulfonic acid (PFBS)	0.0175			0.0206	ug/L		117	(70%-144%)			
Perfluorodecanoic acid (PFDA)	0.0198			0.0198	ug/L		100	(65%-145%)			
Perfluorododecanoic acid (PFDOA)	0.0198			0.0202	ug/L		102	(65%-137%)			
Perfluoroheptanoic acid (PFHpA)	0.0198			0.0220	ug/L		111	(71%-133%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0181			0.0167	ug/L		92	(67%-145%)			
Perfluorohexanoic acid (PFHxA)	0.0198			0.0216	ug/L		109	(70%-138%)			
Perfluorononanoic acid (PFNA)	0.0198			0.0196	ug/L		99	(69%-133%)			
Perfluorooctane sulfonic acid (PFOS)	0.0198			0.0224	ug/L		113	(65%-133%)			

QC Summary

Workorder: 562471

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2200867											
Perfluorooctanoic acid (PFOA)	0.0198			0.0213	ug/L		108	(66%-139%)	JMB3	11/24/21	11:24
Perfluorotetradecanoic acid (PFTDA)	0.0198			0.0212	ug/L		107	(66%-138%)			
Perfluorotridecanoic acid (PFTrDA)	0.0198			0.0227	ug/L		115	(58%-140%)			
Perfluoroundecanoic acid (PFUnDA)	0.0198			0.0213	ug/L		108	(63%-135%)			
QC1204964441 LCSD											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)	0.0211			0.0226	ug/L	10	107	(0%-27%)		11/24/21	11:34
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	0.0224			0.0254	ug/L	18	113	(0%-26%)			
9-Chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9-Cl-PF3ONS)	0.0209			0.0231	ug/L	6	111	(0%-26%)			
Hexafluoropropyleneoxide dimer acid (HFPO-DA)(Gen-X)	0.0224			0.0219	ug/L	6	98	(0%-25%)			
N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	0.0224			0.0253	ug/L	31*	113	(0%-27%)			
N-Methylperfluorooctane sulfonamido acetic acid (NMeFOSAA)	0.0224			0.0253	ug/L	26	113	(0%-27%)			
Perfluorobutane sulfonic acid (PFBS)	0.0198			0.0197	ug/L	4	99	(0%-23%)			
Perfluorodecanoic acid (PFDA)	0.0224			0.0241	ug/L	20	108	(0%-26%)			
Perfluorododecanoic acid (PFDOA)	0.0224			0.0263	ug/L	27*	117	(0%-26%)			
Perfluoroheptanoic acid (PFHpA)	0.0224			0.0233	ug/L	6	104	(0%-23%)			
Perfluorohexane sulfonic acid (PFHxS)	0.0204			0.0233	ug/L	33*	114	(0%-27%)			

QC Summary

Workorder: 562471

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2200867											
Perfluorohexanoic acid (PFHxA)	0.0224			0.0252	ug/L	15	112	(0%-27%)	JMB3	11/24/21	11:34
Perfluorononanoic acid (PFNA)	0.0224			0.0241	ug/L	21	108	(0%-25%)			
Perfluorooctane sulfonic acid (PFOS)	0.0224			0.0251	ug/L	11	112	(0%-25%)			
Perfluorooctanoic acid (PFOA)	0.0224			0.0259	ug/L	20	116	(0%-27%)			
Perfluorotetradecanoic acid (PFTDA)	0.0224			0.0258	ug/L	19	115	(0%-26%)			
Perfluorotridecanoic acid (PFTrDA)	0.0224			0.0240	ug/L	6	107	(0%-31%)			
Perfluoroundecanoic acid (PFUnDA)	0.0224			0.0275	ug/L	26	123	(0%-26%)			
QC1204964439 MB											
11-Chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11-Cl-PF3OUdS)			U	ND	ug/L					11/24/21	11:14
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: 562471

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Perfluorinated Compounds											
Batch 2200867											
Perfluorododecanoic acid (PFDOA)			U	ND	ug/L				JMB3	11/24/21	11:14
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: **562471**

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 #: AE08985
Work Order #: 562471

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: 2200867 and 2200866

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
562471001	MLPV-IDW01-20211117
1204964439	Method Blank (MB)
1204964440	Laboratory Control Sample (LCS)
1204964441	Laboratory Control Sample Duplicate (LCSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

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, with the following exceptions.

Quality Control (QC) Information

LCS/LCSD Relative Percent Difference (RPD) Statement
Not all of the relative percent differences (RPDs) between the LCS and the LCSD were within the acceptance limits for this SDG.

Sample	Analyte	Value
1204964440 (LCS) and 1204964441 (LCSD)	N-Ethylperfluorooctane sulfonamido acetic acid (NEtFOSAA)	31* (0%-27%)
	Perfluorododecanoic acid (PFDOA)	27* (0%-26%)
	Perfluorohexane sulfonic acid (PFHxS)	33* (0%-27%)

Internal Standard (ISTD) Acceptance
LCS (See Below) did not meet DODQSM internal standard acceptance criteria for 1,2-13C2 Fluorotelomer sulfonate 6:2 at 158% (DODQSM limits: 50-150%). This internal standard was not applicable to the DODQSM client's list of target analytes in this batch, therefore the failure had no adverse effect on the data reported to that client. 1,2-13C2 Fluorotelomer sulfonate 6:2 did meet acceptance criteria for the non-DODQSM clients in this batch.

Sample	Analyte	Value

1204964440 (LCS)	1, 2-13C2 Fluorotelomer sulfonate 6:2	158* (50%-150%)

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.

562471 Standard GEL TAT 11/17/21

SUBCONTRACT ORDER

ENCO Orlando

AE08985

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
	MLPV-IDW01-20211117	Water	17-Nov-21 12:28	

Analysis	Due	Expires	Analysis Comments
PFAS	24-Nov-21 15:00	01-Dec-21 12:28	14 analyte 537 GELP21-0027
Containers Supplied:			
5mLV (D)	250mLP (E)	250mLP (F)	

Released By	Date	Received By	Date
	11/17/21		0020 11/18/21
Released By	Date	Received By	Date

SH

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: ENCL	**SDG/AR/COC/Work Order:** 562-471
Received By: DC	**Date Received:** 11-18-21
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 5307 8832 9620

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?		X	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?		X	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		X	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr **Classified as: Rad 1 Rad 2 Rad 3**
D) Did the client designate samples are hazardous?		X	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		X	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:** 3.0
4	Daily check performed and passed on IR temperature gun?	✓			**Temperature Device Serial #:** IR6-21 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 11/19/21 Page 1 of 1

GL-CHL-SR-001 Rev 7

List of current GEL Certifications as of 01 December 2021

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

APPENDIX J

RIS COMPLETION TICKETS

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Data Checker

Completion Ticket

On 6/3/2022 at 4:26 PM the following files were submitted to Tetra Tech

COMPLETION_AECOM_MLPV_20220601.txt

LITHOLOGY_AECOM_MLPV_20220601.txt

LOCATION_AECOM_MLPV_20220601.txt

PROJECT_AECOM_MLPV_20220601.txt

RESULT_AECOM_MLPV_20220601.txt

SAMPLE_AECOM_MLPV_20220601.txt

WATER_AECOM_MLPV_20220601.txt

The following comment was provided with this submission:
Hello - attached are the MPLV DPT samples. If there are any issues please let me know. thanks! jen

If you need to identify this session at a later date you may use the Ticket Key:

TetraTechExternalClientsProtectedDataRepository202263_2326409447_kedd_AECOM

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Data Checker

Completion Ticket

On 4/18/2021 at 1:21 AM the following files were submitted to Tetra Tech

COMPLETION_AECOM_BLANK_20210418.txt

LITHOLOGY_AECOM_BLANK_20210418.txt

LOCATION_AECOM_MLPV_BSA_20210418.txt

PROJECT_AECOM_MLPV_BSA_20210418.txt

RESULT_AECOM_MLPV_BSA_20210418.txt

SAMPLE_AECOM_MLPV_BSA_20210418.txt

WATER_AECOM_MLPV_BSA_20210418.txt

The following comment was provided with this submission:
Hello - attached are the MLPV Hot Spot 2 and Biosparge Area KEDDs from March 2021. If there are any issues please let me know. thanks!
Jennifer Chastain

If you need to identify this session at a later date you may use the Ticket Key:

inetpubTetraTechExternalClientsProtectedDataRepository2021418_575786714_kedd_AECOM

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Completion Ticket

On 12/8/2021 at 3:59 PM the following files were submitted to Tetra Tech

COMPLETION_AECOM_MLPV_20211208.txt

LITHOLOGY_AECOM_MLPV_20211208.txt

LOCATION_AECOM_MLPV_20211208.txt

PROJECT_AECOM_MLPV_20211208.txt

RESULT_AECOM_MLPV_20211208.txt

SAMPLE_AECOM_MLPV_20211208.txt

WATER_AECOM_MLPV_20211208.txt

The following comment was provided with this submission:
Hello Tetra Tech! Attached is our MLPV GW and IDW data from April, September, and November 2021. If there are any issues please let me know. thanks! Jennifer Chastain

If you need to identify this session at a later date you may use the Ticket Key:

TetraTechExternalClientsProtectedDataRepository2021128_6384347939_kedd_AECOM

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APPENDIX K

WATER LEVEL LOGS

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Date: 3/13/21 BF + GK + DS

MLPV Water Level Log

Hot Spot 2 (Air Sparge System Area)

	Well ID	Diam.	Sl.	Time	Depth (ft btoc)	Notes	Tag Bottom
1	MLPV-IW0011I	2	35-40	0914	2.85		39.62
2	MLPV-IW0030	1	55-65	0845	5.41	Tall PVC stickup	70.48
3	MLPV-IW0032	0.75	30-40	0923	1.25		38.88
4	MLPV-IW0033	0.75	40-50	0921	1.21		49.30
5	MLPV-IW0034	0.75	30-40	0929	3.55		37.32
6	MLPV-IW0035	0.75	40-50	0930	3.61		49.69
7	MLPV-IW0036	0.75	40-45	0851	4.55		44.73
8	MLPV-IW0037	0.75	40-50	0916	2.88		49.70
9	MLPV-IW0038	0.75	30-40	0927	2.82		39.59
10	MLPV-IW0039	0.75	40-50	0928	2.75		49.58
11	MLPV-IW0040	0.75	30-40	0905	3.97		39.62
12	MLPV-IW0041	0.75	40-50	0903	3.97		49.11
13	MLPV-IW0042	0.75	30-40	0911	2.25		39.65
14	MLPV-IW0043	0.75	40-50	0908	2.23		49.63
15	MLPV-IW0044	0.75	40-50	0918	1.42		48.98
16	MLPV-IW0045	0.75	40-50	0924	2.85		48.98
17	MLPV-SAMW0004I	1	35-40	0854	4.32		39.44
18	MLPV-SAMW0004D	1	45-50	0856	4.28		49.21
19	MLPV-SAMW0005I	1	35-40	1000	4.59		39.41

Hot Spot 3 (OFW Area)

	Well ID	Diam.	Sl.	Time	Depth (ft btoc)	Notes	Tag Bottom
1	VABRA-MW0011	0.75	25-30	0854	3.07		27.88
2	VABRA-MW0012	0.75	15-25	0850	3.10		~~27.88~~ 24.28
3	VABRA-MW0013	0.75	20-25	0843	3.63		~~24.28~~ 23.46
4	VABRA-MW0014	0.75	25-30	0847	3.21		~~23.46~~ 28.95

Biosparge Area

	Well ID	Diam.	Sl.	Time	Depth (ft btoc)	Notes	Tag Bottom
1	MLPV-IW0057	0.75	40-50	1117	5.03		49.46
2	MLPV-IW0058	0.75	45-50	1114	5.01		49.28
3	MLPV-IW0059	0.75	45-50	1121	5.58		49.40
4	MLPV-IW0060	0.75	40-50	1139	1.52		49.54
5	MLPV-ASMW0001	1	35-40	1146	5.50		37.26
6	MLPV-ASMW0002	1	35-40	1141	5.49		34.45
7	MLPV-ASMW0003	1	35-40	1135	6.02		38.98
8	MLPV-ASMW0004	1	35-40	1144	1.65		39.12
9	MLPV-ASMW0005	1	35-40	1142	2.18		39.10
10	MLPV-ASMW0006	1	35-40	1137	1.42		38.97
11	MLPV-IW0031	1	25-35	1054	3.20		34.31
12	MLPV-IW0061	0.75	35-40	1113	5.35		39.58
13	MLPV-IW0062	0.75	40-45	1115	5.41		44.59
14	MLPV-IW0063	0.75	35-40	1055	3.32		39.53
15	MLPV-IW0064	0.75	40-45	1056	3.30		44.56

VAB Area

	Well ID	Diam.	Sl.	Time	Depth (ft btoc)	Notes	Tag Bottom
1	MLPV-IW0001S	2	2-12	1147	4.18	There was no well cap on well, full of dirt	6.25
2	MLPV-IW0001D	2	50-55	1152	4.03		51.62
3	MLPV-IW0002I	2	28-33	-	-	Unable to locate	-
4	MLPV-IW0006IR	2	28-33	1157	2.43		32.88
5	MLPV-IW0009D	1	45-50	1020	4.95		49.78
6	MLPV-IW0009I	2	28-33	1018	5.00		33.20
7	MLPV-IW0011I	2	35-40	-	-	repeated from first page	-
8	MLPV-IW0012D	2	45-50	1008	4.22		50.20
9	MLPV-IW0012I	2	35-40	1007	4.30		39.71
10	MLPV-IW0014I	2	35-40	0941	3.96		36.71
11	MLPV-IW0017I	2	35-40	~~1128~~ 1517	~~7.42~~ 4.79		~~55.~~ 40.09 ← 40.09
12	MLPV-IW0018D *	2	50-55	~~1123~~ 1128	~~6.63~~ 7.42	Requires special access training Pulled PDB	55.29
13	MLPV-IW0020D *	2	45-50	~~1208~~ 1123	~~6.70~~ 6.63	Requires special access training 20 PD?	~~47.~~ 49.31
14	MLPV-IW0022D *	2	48-53	1208	6.70	Requires special access training No well cap	51.70
15	MLPV-IW0027D	2	45-50	1134	1.48		49.62
16	MLPV-IW0027I	2	28-33	1132	1.55		33.10
17	MLPV-IW0028D	2	45-50	1048	2.59	well too high for well cap to fit on	49.50
18	MLPV-IW0028I	2	28-33	1050	2.29		33.22
19	MLPV-IW0029D	2	42-47	1300	5.41		46.44
20	MLPV-IW0046	1	35-45	1052	2.25		44.22
21	MLPV-IW0047	2	35-45	1240	5.17		44.23
22	MLPV-IW0048 *	11	40-50	1242	3.32	coordinate with someone at gate Pulled PDB	49.41
23	MLPV-IW0049 *	1	38-48	1210	6.47	Requires special access training Pulled PDP	47.61
24	MLPV-IW0050 *	1	40-50	1029	5.71	Pulled PDB	49.25
25	MLPV-IW0051 *	1	45-55	1006	4.80		54.05
26	MLPV-IW0052	1	40-50	-	-	under dirt (requires shovel) Broken	-
27	MLPV-IW0053	1	35-45	1017	3.99	Needs manhole lid	44.78
28	MLPV-IW0054 *	1	40-50	1235	5.79	coordinate with someone at gate	49.40
29	MLPV-IW0055	1	40-50	1232	6.17	coordinate with someone at gate	49.22
30	MLPV-IW0056 *	1	30-40	1317	6.30	Requires special access training	39.26
31	MLPV-SAMW0001	0.75	43-48	0937	~~3.46~~ 3.70	~~Pull rod~~ (35)	~~43.63~~ 47.57
32	MLPV-SAMW0002 *	0.75	43-48	~1512	4.05	~~Unable to gauge - bent/broken well~~	46.48
33	MLPV-SAMW0003	0.75	43-48	0943	4.25		46.88
34	OPF3-IW0006S *	0.75	10-20	1250	4.45	coordinate with someone at gate New well cap needs	14.92
35	PCCA-MW0004	1	5-15	1127	7.27		13.25
36	PCCA-MW0007	1	5-15	1133	5.58		14.21
37	PCCA-MW0008	1	5-15	1117	4.52		14.00
38	PCCA-MW0009	1	5-15	1138	4.61		14.00
39	PCCA-MW0010	1	5-15	1150	4.58		13.99
40	PCCA-MW0011	1	5-15	1144	4.40		14.07
41	PCCA-MW0012	1	5-15	1153	4.63		14.13
42	PCCA-MW0013	1	5-15	1215	4.61		13.98
43	PCCA-MW0014	1	5-15	1115	4.30		14.06
44	PCCA-MW0015	1	15-25	1135	6.61		24.05
45	PCCA-MW0016	1	15-25	1122	4.74		24.17
46	PCCA-MW0017	1	15-25	1140	4.91		21.45
47	PCCA-MW0018	1	15-25	1146	4.87		14.10
48	PCCA-MW0019	1	15-25	1217	4.32		24.24
49	PCCA-MW0020	1	25-35	1124	4.71		34.42
50	PRES-IW0001SR *	1	6-16	0937	6.91		12.88
51	PRES-IW0002D *	2	42-47	0943	4.42		46.95
52	PRES-IW0006S *	2	3-13	0933	4.60		12.87
53	PRES-IW0007S *	2	1-11	0935	2.16	Located E of 65 ~20ft	10.36
54	PRES-IW0007I *	2	32-37	0907	3.79	Pulled PDB weight/Ants	37.02
55	PRES-IW0007D *	2	42-47	0908	3.82	Ants	47.08
56	PRES-IW0008I *	2	38-42	0857	5.17		43.31
57	PRES-IW0009 *	1	40-50	0958	4.14	Pulled PDB weight + ~~tools~~	49.29
58	PRES-IW0010 *	1	40-50	0843	1.31	No manhole cover/Pulled PDB	49.28

47.57 tubing was stuck in well 1.5 ft below TOC

maybe hung up on PVC connection at 15-20'

* OPF3-IW0006I ? 0.75 1252 4.51 30.17

IW0001D - 4.09 32.05

1150

* = Gauged by GK water meter 0.02 Ft deeper than BF + DS

	SATV-IW0003D	-	40 - 45	Abandoned			
	SATV-IW0004I	-	25 - 30	Abandoned			
59	SATV-IW0009I *	2	22 - 27	1050	5.44	Pulled PDB weight	26.95
60	SATV-IW0010 *	1	35 - 45	1045	5.42		44.30
61	TPF-MW0001	0.75	23 - 28	1441	6.51	"	27.49
62	VAB-IW0005D *	2	52 - 57	1019	4.51	aka MLPV-VAB-IW0005D	56.99
63	VABU-IW0004S *	2	3-13	1031	4.30	Ants	13.19
64	VABU-IW0006D *	2	42 - 47	1014	4.98	aka MLPV-VAB-IW0006D	46.76
65	VABU-IW0001I	2	20 - 30	-	-	need VAB#5 access unable to access	-
66	WCPS-IW0001SR	1	2.5-12.5	0934	3.33		11.55
67	WCPS-IW0002SR		2.5-12.5	-	-	Could not locate.	-
68	WCPS-IW0005S	2	2-12	0940	3.87		10.69
69	WCPS-IW0006S	2	3-13	0936	4.17		11.34
70	WCPS-IW0009S	2	2.5-12.5	1006	4.39	Another 2" well approx 5' west	12.00
71	WCPS-IW0010S	2	2.5-12.5	1009	4.83		12.18
72	WCPS-IW0012S	1	2-12	-	-	Covered	-
73	WCPS-IW0013S	1	2.5-12.5	1011	~~4.35~~	5.27	~~11.71~~ 12.48
74	WCPS-IW0014S	2	4-14	~~0905~~ 1018	~~5.27~~	4.35	~~12.48~~ 11.71
75	WCPS-IW0015S	2	3-13	~~1018~~ 0905	5.65		13.52
76	WCPS-IW0016	1	15-25	0930	3.91		24.71

Notes:

ft btoc = Feet below top-of-casing

* = Gauged by GK water meter 0.02 ft deeper than BF + DS

Water level meter calibration at MLPV-IW0014I

	Depth (ft btoc)
GK:	3.98
BF:	3.96
DS:	3.96

Date: 09/13/2021

MLP/VAB Water Level Log

Hot Spot 2 (Air Sparge System Area)

Well ID	Diam.	SI.	Time	Depth (feet below top of casing)	Notes
MLPV-IW0011I	2	35-40	1122	0.92	037.5 @ 1331
MLPV-IW0032	0.75	30-40	could not locate		
MLPV-IW0033	0.75	40-50	could not locate		
MLPV-IW0034	0.75	30-40	1120	1.58	9/14 035.0 @ 0957
MLPV-IW0035	0.75	40-50	Could not locate		
MLPV-IW0036	0.75	40-45	1115	2.61	9/14 042.5 @ 1125
MLPV-IW0037	0.75	40-50	1124	0.95	045.0 @ 1414
MLPV-IW0038	0.75	30-40	1129	0.88	
MLPV-IW0039	0.75	40-50	1128	0.78	
MLPV-IW0040	0.75	30-40	Could not locate		
MLPV-IW0041	0.75	40-50	1132	1.94	9/14 045.0 @ 1043
MLPV-IW0042	0.75	30-40	under water		
MLPV-IW0043	0.75	40-50	under water		
MLPV-IW0044	0.75	40-50	Could not locate		
MLPV-IW0045	0.75	40-50	could not locate		
SAMW0004I	1	35-40	1116	2.32	9/14 037.5 @ 1200
SAMW0004D	1	45-50	1118	2.30	9/14 042.5 @ 1237

Hot Spot 3 (OFW Area)

Well ID	Diam.	SI.	Time	Depth (feet below top of casing)	Notes
VABRA-MW0011	0.75	25-35	1105	2.29	
VABRA-MW0012	0.75	15-25	1107	2.29	
VABRA-MW0013	0.75	20-25	1110	1.78	
VABRA-MW0014	0.75	25-30	1112	2.41	

Biosparge Area

Well ID	Diam.	SI.	Time	Depth (feet below top of casing)	Notes
MLPV-IW0057	0.75	40-50	well is bent - can't get		water level probe down it
MLPV-IW0058	0.75	45-50	1137	3.70	
MLPV-IW0059	0.75	45-50	~~1137~~ 1139	~~3.70~~ 4.11	
MLPV-IW0060	0.75	40-50	could not locate		MW 0.16 9/15 045.0 @ 0944
MLPV-ASMW0004	1	35-40	1200	0.27	9/15 037.5 @ 1106
MLPV-ASMW0005	1	35-40	1203	0.68	9/15 037.5 @ 1025
MLPV-ASMW0006	1	35-40	1207	0.21	9/15 037.5 @ 0909
MLPV-IW0031	1	25-35	could not locate		1.26
MLPV-IW0061	0.75	35-40	1143	4.20	well pad broken
MLPV-IW0062	0.75	40-45	1144	4.30	
MLPV-IW0063	0.75	35-40	Couldn't locate - in swale		?
MLPV-IW0064	0.75	40-45	Couldn't locate - in swale		?
MLPV-IW006 IR	1	28-33	Could not locate		1.35 9/15 030.5 @ 1201
MLPV-IW0028I	1	28-33	1150	1.28	9/14 @ 030.5 @ 1322
MLPV-IW0046	1	35-45	~~Could~~ 1152	1.21	9/14 040.0 @ 1403

clamshell 222842

IDW @ 1220 pH = 7.60 ID 222841

APPENDIX L

TREND CHARTS

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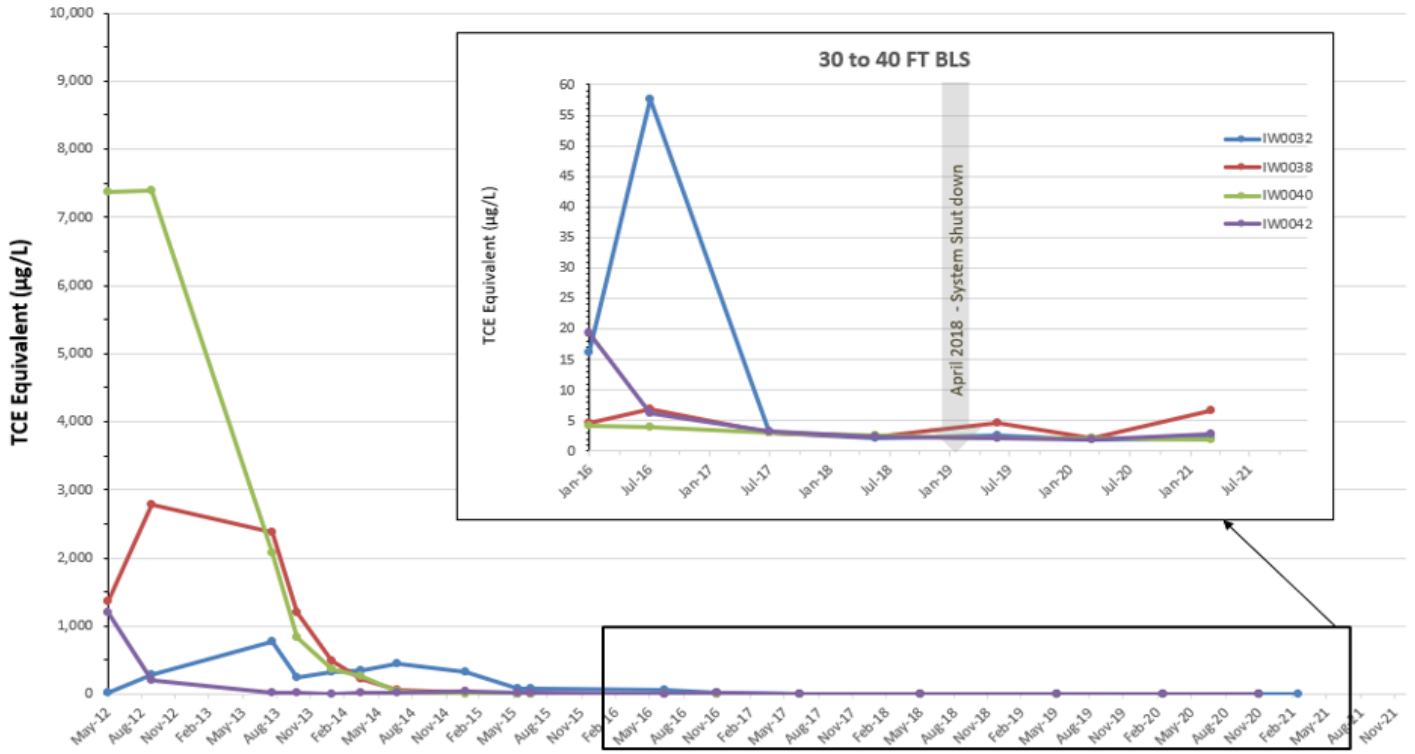
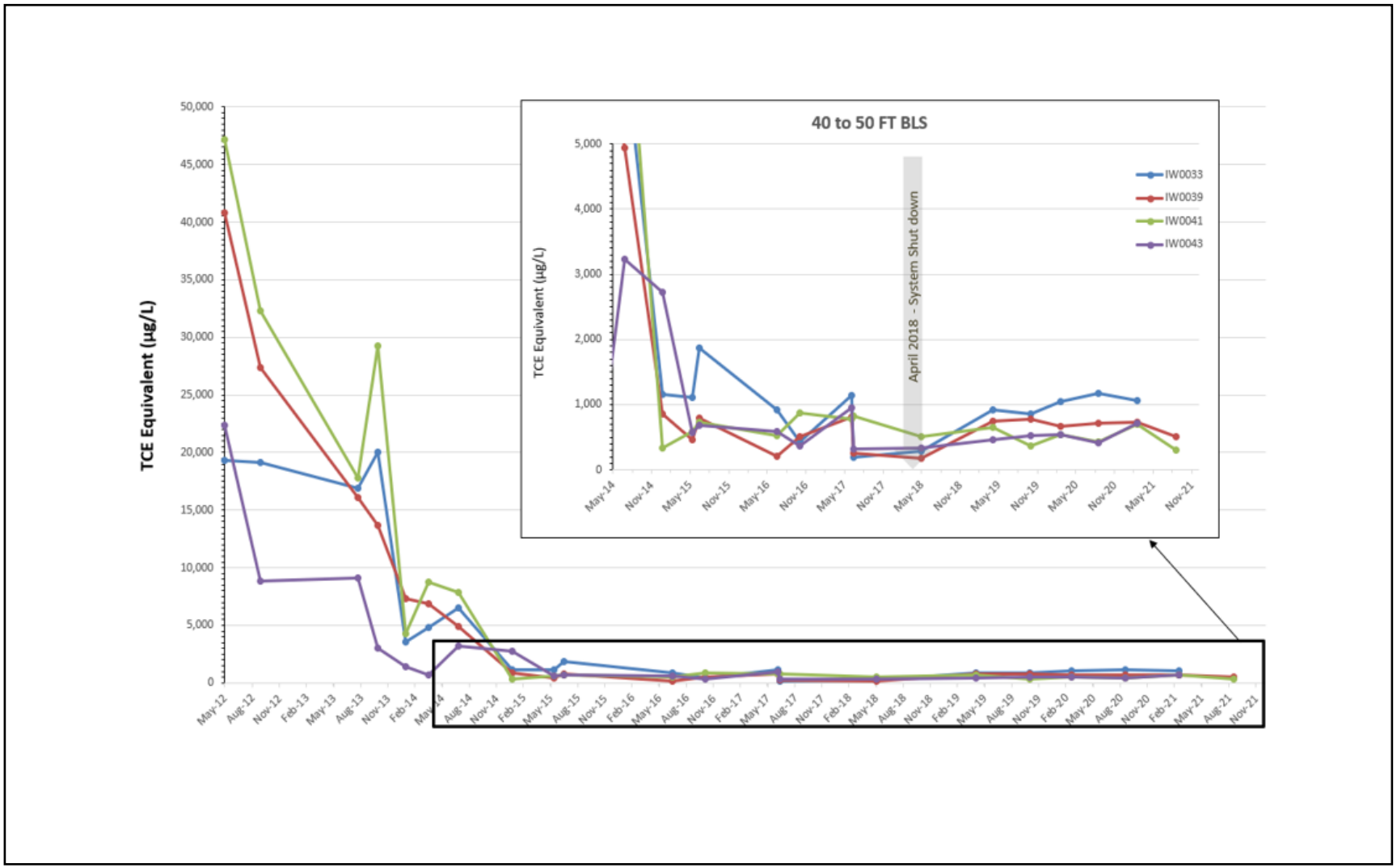
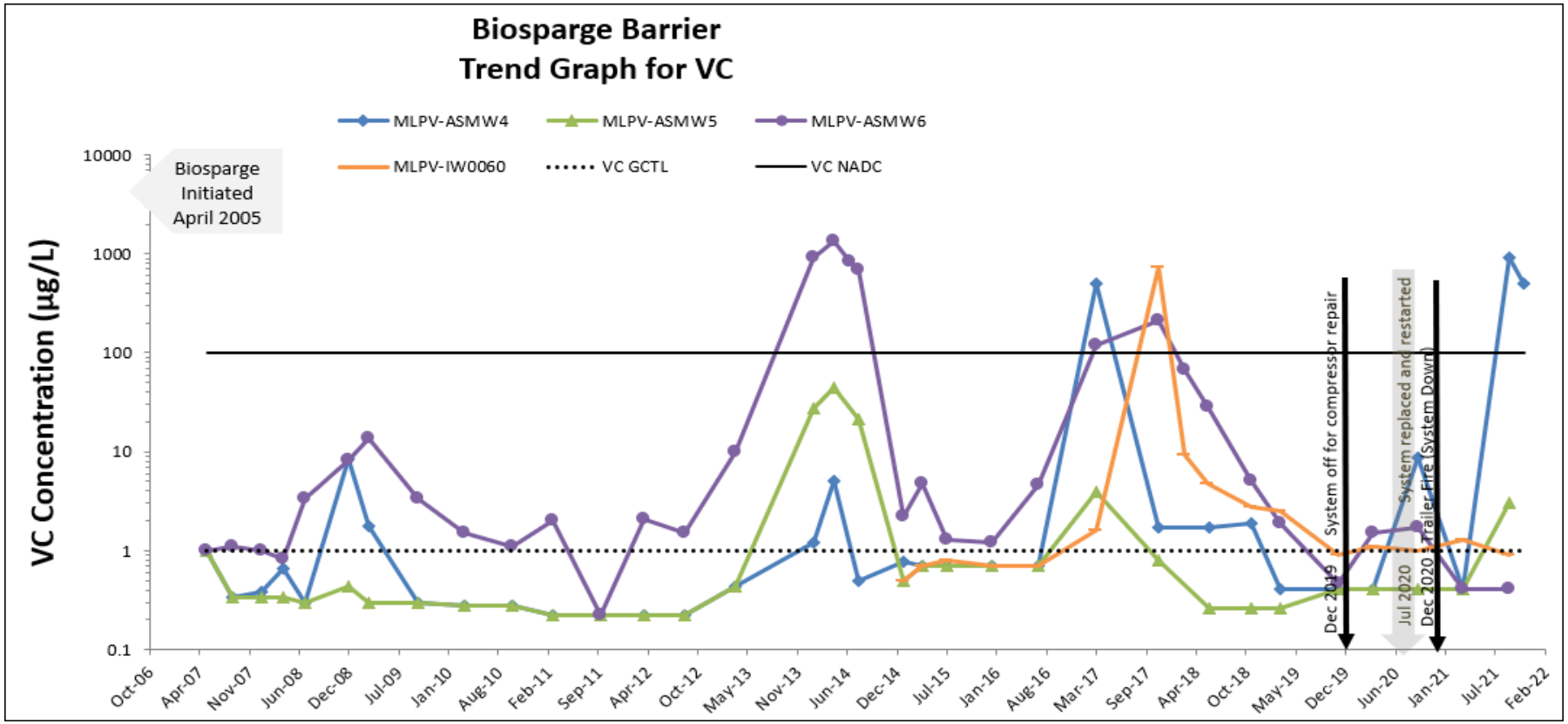
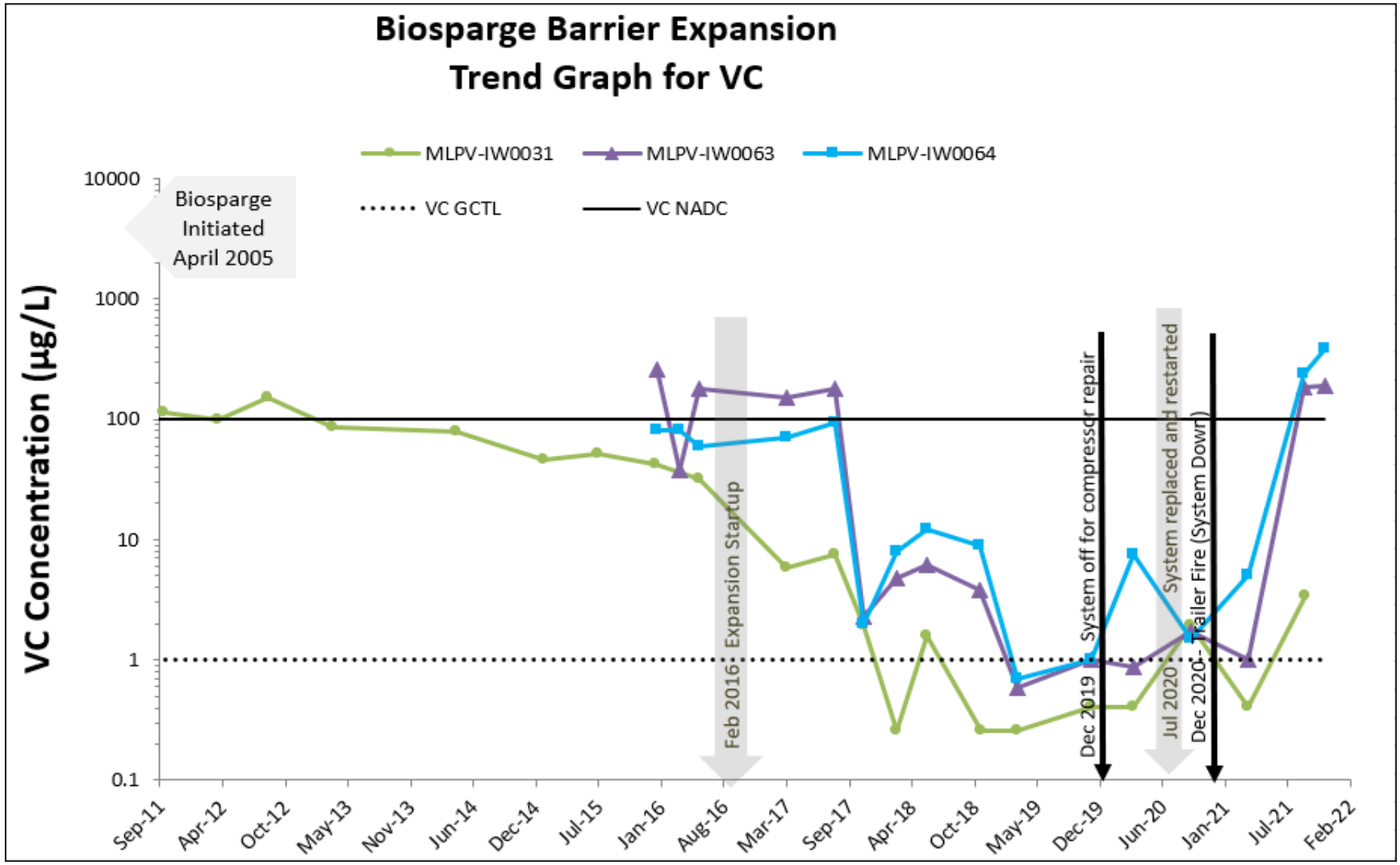
Hot Spot 2 Air Sparge Area



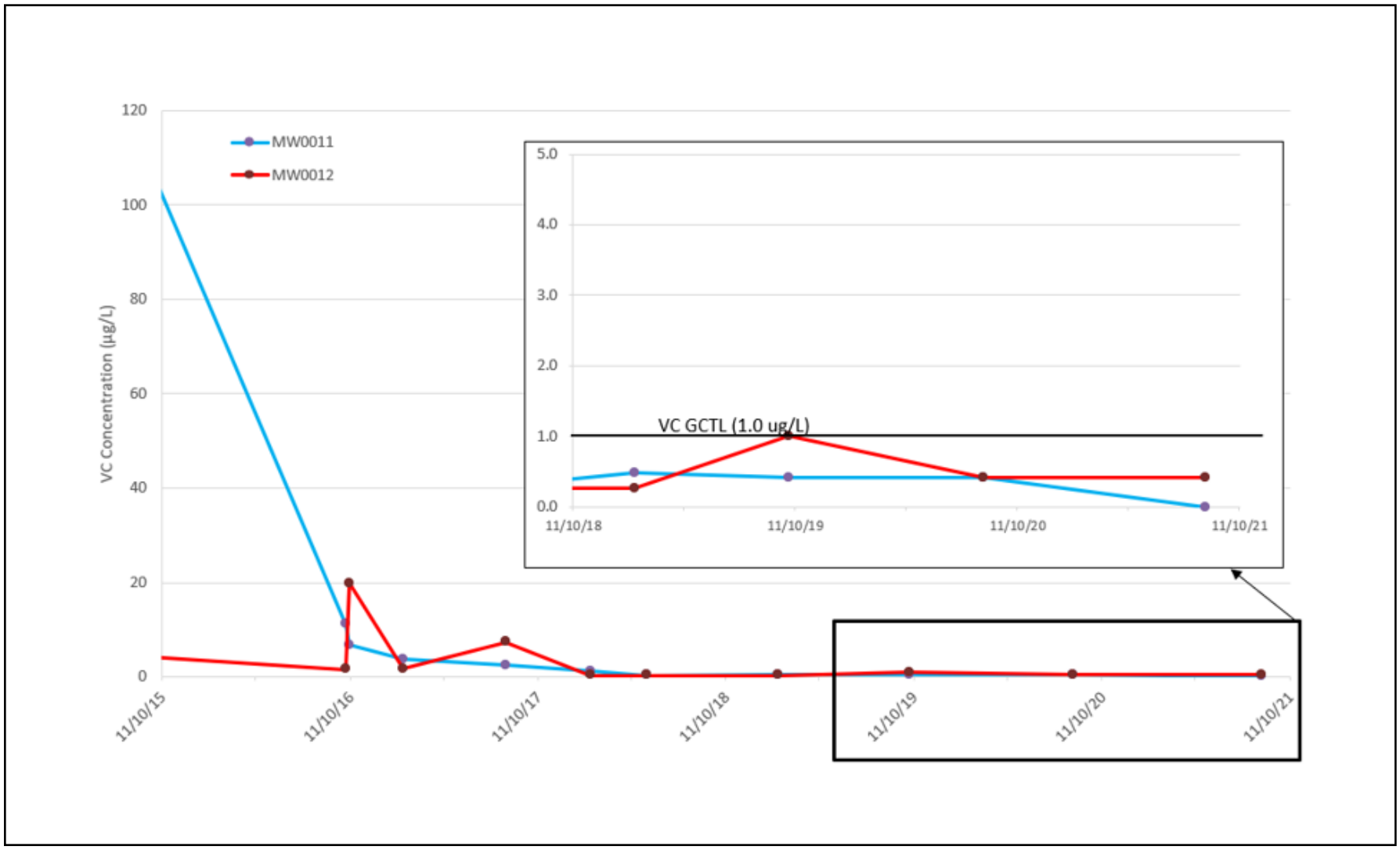
Hot Spot 2 Air Sparge Area




Biosparge Barrier
Trend Graph for VC
MLPV-ASMW4
MLPV-ASMW5
MLPV-ASMW6
MLPV-IW0060
VC GCTL
VC NADC
Biosparge Initiated April 2005
VC Concentration (µg/L)
10000
1000
100
10
1
0.1
System off for compressor repair
Dec 2019
System replaced and restarted
Jul 2020
Trailer Fire (System Down)
Dec 2020
Oct-06
Apr-07
Nov-07
Jun-08
Dec-08
Jul-09
Jan-10
Aug-10
Feb-11
Sep-11
Apr-12
Oct-12
May-13
Nov-13
Jun-14
Dec-14
Jul-15
Jan-16
Aug-16
Mar-17
Sep-17
Apr-18
Oct-18
May-19
Dec-19
Jun-20
Jan-21
Jul-21
Feb-22


Biosparge Barrier Expansion
Trend Graph for VC
MLPV-IW0031
MLPV-IW0063
MLPV-IW0064
VC GCTL
VC NADC
Biosparge Initiated April 2005
VC Concentration (µg/L)
10000
1000
100
10
1
0.1
Feb 2016: Expansion Startup
Dec 2019: System off for compressor repair
Jul 2020: System replaced and restarted
Dec 2020: Trailer Fire (System Down)
Sep-11
Apr-12
Oct-12
May-13
Nov-13
Jun-14
Dec-14
Jul-15
Jan-16
Aug-16
Mar-17
Sep-17
Apr-18
Oct-18
May-19
Dec-19
Jun-20
Jan-21
Jul-21
Feb-22

Hot Spot 3 OFW



Hot Spot 3 OFW