POST-TEMPORARY SOLUTION STATUS REPORT NO. 6
FORMER GENERAL ELECTRIC FACILITY
50 FORDHAM ROAD, WILMINGTON, MA
RTN 3-0518

Prepared for:
Lockheed Martin Corporation

Prepared by:
AECOM Technical Services, Inc.

May 2020

Approved by:
Lockheed Martin, Inc.

Revision: 0

Scott G. Olson, PG

Daniel W. Folan, PhD, PG, LSP

TABLE OF CONTENTS

Section **Page**

Table Of Contents ..... **i**

List of FIGURES ..... **iii**

List of TABLES ..... **iv**

Appendices ..... **iv**

Acronyms and Abbreviations ..... **v**

Section 1 Introduction **1-1**

1.1 Background 1-1

1.2 Objective 1-3

1.3 List of Contacts 1-3

1.4 Report Organization 1-4

Section 2 Monitoring and Field Activities **2-1**

2.1 Groundwater Sampling 2-1

2.1.1 Groundwater-Sampling Event – September 2019 2-1

2.1.2 Site-Wide Water Level Measurements – October 2, 2019 2-2

2.2 Light Non-Aqueous Phase Liquid Monitoring and Product Recovery 2-3

2.2.1 December 2019 Gauging Event 2-3

2.2.2 February 2020 Gauging Event 2-3

2.3 Investigation-Derived Waste Management 2-3

2.4 Indoor Air Sampling 2-4

2.5 Activity And Use Limitation 2-4

Section 3 Groundwater Flow Evaluation **3-1**

Section 4 Light Non-Aqueous Phase Liquid Monitoring and Product Recovery . **4-1**

4.1 Light Non-Aqueous Phase Liquid Free Product Recovery 4-1

4.2 Light Non-Aqueous Phase Liquid Monitored Natural Attenuation Performance 4-1

4.2.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for Light Non-Aqueous Phase Liquid 4-1

4.2.2 Change in Conditions Affecting Light Non-Aqueous Phase Liquid Monitored Natural Attenuation 4-2

4.2.3 Verification That the Light Non-Aqueous Phase Liquid Plume is Not Expanding 4-2
4.2.4 Verification of the Absence of Non-Stable Light Non-Aqueous Phase Liquid 4-3
4.2.5 Verification of Attainment of Remedial Objectives for Light Non-Aqueous Phase Liquid 4-3
Section 5 Evaluation of Groundwater Quality Concentration Trends 5-1
5.1 Quality Assurance and Quality Control 5-1
5.2 Analytical Results – Arsenic 5-2
5.3 Analytical Results – 1,4-Dioxane 5-2
5.4 Analytical Results – Petroleum Hydrocarbons 5-3
5.5 Analytical Results – Volatile Organic Compounds 5-7
5.6 Monitored Natural Attenuation 5-10
5.6.1 Arsenic Monitored Natural Attenuation Performance 5-10
5.6.2 1,4-Dioxane Monitored Natural Attenuation Performance 5-11
5.6.3 Petroleum Hydrocarbons Monitored Natural Attenuation Performance 5-12
5.6.4 Chlorinated Volatile Organic Compounds Monitored Natural Attenuation Performance 5-14
Section 6 Demonstration of Effective Institutional Controls 6-1
Section 7 Conditions or Problems Affecting the Remedial Action 7-1
Section 8 Modifications to The Monitoring Program 8-1
Section 9 Future Monitoring 9-1
Section 10 Licensed Site Professional Opinion and Conclusions 10-1
Section 11 Public Notification 11-1
Section 12 References 12-1

TABLE OF CONTENTS (CONTINUED)

LIST OF FIGURES

Figure 1-1 Site Location Map
Figure 1-2 Site Plan
Figure 1-3 Monitoring Well Locations
Figure 3-1 Groundwater Contour Map 0-60 Feet, October 2, 2019
Figure 3-2 Groundwater Contour Map 61-120 Feet, October 2, 2019
Figure 3-3 Groundwater Contour Map 121-250 Feet, October 2, 2019
Figure 4-1 Tank Farm-EPL Extent of LNAPL Impacts
Figure 4-2 CW-1 – Depth to Water versus LNAPL Thickness
Figure 4-3 CW-2 – Depth to Water versus LNAPL Thickness
Figure 4-4 PZ-2S – Depth to Water versus LNAPL Thickness
Figure 4-5 TRC-101 – Depth to Water versus LNAPL Thickness
Figure 5-1 Dissolved Arsenic in Groundwater – Overburden (0-78 ft bgs)
Figure 5-2 Dissolved Arsenic in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-3 Dissolved Arsenic in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-4 Dissolved Arsenic in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-5 1,4-Dioxane (SW8270D-SIM) in Groundwater – Overburden (0-78 ft bgs)
Figure 5-6 1,4-Dioxane (SW8270D-SIM) in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-7 1,4-Dioxane (SW8270D-SIM) in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-8 1,4-Dioxane (SW8270D-SIM) in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-9 Total Petroleum in Groundwater – Overburden (0-78 ft bgs)
Figure 5-10 Total Petroleum in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-11 Total Petroleum in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-12 Total Petroleum in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-13 PCE in Groundwater – Overburden (0-78 ft bgs)
Figure 5-14 PCE in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-15 PCE in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-16 PCE in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-17 TCE in Groundwater – Overburden (0-78 ft bgs)
Figure 5-18 TCE in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-19 TCE in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-20 TCE in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-21 Total CVOCs in Groundwater – Overburden (0-78 ft bgs)
Figure 5-22 Total CVOCs in Groundwater – Upper Bedrock (0-60 ft bgs)
Figure 5-23 Total CVOCs in Groundwater – Middle Bedrock (61-120 ft bgs)
Figure 5-24 Total CVOCs in Groundwater – Lower Bedrock (121-232 ft bgs)
Figure 5-25 2019 Geochemical Parameter Radar Plots
Figure 5-26 2019 PCE and Daughters Radar Plots
Figure 5-27 CVOC Plume Mass and Center of Mass Over Time

TABLE OF CONTENTS (CONTINUED)

LIST OF TABLES

Table 2-1 Summary of September 2019 Groundwater Field Parameter Data
Table 2-2 Summary of September 2019 Groundwater Sampling
Table 2-3 Summary of October 2019 Groundwater Elevations
Table 2-4 Historical Summary of LNAPL Observations and Removal
Table 5-1 Summary of 2016 – 2019 Groundwater Analytical Results for Arsenic
Table 5-2 Summary of Mann Kendall Results for Arsenic in Groundwater
Table 5-3 Summary of 2016 – 2019 Groundwater Analytical Results for 1,4-Dioxane
Table 5-4 Summary of 2016 – 2019 Groundwater Analytical Results for Petroleum Compounds
Table 5-5 Summary of Mann Kendall Results for Petroleum Compounds in Groundwater
Table 5-6 Summary of 2016 – 2019 Groundwater Analytical Results for Volatile Organic Compounds
Table 5-7 Summary of Mann Kendall Results for Chlorinated Volatile Organic Compounds in Groundwater
Table 5-8 Summary of 2016 – 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Table 9-1 Post-Temporary Solution Operations, Maintenance, and Monitoring Schedule
Table 9-2 Post-Temporary Solution Operations, Maintenance, and Monitoring Groundwater Monitoring Plan

APPENDICES

Appendix A—Groundwater Sampling Field Records
Appendix B—LNAPL Monitoring Record Field Records
Appendix C—Waste Manifests
Appendix D—Activity and Use Limitation
Appendix E—Laboratory Analytical and Data Validation Reports – Groundwater
Appendix F—Groundwater Concentration Trend Graphs
Appendix G—Public Notification Documentation

ACRONYMS AND ABBREVIATIONS

AUL	Activity and Use Limitation
AECOM	AECOM Technical Services, Inc.
bgs	below ground surface
BWSC	Bureau of Waste Site Cleanup
BTEX	benzene, toluene, ethylbenzene, xylenes
CMR	Code of Massachusetts Regulations
COC	chemical(s) of concern
CVOC	chlorinated volatile organic compound
1,1-DCA	1,1-dichloroethane
1,1-DCE	1,1-dichloroethene
cis-1,2-DCE	cis-1,2-dichloroethene
1,4-D	1,4-dioxane
DNAPL	dense non aqueous phase liquid
EPH	extractable petroleum hydrocarbons
EPL	Eastern Parking Lot
FID	flame ionization detector
ft	foot/feet
GE	General Electric Company
GC	gas chromatography
IDW	investigation derived waste
kg	kilograms
LNAPL	light non aqueous phase liquid
MassDEP	Massachusetts Department of Environmental Protection
MCP	Massachusetts Contingency Plan
µg/L	micrograms per liter
MNA	monitored natural attenuation
MS	mass spectrometry

MTBE	methyl tertiary butyl ether
OMM	operation, maintenance, and/or monitoring
PAH	polynuclear aromatic hydrocarbon
PID	photoionization detector
PIP	Public Involvement Plan
PCE	tetrachloroethene
RTN	release tracking number
TCE	trichloroethene
trans-1,2-DCE	trans-1,2-dichloroethene
UCL	upper concentration limit
USEPA	United States Environmental Protection Agency
VC	vinyl chloride
VOC	volatile organic compound
VPH	volatile petroleum hydrocarbon
WRT	Wilmington Realty Trust
YRC	YRC Freight

SECTION 1
INTRODUCTION

AECOM Technical Services, Inc. has prepared this sixth Post-Temporary Solution Status Report on behalf of Lockheed Martin Corporation in fulfillment of the requirements of Post-Temporary Solution Operation, Maintenance, and/or Monitoring under the Massachusetts Contingency Plan, 310 Code of Massachusetts Regulations 40.0897. This report also has been prepared in accordance with the Temporary Solution Statement submitted in May 2017 for Release Tracking Number 3-0518 (AECOM Technical Services, Inc., 2017a), which pertains to the former General Electric Company Facility at 50 Fordham Road, Wilmington, Massachusetts (site). The site location is depicted on Figure 1-1.

This report is being submitted electronically via eDEP, the electronic filing site for the Massachusetts Department of Environmental Protection, along with the Comprehensive Response Action Transmittal Form and Phase 1 Completion Statement (Bureau of Waste Site Cleanup form BWSC-108) and the Remedial Monitoring Report Form, which provide additional responsible party and Licensed Site Professional certifications.

1.1 BACKGROUND

Contamination of the Stickney Well, a currently inactive public supply well for the Town of North Reading, was discovered in the late 1970s. Subsequent investigations of multiple surrounding properties, including the General Electric property, began in the early 1980s. On October 9, 1987, prior to the adoption of the Massachusetts Contingency Plan in 1988, the Massachusetts Department of Environment classified the former General Electric facility as a Priority Disposal Site. Under the Massachusetts Contingency Plan (Massachusetts Department of Environmental Protection, 2014), the site is a Tier 1 Classified site, under Release Tracking Number 3-0518, with four original operable units, as listed below and further defined in previous reports submitted to the Massachusetts Department of Environment.

- Operable Unit-1—Former Tank Farm source area (includes Pump House/Vault and Oil House) and adjacent Eastern Parking Lot

- Operable Unit-2—Former Tank Farm source area and downgradient groundwater plume both on- and off-property
- Operable Unit-3—Storm water/Wastewater Outfalls 001 and 002
- Operable Unit-4—Former Tank K Source Area and immediately downgradient groundwater plume

Areas relating to sediment at storm water/wastewater Outfalls 001 and 002 within Operable Unit-3 have been resolved and closed via a partial Response Action Outcome (Class A-2) submitted in December 2004 (TRC Companies, Inc., 2004). The former Tank K area that comprised Operable Unit-4 has been resolved and closed via a partial Response Action Outcome (Class A-2) dated November 9, 2010 (TRC Companies, Inc., 2010). The remaining two areas, Operable Unit-1 (petroleum contamination in former Tank Farm and Eastern Parking Lot areas) and Operable Unit-2 (chlorinated volatile organic compounds in former Tank Farm and downgradient groundwater plume), make up Release Tracking Number 3-0518. Figure 1-2 depicts an overview of the disposal site, including relevant site features, and Figure 1-3 depicts all monitoring wells located within the site boundary and in the general vicinity of the site.

A Tier 1A Permit was in place from 1999 until a Remedy Operation Status Opinion was filed on April 20, 2006 (TRC Companies, Inc., 2006). Lockheed Martin Corporation and AECOM Technical Services, Inc., determined on February 28, 2013 that the requirements to maintain Remedy Operation Status were no longer being met, and therefore submitted the required Remedy Operation Status Termination Notice and a Tier 1 Permit Extension Application on March 27, 2013, returning the site to Phase II/Phase III status of the Massachusetts Contingency Plan (AECOM Technical Services, Inc., 2013). On October 10, 2014, Lockheed Martin Corporation submitted a Tier Classification Extension (AECOM Technical Services, Inc., 2014) that was approved by the Massachusetts Department of Environmental Protection, extending the Tier Classification deadline to May 3, 2017. On May 2, 2017, Lockheed Martin Corporation electronically submitted to the Massachusetts Department of Environmental Protection the required reports including a Phase II Comprehensive Site Assessment with a Method 3 Risk Characterization (AECOM Technical Services, Inc., 2017b), a Phase III Remedial Action Plan (AECOM Technical Services, Inc., 2017c), and a Temporary Solution Statement (AECOM Technical Services, Inc., 2017a). The Massachusetts Department of Environmental Protection acknowledged receipt of the reports on May 2, 2017 via electronic stamp on the transmittal form. Currently, the site is in Temporary Solution status and,

therefore, Post-Temporary Solution Status and Remedial Monitoring Reports are required to be submitted to the Massachusetts Department of Environmental Protection every six months, by May 2 and November 2 of each year, with evaluations of the Temporary Solution conducted every five years.

Additional details related to Release Tracking Number 3-0518 (comprehensive release history, site assessment, and remedial activities completed) can be found in reports previously submitted to the Massachusetts Department of Environmental Protection, specifically the Phase II Comprehensive Site Assessment (AECOM Technical Services, 2017b), Phase III Remedial Action Plan (AECOM Technical Services, Inc., 2017c), and Temporary Solution Statement (AECOM Technical Services, Inc., 2017a).

1.2 OBJECTIVE

The objective of this Post-Temporary Solution Status Report Number 6 is to document the monitoring activities conducted at the site during the six-month reporting period of November 2, 2019 through May 1, 2020, in accordance with the Operations, Monitoring, and/or Monitoring Plan detailed in the Temporary Solution Statement submitted to the Massachusetts Department of Environmental Protection in May 2017.

1.3 LIST OF CONTACTS

This section identifies the potentially responsible party, the Licensed Site Professional-of-record, and the owner of the site.

Potentially Responsible Party:

Lockheed Martin Corporation
6801 Rockledge Drive
MP CCT246
Bethesda, MD 20817
Contact: Mr. Paul E. Calligan
Phone: (240) 687-1813

LSP-of-Record:

Dr. Daniel Folan (License No. 1736)
AECOM Technical Services, Inc.
250 Apollo Drive
Chelmsford, MA 01824
Phone: (978) 905-2205

Current Property Owner:

Wilmington Realty Trust
424 Broadway
Somerville, MA 02145
Contact: Mr. Gary Stanieich
Phone: (603) 860-5508

1.4 REPORT ORGANIZATION

This Post-Temporary Solution Status Report is organized as follows:

- **Section 2**—provides a description of the type and frequency of monitoring/field activities conducted during this reporting period, plus a statement of compliance with the conditions of the activity and use limitation in place at the site.

- **Section 3**— presents a description of the comprehensive monitoring well gauging program as well as the resulting measurements and updated groundwater contours based on these measurements.

- **Section 4**—presents a description and the results of the light non-aqueous phase liquid monitoring and subsequent product recovery, a discussion of the performance of the monitored natural attenuation relating to the light non-aqueous phase liquid, and a discussion of the remedial objectives related to the light non-aqueous phase liquid and the progress toward meeting these objectives.

- **Section 5**—presents the groundwater laboratory analytical results and data validation and includes an evaluation of the field and analytical data presented. An evaluation of the performance of the remedial monitoring program is also presented.

- **Section 6**— provides a description of the effective institutional controls in place at the site.

- **Section 7**—provides a description of conditions identified during the monitoring period, which may be affecting the performance of the remedial action.

- **Section 8**— provides a description of modifications made to the monitoring program.

- **Section 9**— provides a description of the schedule for future monitoring activities.

- **Section 10**—provides the conclusions and Licensed Site Professional Opinion regarding this report.

- **Section 11**—provides a discussion of the public notification requirements for the site and copies of any required notifications.

- **Section 12**—provides a list of references.

SECTION 2
MONITORING AND FIELD ACTIVITIES

The Post-Temporary Solution Operations, Maintenance, and/or Monitoring (OMM) Program continued during this reporting period in accordance with the monitoring plan presented in the Temporary Solution Statement submitted to the Massachusetts Department of Environmental Protection (MassDEP) on May 2, 2017, and the updated post-Temporary Solution OMM annual groundwater monitoring plan submitted to MassDEP on September 6, 2018. The activities completed as part of the OMM Program during this reporting period (November 2, 2019 through May 1, 2020) are discussed below.

2.1 GROUNDWATER SAMPLING

The annual groundwater-sampling event and subsequent groundwater-gauging event conducted in September and October 2019 are summarized below.

2.1.1 Groundwater-Sampling Event – September 2019

From September 9 to 30, 2019, AECOM Technical Services, Inc. (AECOM) collected groundwater samples from a comprehensive list of the site-wide monitoring wells in accordance with the Post-Temporary Solution OMM Plan. Table 2-2 details the September 2019 updated annual groundwater monitoring plan. This scope was executed without deviation. Figure 1-3 shows all monitoring well locations sampled in September 2019.

All conventional monitoring wells along with shallow Water FLUTes^{TM} (AE-26R, AE-28R, and AE-29R) and continuous multi-channel tubing (AE-101R and TRC-301R) intervals were purged and sampled with either a peristaltic pump or a bladder pump using low-flow techniques. All standard Water FLUTe^{TM} intervals were purged and sampled using compressed gas. Purging and sampling was conducted in accordance with United States Environmental Protection Agency (USEPA) Region 1 *Low Stress (low flow) Purging and Sampling Procedure for the Collection of Groundwater Samples from Monitoring Wells* (USEPA, January 2010, revised September 2017).

Groundwater quality parameters (temperature, pH, specific conductance, dissolved oxygen, and oxidation-reduction potential) were measured during purging at all wells using a YSI Model 556, 600XL, or ProPlus water quality meter with flow through cell and a separate Geotech turbidity meter. These September 2019 groundwater quality parameter data are summarized in Table 2-1. Field records (water level forms, calibration logs, groundwater-sampling forms, and field logbook notes) from the sampling efforts are provided in Appendix A.

All samples were collected into laboratory-supplied glassware and either picked up by the lab courier or shipped to each laboratory in accordance with standard chain-of-custody procedures. All samples were analyzed for volatile organic compounds with select samples analyzed by area for additional site chemical(s) of concern (COC), including 1,4-dioxane, total and dissolved arsenic, and extractable and volatile petroleum hydrocarbons. A focused group of samples was analyzed to evaluate monitored natural attenuation processes that may be affecting the COC at the site. These select samples were analyzed for some or all the following: chloride, the terminal electron acceptor processes (e.g., dissolved iron, manganese, nitrate, nitrite, sulfate, sulfide), total organic carbon, and dissolved gases including hydrogen, ethane, ethene, methane, propane, and acetylene. Groundwater analyses are detailed in Table 2-2. The analytical results are discussed in Section 5 of this report.

2.1.2 Site-Wide Water Level Measurements – October 2, 2019

On October 2, 2019, following completion of groundwater sampling, AECOM collected site-wide water level measurements. Depth to water was measured in all monitoring wells both on-site and off-site. AECOM obtained measurements of surface water at well locations where standing water was present. In addition, AECOM obtained surface water elevations from SG-1 in the wetlands north of the Eastern Parking Lot (EPL), SG-2 adjacent to the Ipswich River on the Wilmington Masonry property, and the pond on Concord Street east of the site and northeast of the STM-3 wells. For this gauging event, YRC Freight (YRC) performed water level measurements at a subset of wells on the YRC property at 95 Concord Street. Table 2-3 presents a summary of water levels measured along with the resulting groundwater and surface water elevations, including measurements provided by YRC. AECOM purged the standard Water FLUTes™ on October 1, 2019 to equilibrate the water levels prior to the site-wide measurements on October 2, 2019. AECOM measured the water levels within the Shallow Water FLUTes™ using the procedure provided by FLUTe™. The field records from the site-wide water level measurement event are

included in Appendix A. An evaluation of the measurements collected is included in Section 3 of this report

2.2 LIGHT NON-AQUEOUS PHASE LIQUID MONITORING AND PRODUCT RECOVERY

In accordance with the OMM Program, AECOM conducted quarterly light non-aqueous phase liquid (LNAPL) monitoring and product recovery from select monitoring wells in December 2019 and February 2020. These gauging events are summarized below. An evaluation of the LNAPL monitoring results is presented in Section 4.

2.2.1 December 2019 Gauging Event

On December 4, 2019, AECOM gauged seven overburden monitoring wells for depth to water and the presence of LNAPL: AE-3, AE-4, CW-1, CW-2, GZA-102S, PZ-2S, and TRC-101. At the time of the gauging, none of the wells contained an absorbent sock. LNAPL was not detected in any of the monitoring wells gauged. Based on the lack of measurable LNAPL, AECOM did not install absorbent socks in any of the wells. Monitoring wells gauged during this event are depicted on Figure 1-3, and Table 2-4 includes a summary of LNAPL gauging and removal data. A copy of the field record completed during the LNAPL-gauging event is included in Appendix B.

2.2.2 February 2020 Gauging Event

On February 11, 2020, AECOM gauged seven overburden monitoring wells for depth to water and the presence of LNAPL: AE-3, AE-4, CW-1, CW-2, GZA-102S, PZ-2S, and TRC-101. At the time of the gauging, none of the wells contained an absorbent sock. LNAPL was not detected in any of the monitoring wells gauged. Based on the lack of measurable LNAPL, AECOM did not install absorbent socks in any of the wells. Monitoring wells gauged during this event are depicted on Figure 1-3. Table 2-4 includes a summary of LNAPL gauging and removal data. A copy of the field record completed during the LNAPL-gauging event is included in Appendix B.

2.3 INVESTIGATION-DERIVED WASTE MANAGEMENT

During the groundwater-sampling event completed in September 2019, six 55-gallon drums of purge water and decontamination rinse water were generated. This investigation-derived waste (IDW) was properly containerized and temporarily stored at a central staging area on-site, pending

characterization and off-site disposal in accordance with Lockheed Martin Corporation procedures. Similar to past years, this IDW was characterized as hazardous based on the elevated trichloroethene and tetrachloroethene concentrations. The drums were removed on November 4, 2019 under a uniform hazardous waste manifest by Clean Harbors Environmental Services for disposal at their facility in El Dorado, Arkansas. A copy of the final uniform hazardous waste manifest documenting receipt at the disposal facility on November 24, 2019 is included in Appendix C.

2.4 INDOOR AIR SAMPLING

In accordance with the OMM Program, annual indoor air sampling was conducted during the heating season. The 2020 annual indoor air-sampling event was completed on February 11, 2020. Details of the indoor air event conducted in February within Building 1 and a summary of the analytical results will be included in the next Post-Temporary Solution Status Report, scheduled to be submitted to the MassDEP in November 2020. In the future, indoor air sampling may be performed whereby the results could be included in the May Post-Temporary Solution Status Report. This will depend on activities in and access to Building 1.

2.5 ACTIVITY AND USE LIMITATION

On July 13, 2015, Wilmington Realty Trust placed a voluntary activity and use limitation (AUL) on the southwestern portion of the site, encompassing Buildings 1, 1A, and 2, and the EPL. A copy of the AUL is included in Appendix D. The AUL prevents uses of the site which would be inconsistent with maintaining a condition of No Substantial Hazard under the Massachusetts Contingency Plan. The prohibited uses include residential, school, playground, park, or daycare use, as well as activities that would result in exposure to or the disturbance of potentially contaminated soils, bedrock, groundwater, and indoor air, unless appropriate precautions to prevent human exposure are taken as described in the AUL.

The AUL does not restrict the use of groundwater for drinking water purposes. However, the Stickney Well and the Reading municipal wells south of the Ipswich River remain inactive, and no drinking water wells exist within one half mile of the site. AECOM checked the Massachusetts online drinking water well data portal (https://eeaonline.eea.state.ma.us/portal#!/search/drinking-water) to confirm that no new drinking water wells have been installed within 0.5 mile of the site in the towns of Wilmington, Reading, or North Reading between January 1, 2016 and January 20, 2020 .

Based on site inspections and monitoring activities conducted during this monitoring period, the conditions of the AUL are being met.

SECTION 3
GROUNDWATER FLOW EVALUATION

AECOM Technical Services, Inc. (AECOM) conducted a site-wide round of water level measurements on October 2, 2019, at the end of the groundwater-sampling event. Table 2-3 presents a summary of all water levels measured along with the resulting groundwater and surface water elevations.

Groundwater contours were developed for three depth intervals, 0 to 60 feet (ft) below ground surface (bgs), 61 to 121 ft bgs, and 122 to 250 ft bgs. These intervals were used for evaluation in prior reports submitted to the Massachusetts Department of Environmental Protection and will be used going forward to evaluate site groundwater flow for consistency. Although the 0 to 60 ft bgs interval includes both overburden and shallow bedrock groundwater elevations, this is consistent with the conceptual site model of shallow bedrock groundwater in the Eastern Parking Lot (EPL) discharging to the deep overburden beneath the wetlands. The deep interval contour consists of only bedrock groundwater elevations; the middle interval is predominantly bedrock groundwater elevations (except for well AE-105D, which is screened in deep overburden from 73 to 75 ft bgs). AECOM assigned the YRC Freight (YRC) overburden and bedrock wells to the same three depth intervals based on well screen depth and elevations. Groundwater piezometric contours for the three depth intervals generated from the groundwater elevations summarized in Table 2-3 are depicted on Figures 3-1, 3-2, and 3-3.

The groundwater contours are consistent with previous depictions that show shallow (0 to 60 ft bgs) groundwater generally flowing to the east-northeast on the subject property, then trending more eastward beneath the wetlands, and finally southeast at Concord Street towards the Ipswich River. The intermediate (61 to 121 ft bgs) and deep (122 to 250 ft bgs) intervals show groundwater flowing generally to the east-northeast from the EPL and to the east-southeast beneath the wetlands.

The groundwater contours include elevations from 17 wells (3 measured by AECOM plus 14 measured by YRC) on the YRC property on October 2, 2019. Therefore, the contours are based on

a smaller data set from the YRC property compared to the groundwater contours from 2018 when YRC had conducted a full site-wide round of measurements.

Because the YRC property is located on a bedrock knob that is higher in elevation than surrounding areas, natural radial groundwater flow is expected. The groundwater contours derived from the October 2, 2019 measurements are similar to previous years and indicate radial flow from the YRC property. As shown in Figures 3-1, 3-2, and 3-3, this radial flow from YRC causes diversion of flow from the eastern portion of the Wilmington Realty Trust property around the YRC property to the northeast and the south. A review of the January 2020 *Remedy Operation Status/Remedial Monitoring and RAM Status Report* for the YRC site (Release Tracking Number 3-2363) indicate that no groundwater pumping or injections were occurring at YRC during the October 2, 2019 gauging event (CCC Environmental Services 2020).

For the Former General Electric Company facility property, groundwater elevations recorded in October 2019 ranged from 0.23 higher to 2.51 ft lower than in September 2018, with an overall average decrease of 0.82 ft in 2019. This is believed to be due to lower amounts of precipitation than in 2018 and subsequent groundwater recharge occurring in the fall of 2019.

SECTION 4
LIGHT NON-AQUEOUS PHASE LIQUID MONITORING AND PRODUCT RECOVERY

This section provides an evaluation of the current light non-aqueous phase liquid (LNAPL) conditions at the site.

4.1 LIGHT NON-AQUEOUS PHASE LIQUID FREE PRODUCT RECOVERY

Recovery of LNAPL free product is intermittently performed as detailed in the Temporary Solution Statement. During this reporting period, AECOM Technical Services, Inc. (AECOM) did not deploy any absorbent socks, as a measurable thickness of LNAPL was not detected in any monitoring wells gauged during the monitoring events completed in December 2019 and February 2020.

4.2 LIGHT NON-AQUEOUS PHASE LIQUID MONITORED NATURAL ATTENUATION PERFORMANCE

The sections below include details related to the presence of LNAPL at the site and the monitored natural attenuation (MNA) of site LNAPL.

4.2.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for Light Non-Aqueous Phase Liquid

During this reporting period, LNAPL was not detected at a measurable thickness in any monitoring wells when gauged. This decrease in measurable LNAPL is consistent with seasonal fluctuations observed since 2010, and the thicknesses and frequency of LNAPL detections appear to have decreased overall. The presence of LNAPL over the past 10 years has primarily been limited to wells CW-1 and CW-2 with occasional sheen in well PZ-2S. Wells CW-1 and CW-2 are shallow wells installed within a former excavation immediately downgradient of where the bedrock surface dips to the east beneath the Eastern Parking Lot (EPL). The presence of LNAPL in these wells typically results when increases in the depth to groundwater allow small amounts of residual LNAPL to weep from bedrock fractures into the unconsolidated aquifer and then into those wells.

Table 2-4 includes a summary of the historical LNAPL measurements, and Figure 4-1 depicts the reduction of the LNAPL plume on-site from 1992 to the present.

Although the very limited LNAPL plume size has not changed significantly in some time, it continues to generate a dissolved plume of petroleum hydrocarbons. Changes in extractable petroleum hydrocarbon (EPH) and volatile petroleum hydrocarbon (VPH) fraction concentrations can be meaningful indicators of natural source-zone depletion. Long-term changes in these concentrations will be monitored in wells adjacent to the LNAPL plume to determine the effect MNA has on the plume. This monitoring may include additional parameters in the future. Further discussion of the EPH and VPH fractions associated with the LNAPL is presented in Section 5.6.3.

4.2.2 Change in Conditions Affecting Light Non-Aqueous Phase Liquid Monitored Natural Attenuation

During this reporting period, there have been no changes in conditions affecting LNAPL MNA. As shown in Figures 4-2 through 4-5, detectable LNAPL thicknesses generally coincide with increased depth to groundwater. Groundwater elevations in October 2019 ranged from 0.23 higher to 2.51 feet (ft) lower than in September 2018, with an overall average decrease of 0.82 ft in 2019. The depths to water measured in monitoring wells during this reporting period are similar to those measured in past periods when little to no measurable LNAPL was detected.

4.2.3 Verification That the Light Non-Aqueous Phase Liquid Plume is Not Expanding

Response actions have been performed previously to assess LNAPL mobility and to meet the requirements of 310 Code of Massachusetts Regulation (CMR) 40.1003(7)(b). Based on the extensive measurement and evaluation of the LNAPL present at the site, it is apparent that the LNAPL is stable, as defined at 310 CMR 40.0006. The LNAPL footprint is not expanding as shown in Figure 4-1, nor is LNAPL migrating through any subsurface strata or discharging to a surface water body, structure, or utility. The extent of LNAPL has been well defined and measured regularly, with product removal through three historical recovery wells between 1992 and 2002 and through subsequent manual and passive measures from 1999 through November 2017, the last time absorbent socks were installed/removed. LNAPL at the site has micro-scale mobility, as it continues to be observed in small amounts intermittently in wells CW-1 and CW-2 when the water table is depressed sufficiently for residual LNAPL to weep from bedrock into soil.

Graphs of the depth to groundwater compared to LNAPL thickness over time in wells CW-1, CW-2, PZ-2S, and TRC-201R are presented in Figures 4-2 through 4-5. These graphs show that, in general, greater LNAPL thickness tends to coincide with increased depth to groundwater. The amount of recoverable LNAPL has decreased over time due to the LNAPL removal efforts. The lack of LNAPL in monitoring wells TRC-101, AE-03, AE-04, and PZ-2S bounds the area around CW-1 and CW-2, where LNAPL is periodically detected. As a result, active LNAPL removal is no longer occurring and LNAPL removal via passive measures is currently minimal.

4.2.4 Verification of the Absence of Non-Stable Light Non-Aqueous Phase Liquid

Since December 2010, well CW-1 has had little evidence of LNAPL while CW-2 generally exhibits a sheen. Both wells have had periodic measurable LNAPL thickness generally ranging from 0.01 to 0.03 ft, with the thickest measurements of 0.12 ft in CW-1 observed in September 2016 and 0.08 ft in CW-2 in September 2015. The two thickest measurements were taken when the seasonal depth to groundwater was the greatest observed on-site in over 10 years. LNAPL has not been detected in TRC-101 since 2002. LNAPL has not been detected in wells AE-03 or AE-04 since their installation in 2012. It is apparent that the LNAPL remaining at the site is limited, stable, and only has micro-scale mobility at most, based on the behavior of the LNAPL in the wells.

4.2.5 Verification of Attainment of Remedial Objectives for Light Non-Aqueous Phase Liquid

The remedial objectives for LNAPL are being attained by continued monitoring and passive recovery (when possible), as detailed below and in the Temporary Solution Statement submitted to the Massachusetts Department of Environmental Protection (MassDEP) in May 2017. Given the intermittent presence of LNAPL in monitoring wells in the EPL area and the limited recoverability of LNAPL (approximately 2.81 gallons removed between December 2010 and November 2017), it has been demonstrated, in accordance with the MassDEP LNAPL Guidance (MassDEP, 2016a), that active LNAPL recovery is no longer feasible. However, based on data collected between 2010 and 2017 (the last time measurable LNAPL was present in a well), the potential for LNAPL with micro-scale mobility remains within the area adjacent to the former Tank Farm and EPL.

A remedial alternative evaluation was presented as Table 5-1 of the Phase III Remedial Action Plan (AECOM, 2017c) relating to residual petroleum contaminants at the aquifer capillary fringe in the

former Tank Farm and EPL areas, where free product with micro-scale mobility has been observed. Continued monitoring of natural attenuation processes and passive recovery of product, if possible, was selected as the alternative for LNAPL present in these areas. These areas have been shown to have low levels of volatile organic compounds in groundwater and soils, but contain EPH/VPH, particularly the C5-C8 aliphatic and C9-C10 aromatic fractions, above standards, in addition to the potential for free-phase LNAPL with micro-scale mobility.

The selected remedial alternative to continue to monitor and passively remove LNAPL (if present) to below observable levels in collection and monitoring wells in the area is being performed and appears to be proceeding toward attainment of the remedial objectives for LNAPL.

SECTION 5
EVALUATION OF GROUNDWATER QUALITY CONCENTRATION TRENDS

This section provides an evaluation of the concentration trends and distribution of the chemicals of concern (COC) in site groundwater: arsenic, 1,4-dioxane (1,4-D), petroleum hydrocarbons, and chlorinated volatile organic compounds (CVOCs).

5.1 QUALITY ASSURANCE AND QUALITY CONTROL

In September 2019, AECOM Technical Services, Inc. (AECOM) collected groundwater samples from 118 monitoring wells/screens. All samples were analyzed for volatile organic compounds (VOCs) with select samples analyzed for additional parameters, as detailed in Table 2-2. Upon receipt of the laboratory analytical reports, the data contained in each report was validated and reviewed for compliance with the Massachusetts Department of Environmental Protection (MassDEP) Compendium of Analytical Methods performance standards, as detailed in Policy WSC-02-3209 (MassDEP, 2010). Results of the validation are discussed in detail in the data validation memoranda prepared with each laboratory data package included in Appendix E.

The chemical data are valid as reported and may be used for decision-making purposes. Most of the data were accepted, with qualifiers added where required. Data for 11 VOCs (1,1,2,2-tetrachloroethane, 1,2-dibromo-3-chloropropane, 2,2-dichloropropane, 2-butanone, 2-hexanone, 4-methyl-2-pentanone, acetone, bromoform, bromomethane, methyl-ethyl-ketone, and tetrahydrofuran) were rejected at select monitoring wells due to laboratory analytical nonconformances, as noted in the data validation memoranda. These 11 VOCs are not specific COC for the site.

The analytical results met the requirements for “presumptive certainty” status for all compounds for which there is a Compendium of Analytical Methods (CAM) protocol under the Massachusetts Contingency Plan (MCP). See Appendix E for further details.

5.2 ANALYTICAL RESULTS – ARSENIC

A summary of the 2016-2019 arsenic analytical results is presented in Table 5-1. The arsenic concentrations are consistent from 2016 through 2019. The total and dissolved arsenic results are similar in all wells analyzed indicating that the arsenic present is predominantly dissolved arsenic. Nine of the 36 wells sampled had dissolved arsenic concentrations above the GW-1 value of 10 micrograms/liter (µg/L) in 2019. Two of these wells had total arsenic concentrations slightly above the GW-1 value with dissolved arsenic concentrations below GW-1 value. The dissolved arsenic plume in groundwater at four intervals (overburden and upper, middle, and lower bedrock) is presented in Figures 5-1 through 5-4. These figures depict the 2016, 2017, 2018, and 2019 plumes from results in the wells sampled each year. The extent of the plumes is the same with concentrations on the same order of magnitude at each interval from 2016 to 2019 with insignificant differences.

Concentration trend graphs of the dissolved arsenic results from all wells sampled in September 2019 are presented in Appendix F. The graphs include all available historical dissolved arsenic results for these wells. A summary of Mann Kendall statistical analyses based on these trend graphs is presented in Table 5-2. Fourteen monitoring wells have enough data from which to generate statistical trends at this time. A downward trend is noted in overburden monitoring wells AE-03 (only at 80% confidence level) and AE-102M in the Eastern Parking Lot (EPL), and AE-105S in the wetland. The remaining eleven monitoring wells (AE-102RR-6, AE-103S, GZA-06, GZA-10, GZA-101R, GZA-105S, GZA-14A, MW-4A, STM-8R-1, TRC-102, and TRC-301R-4) show no trend or non-significant trends.

Based on these results, dissolved arsenic concentrations are similar to past results. No significant upward trends are evident. The plume is identical from 2016 to 2019 and is stable in overburden and bedrock intervals.

5.3 ANALYTICAL RESULTS – 1,4-DIOXANE

A summary of the 2016-2019 (1,4-D) analytical results is presented in Table 5-3. The 1,4-D concentrations are of the same order of magnitude from 2016 to 2019 in all wells. A total of 39 wells show 1,4-D concentrations above the GW-1 value of 0.3 µg/L in 2019. The 1,4-D plume in groundwater at four intervals (overburden and upper, middle, and lower bedrock) is presented in Figures 5-5 through 5-8. These figures depict the 2016, 2017, 2018, and 2019 plumes from results

in wells sampled each year. The extent of the plumes is the same with concentrations fluctuating within the same order of magnitude in each of the four intervals from 2016 to 2019.

Concentration trend graphs of the 1,4-D results from all wells sampled in September 2019 are included on the CVOC trend graphs presented in Appendix F. The graphs include all available historical 1,4-D results for these wells that were analyzed via United States Environmental Protection Agency SW-846 Method 8270 or 8270 selective ion monitoring. A summary of Mann Kendall statistical analyses based on these trend graphs is presented in Table 5-7. For the 43 wells with sufficient data to run statistics, three wells at the edge of the EPL show a downward trend (AE-103R-1 AE-109R5, and AE-110R-6). Six wells (AE-100R-4, AE-101R-6, AE-102M, AE-102RR-6, AE-104D, and AE29R-6) at the former Tank Farm and Building 1 source areas and at the edge of the EPL show an upward trend at the 80% and 90% confidence levels. Five wells (AE-100R-3, AE-102RR-4, AE-103R-5, AE-109D, and EMW-11R-1) at the former Tank Farm and in the EPL show an upward trend at just the 80% confidence level. In each of these eleven wells with upward trends the concentrations remain at the same order of magnitude. The remaining 29 of 43 wells show no trend or non-significant trends.

Based on these results, 1,4-D concentrations are of the same order of magnitude as past results with slightly increased concentrations in middle and lower bedrock, and to a lesser extent in overburden and upper bedrock. The 2019 plume geometry is like the 2016-2018 plumes and is stable in the overburden and bedrock intervals.

5.4 ANALYTICAL RESULTS – PETROLEUM HYDROCARBONS

A summary of the 2016-2019 extractable petroleum hydrocarbon (EPH) and volatile petroleum hydrocarbon (VPH) analytical results is presented in Table 5-4. The EPH and VPH concentrations are similar in 2016, 2017, 2018, and 2019 in all wells. As discussed in Section 4 above, petroleum light non-aqueous phase liquid (LNAPL) has been identified near the former Tank Farm and EPL. Since 2010, the presence of LNAPL has been limited to wells CW-1 and CW-2 where the bedrock dips to the east beneath the EPL. Sampling for EPH and VPH is being conducted to monitor the levels of petroleum hydrocarbons present in a focused group of wells (AE-03, AE-04, GZA-105S, GZA-105D, and TRC-102 with five wells AE-100R-1, GZA-102S, PZ-2S, TRC-101, and TRC-102 added in 2018) immediately surrounding CW-1 and CW-2. Several EPH and VPH compounds have

been detected at low concentrations below GW-1 standard. Detected concentrations above GW-1 standard include:

- C5-C8 hydrocarbons in 2016 and 2017 and C11-C22 hydrocarbons in 2017 in GZA-105D;
- C5-C8 hydrocarbons in 2018 in AE-100R-1; and
- C9-C10 hydrocarbons in AE-03 from 2016-2019.

In addition, benzo(a)pyrene was detected in 2018 at concentrations just above the GW-1 standard in five wells, AE03, PZ-2S, TRC-101, and TRC-102 in the EPL, and EMW-11R-2 at the edge of the wetland. Two polynuclear aromatic hydrocarbons (PAHs), dibenzo(a,h)anthracene and indeno(123-cd)pyrene, exceeded the GW-1 standard in GZA-105D in the EPL in 2017. None of these PAH exceedances of GW-1 were observed in 2019.

These localized fluctuations, mainly decreases, in dissolved phase petroleum hydrocarbon compounds coincide with an average 1.45 feet (ft) increase in the groundwater levels from 2017 to 2018, and subsequent average drop of 0.82 ft in 2019.

The C5-C8 hydrocarbons also were detected above the GW-1 standard in five wells along the eastern edge of the EPL at the wetland (AE-102RR-6, AE-103R-1, EMW-11R-2, AE-104R-4, and AE-109R-5) and in four wells beneath or near Building 1 (AE-23R, AE-26R-1, AE-28R-2, and AE-29R-6). The C11-C22 hydrocarbons also were detected above GW-1 standard in wells AE-106R-5, AE-109R-5 and EMW-11R-2 in 2017. In each of these cases, with the exception of well AE-28R-2, the results in 2016-2019 were similar in each of these wells. Well AE-28R-2 shows an order of magnitude increase in C5-C8 hydrocarbons in 2019. Toluene was detected above the GW-1 standard in well AE-23R beneath Building 1 from 2016-2019. As noted later in this section, exceedances in some of these wells may be due to false positive VPH results due to interference from elevated CVOC concentrations, particularly at depth in bedrock and away from source areas.

Figures 5-9 through 5-12 present the 2016-2019 petroleum plumes in groundwater at four intervals (overburden and upper, middle, and lower bedrock). A comparison shows that the plume is similar in size and shape at all four intervals from 2016-2019, with subtle differences:

- The overburden plume is the same size and shape with similar concentrations in the EPL and Tank Farm area from 2016 to 2019.

- The upper bedrock plume is similar in size and shape from 2016 to 2019 beneath Building 1, in the Tank Farm area, and in the EPL. The concentrations are on the same order of magnitude in these areas.

- The middle bedrock plume has decreased in size and shape from 2016-2019 with lower concentrations in the wetland and in AE-110R. Beneath Building 1, concentrations increased one order of magnitude in AE-28R-2 in 2019.

- The lower bedrock plume has decreased in size and shape from 2017 to 2019 with decreased concentrations in AE-105R and AE-112R in the downgradient wetland.

Concentration trend graphs of the petroleum results from all wells sampled in September 2019 (whether analyzed for EPH/VPH or not) are presented in Appendix F. The graphs depict benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tertiary-butyl ether (MTBE), naphthalene, and calculated VPH fractions of all available historical results for these wells. A summary of Mann Kendall statistical analyses based on these trend graphs is presented in Table 5-5. For the 53 wells with enough data to run statistics, upward trends at the 80% and 90% confidence levels are noted for calculated VPH fractions in AE-102RR6, toluene in AE-23R and MTBE in AE-105D and STM-8D. Downward trends are noted in 47% of the data, for five compounds in 22 wells across the site. All other compounds show no trends or non-significant trends.

Based on these results, petroleum concentrations are like past results with fluctuations in concentrations of select compounds and some downward trends at this time. The 2019 petroleum plume geometry is similar to the 2016-2018 plume and is stable or shrinking in the overburden and bedrock intervals.

Releases of chlorinated solvents and petroleum hydrocarbons (Stoddard Fuel, waste oil) to the subsurface have been documented at the former General Electric Company (GE) facility. These chemicals are present as dissolved phase concentrations in the overburden and bedrock groundwater at the site, primarily in the former Tank Farm EPL area and in the Building 1 former Tank F area. Source materials were released directly into the overburden, which has limited thickness onsite, and into shallow fractured bedrock, the top of which ranges from 3 to 45 ft below ground surface (bgs) beneath the former Tank Farm EPL area and in the Building 1 former Tank F area. Comingling with the denser CVOCs may account for some of the hydrocarbon concentrations migrating deeper into bedrock; however, in the absence of significant downward gradients, lighter phase hydrocarbons are not typically detected at depth in bedrock in areas away from source zones. For example, in 2016-2019, elevated total petroleum impacts (particularly C5-C8 aliphatics) are observed in deep

bedrock wells EMW-11R-2, AE-102RR-6, and AE-104R-4 and they all have elevated CVOC concentrations. There are no significant downward gradients observed at the site.

In 2016, the MassDEP recognized potential interference issues associated with the 2004 VPH analytical method (MassDEP, 2004) known as VPH by the gas chromatography/photoionization detector/flame ionization detector (GC/PID/FID) Method (MassDEP, 2016b). In 2017, MassDEP issued an alternate method for quantifying VPH using gas chromatography/mass spectrometry (GC/MS) (MassDEP 2017). Certain organic compounds not associated with the release of petroleum products, including chlorinated solvents, alkyl benzenes, ketones (e.g., methyl ethyl ketone), and ethers, may be detected using the VPH by GC/PID/FID Method and may contribute to the collective response quantified within an aliphatic or aromatic hydrocarbon range. In 2018, MassDEP issued a new CAM referred to as WSC-CAM-IV A for the VPH by GC/MS Method to provide more detailed guidance regarding compliance with the quality control requirements and performance standards (MassDEP, 2018).

To better quantify petroleum hydrocarbon concentrations in groundwater, and to separate potential CVOC interferences, in September 2018, AECOM submitted groundwater samples from four wells for analysis of VOCs via Method 8260, VPH via the MassDEP GC/PID/FID Method at Eurofins Spectrum Laboratories and VPH by MassDEP GC/MS Method at Alpha Analytical Laboratories. The laboratory data were submitted in Post-Temporary Solution Status Report Number 4 submitted to the MassDEP in May 2019. In three of the four wells sampled, VPH-GC/MS Method did not identify C5-C8 aliphatics or C9-C12 aliphatics where those compounds were identified using the VPH-FID/PID Method and clearly showed interference from tentatively identified non-VPH compounds. These results were supported by the VOC-8260 data (i.e., lack of identification of BTEX and alkyl-benzene compounds). A review of the data indicated that the interferences causing false positive results for C5-C8 aliphatics and C9-C12 aliphatics in the VPH-FID/PID Method were predominantly from CVOCs (tetrachloroethene [PCE], trichloroethene [TCE], 1,1-dichloroethane [1,1-DCA], 1,1-dichloroethene [1,1-DCE], cis-1,2-dichloroethene [cis-1,2-DCE], and trans-1,2-dichloroethene [trans-1,2-DCE]). One of the three samples did show the presence of many alkyl-benzene compounds and no CVOCs. The VPH-GC/MS and VPH-GC/FID/PID results were similar for this sample.

The VPH-GC/MS Method is suitable for volatile petroleum products, including gasoline and the volatile fractions of mineral spirits, kerosene, #2/diesel fuel oil, and jet fuels. The site petroleum hydrocarbon of interest is Stoddard Fuel which contains the shorter chain volatile hydrocarbons. The existing site groundwater data indicate that the petroleum hydrocarbons contain mostly VPH range (C5-C8 and C9-C10) hydrocarbons. Due to the presence of elevated CVOCs, which may interfere with analysis of VPH by the GC/PID/FID Method and cause artificially elevated VPH readings, the VPH by GC/MS Method is suitable for quantifying the VPH levels in site groundwater. Based on these results, Lockheed Martin Corporation proposed to switch the VPH analysis to the GC/MS Method under the Operations, Maintenance, and/or Monitoring (OMM) Program with EPH still to be analyzed by MassDEP EPH Method (GC/PID/FID). However, the lack of demand for the VPH-GC/MS method by the licensed site professional community forced the only remaining laboratory (Alpha Analytical Laboratories) to discontinue running this method in July 2019. Therefore, Lockheed Martin Corporation is pursuing alternate methods to identify those wells currently being sampled for VPH using the GC/FID/PID method that lead to false positive VPH results.

There are alternate methods that can help identify interferences with the VPH-GC/FID/PID method that lead to false positive results. In the absence of the VPH-GC/MS method, results from VOC analysis using 8260 and the PIANO analysis may be useful. A PIANO analysis is a forensic GC/MS analytical tool for fingerprinting light-end refined products, e.g., gasoline and jet fuel, in contaminated soil and groundwater. PIANO is an acronym for n-Paraffins (P), Iso-paraffins (I), Aromatics (A), Naphthenes (N) and Olefins (O). This method can identify and measure more than 120 volatile petroleum hydrocarbon compounds.

5.5 ANALYTICAL RESULTS – VOLATILE ORGANIC COMPOUNDS

A summary of the annual 2016 through 2019 VOC analytical results is presented in Table 5-6. The detected VOC concentrations are consistent from 2016 to 2019. Nine different CVOCs were detected in groundwater in 2019 at concentrations above MCP groundwater standards. These compounds include: 1,1,1-trichloroethane, 1,1-DCA, 1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, toluene, and vinyl chloride (VC). One or more of these nine constituents were detected above GW-1 standards at 87 different well screen/port locations. One or more of the following CVOCs (1,1-DCE, cis-1,2-DCE, trans-1,2-DCE, PCE, TCE, and VC) were detected at concentrations

greater than MCP GW-2 standards (within 30 ft of a building with depth to groundwater less than 15 ft) in each of the wells sampled within 30 ft of or beneath Building 1 in 2019. Only PCE and TCE were detected at concentrations greater than GW-3 standards, at 15 well screen/port locations.

Consistent with observations from 2016-2018, the highest total CVOC concentration (341,380 µg/L) observed at the site in 2019 is in upper bedrock well AE-23R located beneath Building 1. The concentration of TCE (240,000 µg/L) detected in 2019 exceeds the upper concentration limit (UCL) of 50,000 µg/L. This is the only UCL exceedance for any constituent at any monitoring well location in 2019. Concentrations of TCE have historically exceeded the UCL in AE-23R. In 2019, the highest PCE concentration (100,000 µg/L) was observed in AE-23R equal to the UCL for PCE. Although never detected in AE-23R when gauged, dense non-aqueous phase liquid (DNAPL) is suspected near this well based on these concentrations.

Figures 5-13 through 5-24 present the 2016-2019 PCE, TCE, and total CVOC plumes in groundwater at four intervals (overburden and upper, middle, and lower bedrock). These figures depict the 2016, 2017, 2018, and 2019 plumes from results in wells sampled each year. The 2016-2019 PCE, TCE, and total CVOC plumes are similar in size at all four intervals with the following order of magnitude differences in concentrations:

- Two order of magnitude decrease in upper bedrock PCE concentration in AE100R-1 (PCE from 635 to 3.6 µg/L)
- One order of magnitude decrease in upper bedrock TCE concentration in AE-100R-1 (TCE from 971 to 13 µg/L)
- Two order of magnitude increase in upper bedrock vinyl chloride concentration in EMW-11R1 (vinyl chloride from <1 to 71 µg/L)
- Two order of magnitude decrease in upper bedrock total CVOC concentration in STM-8R (total CVOC from 11.75 to <1 µg/L)

Well AE100R is located within the former Tank Farm secondary source area and therefore fluctuations in concentrations are not unexpected. The trend plots for this well generally indicate historical fluctuations over one order of magnitude from one year to the next.

Concentration trend graphs of the CVOC results from all wells sampled in 2019 are presented in Appendix F. The graphs depict all available historical PCE, TCE, cis-1,2-DCE, toluene, VC, and

1,4-D results for wells sampled in September 2019. A summary of Mann Kendall statistical analyses based on these trend graphs is presented in Table 5-7.

Fifty percent of the 2019 CVOC data (59 of 118 wells) show no trend or non-significant trends. Downward trends at the 90% confidence level for parent compounds (i.e., PCE and TCE) are noted in 30 well screens sampled across the site in 2019 in the overburden in the EPL and downgradient wetland to Transect C, in all three bedrock intervals in Transect A, and in upper bedrock at Building 1 and in the downgradient wetland to Transect C. Upward trends at the 90% confidence level of daughter products (e.g., cis-1,2-DCE and VC) are noted in 39 well screens sampled in 2019 mainly in middle to lower bedrock and to a lesser extent in upper bedrock, and also in overburden in the downgradient wetland and Transect C.

The STM-8 well cluster is a key monitoring point since it is located at the furthest extent of the plume. The results from this well cluster are indicative of ongoing attenuation of parent compounds to daughter products at the tail end of the plume. At STM-8D, the concentration of cis-1,2-DCE over the last six sampling rounds in 2014-2019 has consistently been approximately one order of magnitude higher than PCE and TCE. In 2019, the PCE and the TCE concentrations are 1.3 µg/L each, whereas cis-1,2-DCE is 10 µg/L. The concentration ratio of parent compounds to cis-1,2-DCE is consistently low, indicative of degradation.

Analytical data from many wells exhibit mixed behavior (upward and downward trends) and the fluctuations are likely the result of different influences, such as changes in water levels, high concentrations near source areas, and historical pumping (e.g., TF-1 at the former Tank Farm and TRC-202R at the edge of the EPL). These wells include: AE-100R-4, AE-100R-6, AE-101R-1, AE-101R-6, AE-23R, AE-28R-1, AE-28R-2, EMW-11D, EMW-11R-1, EMW-11R-2, GZA-101R, and GZA-105R.

The Mann Kendall results indicate that ten well screen/port locations have upward trends for parent compounds (i.e., PCE and/or TCE). These include: AE-100R-4, AE-100R-6, AE-101R-1, AE-108R-3, AE-108R-5, AE-23R, AE-28R-2, EMW-11R1, EMW-11R-2, and GZA-105R. These wells are in areas of elevated CVOC concentrations and, therefore, fluctuations in concentrations are not unexpected.

5.6 MONITORED NATURAL ATTENUATION

This Post-Temporary Solution monitoring period consists of active performance of a comprehensive monitored natural attenuation (MNA) groundwater sampling program for site management. Details for each COC are provided below.

5.6.1 Arsenic Monitored Natural Attenuation Performance

This section presents an evaluation of arsenic MNA performance.

5.6.1.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for Arsenic

The presence of dissolved arsenic is considered to be a temporary deviation from naturally-occurring conditions typical in this region. The presence of organic COC such as petroleum hydrocarbons and VOCs from the site has temporarily altered the natural redox conditions from aerobic to anaerobic causing dissolution of naturally-occurring insoluble forms of arsenic in site soils/weathered rock to the dissolved state. Plume figures suggest that dissolved arsenic concentrations are related to localized conditions immediately downgradient from the former Tank Farm and former Tank K source areas and are not expansive in nature. It is anticipated that as the concentrations of organic COC decrease over time and the aquifer returns to its normal aerobic redox conditions, dissolved arsenic levels will decrease naturally. This appears to be the case based on the depictions of the limited arsenic plume, particularly downgradient where contaminant concentrations are lowest.

5.6.1.2 Changed Conditions Affecting Arsenic Monitored Natural Attenuation

There are no new data during this monitoring period that would indicate new environmental conditions or new releases of contaminants have occurred, which could reduce MNA efficiency for arsenic in groundwater.

5.6.1.3 Absence of Toxic Transformation Products of Arsenic

There are no toxic transformation products from arsenic.

5.6.1.4 Verification that Arsenic Plume is not Expanding

As shown in Figures 5-1 through 5-4, the extent of the plumes is the same with concentrations on the same order of magnitude in each interval from 2016 to 2019. In addition, dissolved arsenic concentrations have decreased slightly in wells AE-03, AE-102M, and AE-105S.

5.6.1.5 Demonstration of Effective Institutional Controls

The institutional controls under the activity and use limitation (AUL) at the site remain effective in limiting potential exposure to arsenic in groundwater. Although there are no institutional controls regarding the restriction of groundwater as a drinking water source at the site, the municipal wells near the site remain inactive and no drinking water wells exist within 0.5 miles of the site.

5.6.1.6 Verification of Attainment of Remedial Objective for Arsenic

The remedial objective for arsenic is reduction of arsenic concentrations in overburden and bedrock groundwater over time through MNA. Given the elevated concentrations of organic COC (petroleum hydrocarbons and VOCs) contributing to dissolved arsenic concentrations, the time frame for a general decrease in arsenic concentrations or a decrease to below applicable standards, is on the order of decades. Based on groundwater data collected during this reporting period, the existing groundwater plume for dissolved arsenic is stable and not expanding. Therefore, the remedial objective for arsenic in groundwater is being met.

5.6.2 1,4-Dioxane Monitored Natural Attenuation Performance

This section presents an evaluation of 1,4-D MNA performance.

5.6.2.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for 1,4-Dioxane

It is understood that the presence of 1,4-D is related to the CVOC contamination as it was most likely a co-contaminant. Therefore, the 1,4-D distribution appears consistent with the trends observed for the CVOCs during this sampling event (see Section 5.6.4). While the literature has identified the possibility of both metabolic (energy source) and co-metabolic (co-oxidation) degradation pathways of 1,4-D under certain conditions, these biological processes are unlikely to significantly affect the levels on-site in reaching the low-level regulatory criteria. A combination of these and other physical attenuation processes would contribute to the long-term natural attenuation of 1,4-D.

5.6.2.2 Changed Conditions Affecting 1,4-Dioxane Monitored Natural Attenuation

There are no new data during this monitoring period that would indicate that new environmental conditions or new releases of contaminants have occurred, which could reduce MNA efficiency for 1,4-D in groundwater.

5.6.2.3 Absence of Toxic Transformation Products of 1,4-Dioxane

Although not considered a significant attenuation mechanism for 1,4-D at the site, current literature indicates that 1,4-D may biodegrade to various compounds such as ethylene glycol, glycolic acid, or oxalic acid (Rodriguez, 2016). These compounds are non-toxic and expected to biodegrade rapidly in the environment.

5.6.2.4 Verification that 1,4-Dioxane Plume is not Expanding

As shown in Figures 5-5 through 5-8, the extent of the 2016, 2017, 2018, and 2019 plumes are the same with concentrations on the same order of magnitude in each of the four intervals. The plumes are therefore considered stable and not expanding.

5.6.2.5 Demonstration of Effective Institutional Controls

The institutional controls under the AUL at the site remain effective in limiting potential exposure to 1,4-D in groundwater. Although there are no institutional controls regarding the restriction of groundwater as a drinking water source at the site, the municipal wells near the site remain inactive and no drinking water wells exist within 0.5 miles of the site.

5.6.2.6 Verification of Attainment of Remedial Objective for 1,4-Dioxane

Evaluation of 1,4-D is being addressed with continued sampling and analysis under the post-Temporary Solution OMM program. Recent monitoring data indicate increasing concentrations in some wells in middle and lower bedrock and to a lesser extent in overburden. This is likely related to fluctuations in CVOC concentrations, which along with 1,4-D concentrations are expected to fluctuate over time given the anticipated timeframe (decades or more) for MNA to reduce overall concentrations of CVOCs and 1,4-D. The groundwater remedial objective for 1,4-D will be attained through MNA as shown by long-term trend analysis. Based on groundwater data collected during this reporting period, there is evidence that the existing groundwater plume for 1,4-D is not expanding. Therefore, the remedial objective for 1,4-D in groundwater are being met.

5.6.3 Petroleum Hydrocarbons Monitored Natural Attenuation Performance

This section presents an evaluation of petroleum hydrocarbon MNA performance.

5.6.3.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for Petroleum Hydrocarbons

Relative to the LNAPL presence and distribution described in Section 4 above, the petroleum hydrocarbon plume has not changed significantly. While the LNAPL thickness has varied over the past decade and is only observed as sheen in wells CW-1 and CW-2, certain wells in the former Tank Farm/EPL area (AE-03 and GZA-105D) have shown recent fluctuations in both VPH and EPH fractions. This observation may be due to the continued dissolution of LNAPL constituents into the aqueous phase, which would further decrease the LNAPL thickness and make the dissolved constituents more available to natural attenuation processes over time. Further evaluation of this process will be considered in future monitoring events.

5.6.3.2 Changed Conditions Affecting Petroleum Hydrocarbons

There are no new data during this monitoring period that would indicate that new environmental conditions or new releases of contaminants have occurred, which could reduce MNA efficiency for petroleum hydrocarbons in groundwater.

As proposed in Section 5.4, the use of alternate analytical testing methods may improve quantification of VPH compounds in groundwater by identifying and excluding potential CVOC interferences.

5.6.3.3 Absence of Toxic Transformation Products of Petroleum Hydrocarbons

Petroleum hydrocarbons typically degrade to less toxic forms as they undergo biological degradation in the environment. The most toxic petroleum hydrocarbons include PAHs and smaller aromatic compounds such as BTEX. Based on the 2019 analytical results, there have been some noted fluctuations in petroleum hydrocarbon concentrations but no significant increases in the amounts of PAHs or BTEX compounds.

5.6.3.4 Verification that Petroleum Hydrocarbons Plume is not Expanding

As shown in Figures 5-9 through 5-12, the 2016, 2017, 2018, and 2019 plumes of petroleum hydrocarbons in overburden and bedrock are nearly identical in shape in all four intervals from 2016 to 2019 with some minor reduction in size from 2017 to 2019. The plumes are therefore considered stable and not expanding.

5.6.3.5 Demonstration of Effective Institutional Controls

The institutional controls under the AUL at the site remain effective in limiting potential exposure to petroleum hydrocarbons in groundwater. Although there are no institutional controls regarding the restriction of groundwater as a drinking water source at the site, the nearby municipal wells remain inactive and no drinking water wells exist within 0.5 miles of the site.

5.6.3.6 Verification of Attainment of Remedial Objective for Petroleum Hydrocarbons

The remedial objective for petroleum hydrocarbons is reduction of the concentrations in overburden and bedrock groundwater over time through MNA. Based on groundwater data collected during this reporting period, there is evidence of some biodegradation of petroleum hydrocarbons and the existing groundwater plume for petroleum hydrocarbons is stable and not expanding. Therefore, the remedial objective for petroleum hydrocarbons in groundwater are being met.

5.6.4 Chlorinated Volatile Organic Compounds Monitored Natural Attenuation Performance

This section presents an evaluation of CVOC MNA performance. A summary of the 2019 MNA parameters analyzed in groundwater is provided in Table 5-8.

5.6.4.1 Demonstration that Monitored Natural Attenuation is Occurring as Expected for CVOCs

Most wells monitored underneath Building 1 through Transects A, B, and C indicated strongly reducing conditions in the groundwater (dissolved oxygen levels below 1.0 milligrams per liter and oxidation-reduction potential values between +35 and -270 mV). These low redox conditions are also conducive to the reduction of CVOCs from reductive dechlorination processes (biological or abiotic), if other factors are also favorable. A summary of the 2019 geochemical parameters is provided in Table 2-1.

Based on data collected to date, limited reductive dechlorination of CVOCs appears to be occurring at certain locations of the site, in both the overburden and bedrock. Complete mineralization of CVOCs however is only evident in a few wells, based on the presence of ethene and ethane. These products could be from either biological or abiotic reductive dechlorination. Methane is also present at increased levels in a few wells indicating that redox conditions have progressed sufficiently for reductive dechlorination. Limited sulfide was present indicating evidence of some sulfate reduction

observed from the 2019 analytical data. The presence of some daughter products such as cis-1,2-DCE or VC, relative to their parent PCE and TCE concentrations, indicates active biodegradation. While the aquifer has some capacity to support microbial degradation, it is not occurring over large areas, most likely due to the very limited microbial populations documented for the site and limited electron donors present. Generally speaking, biological attenuation does not appear to currently be playing a major role in CVOC reduction.

Abiotic degradation by reactive iron minerals may play a role in the natural transformation of certain CVOCs. Iron sulfides such as pyrite have been documented to react with PCE, TCE, and cis-1,2-DCE to cause a complete dechlorination transformation to acetylene and ethene without daughter products. Groundwater hydrogen levels indicate that sulfate reducing conditions could occur and sulfate is available at 10-50 milligrams per liter. Although hydrogen sulfide is only present in elevated levels in a few wells (notably AE28R-2, which also presented odors of hydrogen sulfide during well sampling), sulfide may be sequestered by iron minerals in the soil and rock during the reduction process, generating the reactive minerals needed for abiotic transformation of CVOCs.

Acetylene is a signature product from the abiotic transformation process. Its presence may suggest that abiotic reductive dechlorination may play at least some role in transformation of CVOCs in specific areas of the site. The groundwater at all of these locations is significantly reduced but contains very low concentrations of acetylene (less than 0.9 µg/l), as well as ethane (0.26 to 7.7 µg/l) and ethene (0.9 to 11 µg/l). Although acetylene is short-lived in the environment, no appreciable demonstration of the abiotic dechlorination process is present in 2019 data.

Geochemical data (DO, manganese, iron, nitrate, sulfate, and methane) from the 2019 groundwater-sampling event for selected wells were plotted on radar plots shown on Figure 5-25. Smaller sized colored hexagonal graph areas indicate more favorable conditions for reductive dechlorination biodegradation than larger hexagonal areas when comparing select well locations to background and other site wells. The figures for the wells evaluated indicate that wells AE-03 and AE108R-1 show more favorable geochemical conditions than other wells evaluated.

Parent and daughter products related to the reductive dechlorination and/or abiotic transformation of chlorinated ethenes (PCE, TCE, cis-1,2-DCE, VC, ethene-ethane-acetylene, and chloride) observed during the 2019 groundwater-sampling event for selected wells were plotted on radar plots (Figure 5-26). Larger colored hexagonal areas indicate stronger evidence of biodegradation than

smaller areas. The figures show that wells AE108R-1, AE106D, and AE-03 demonstrate that biodegradation and/or abiotic transformation processes are occurring to some extent in them, more than in other wells evaluated.

Other natural attenuation processes affecting CVOCs at the former GE site are occurring in both the overburden and bedrock, as detailed in the Phase II Comprehensive Assessment (AECOM, 2017b). These include adsorption, volatilization, dispersion, and diffusion. Diffusion of CVOCs into rock matrix micro-fractures and micro-cracks is believed to be the predominant attenuation mechanism at the site for bedrock groundwater contamination. Diffusion modeling results discussed in the Phase II assessment show an 85% attenuation of PCE from Transect A to Transect B and are in general agreement with the mass flux calculations and groundwater monitoring data. Matrix diffusion assists in the retardation and storage of mass, with subsequent forward- and back-diffusion over specific periods of time.

In summary, based on the 2019 data, there is evidence of MNA occurring to a limited extent in select areas of the site to control the CVOC plume. The exact processes and their proportional contributions that are causing the attenuation are not clear. Biotic and abiotic degradation appear to occur in isolated areas and their contribution to attenuation of the CVOC plume is believed to be much less than that of diffusion. The conceptual model is that diffusion of CVOCs into the rock matrix micro-fractures and micro-cracks is believed to be the predominant attenuation mechanism at the site for bedrock groundwater contamination.

5.6.4.2 Changed Conditions Affecting CVOC Monitored Natural Attenuation

There are no new data during this monitoring period that would indicate new environmental conditions or new releases of contaminants have occurred, which could reduce MNA efficiency for CVOCs in groundwater.

5.6.4.3 Absence of Toxic Transformation Products of CVOCs

There were no toxic transformation products such as vinyl chloride or other such compounds that increased from their existing site concentrations due to any activities or natural attenuation processes during this reporting period.

5.6.4.4 Verification that CVOC Plume is not Expanding

Groundwater contamination has been documented at the site since the 1980s. Although groundwater monitoring wells have been sampled at this site for over 30 years, the number of monitoring wells over the entire MCP site has increased significantly over time, particularly between 2012 and 2016. For this reason, the volume of data available for any point in time in the past is not consistent with the volume of data available currently, though the number of wells has not changed since 2016. This situation makes an analysis of changes over time difficult to interpret relative to historical data.

For the 2019 analytical data, PCE and occasional TCE and cis-1,2-DCE concentrations have increased in a few select wells. However, PCE and TCE have generally decreased in a large number of wells. Localized increases in concentrations noted in 2019 are primarily in wells at the presumptive source area underneath Building 1, where potential residual DNAPL may be present. Of the wells evaluated for trend statistics (Table 5-7), there are 47 individual cases in which wells (or well screens/ports) show decreasing trends in PCE, TCE, cis-DCE, or VC which would be an indication of improving conditons. There are another 37 cases in which cis-DCE trends have been shown to increase. While some of these trends could be due to existing areas experiencing increasing impacts, it is just as likely that these well ports are exhibiting increased daughter product generation based on reduction of PCE and TCE concentrations. Similarly, four cases of increasing trends of VC were documented, which are likely due to some degradation of cis-DCE. In contrast, only 14 well port cases presented increasing concentration trends. A number of additional well port cases evaluated also exhibited stable trends.

Most of the trend graphs presented in Appendix F show that the visual trend of the groundwater CVOC concentrations is either stable or decreasing over time. This is believed to be the result of ongoing natural attenuation of the plume described above.

As shown in Figures 5-13 through 5-24, the extent of the 2016, 2017, 2018, and 2019 PCE, TCE, and total CVOC plumes are similar in each of the four depth intervals. The concentrations are generally on the same order of magnitude with fluctuations discussed herein. The plumes are therefore considered stable and not expanding.

Three-dimensional volumetric calculations of the total CVOC groundwater data were made using the Environmental Visualization System model to create a plume volume used to estimate the plume

mass for four separate dates in 2016, 2017, 2018, and 2019. This is presented in Figure 5-27. The results of this calculation indicate that the plume mass was approximately 150 kg in 2016, 137 kg in 2017, 162 kg in 2018, and 173 kg in 2019.

The apparent slight increase in plume shape and contaminant mass in 2019 is due partly to increases in CVOC concentrations, primarily of PCE and TCE, in select wells (AE-23, AE-28, and AE-100R) near and downgradient of the former source areas. However, the CVOC dataset is smaller in 2019 (same as in 2018), with fewer wells with non-detect concentrations analyzed versus in 2016 and 2017. This change impacts the plume mass calculations as there are fewer wells with lower concentrations or non-detects to limit or constrain the wells with detected and/or higher concentrations.

The primary evidence for demonstration of MNA occurring at the site includes a continuing shift of parent to daughter product contaminant concentrations over time (Mann Kendall statistics) in conjunction with a stable groundwater plume. The data presented in this report show that, over time, the extent of the CVOC plume emanating from the former GE facility is stable and the mass of the plume is showing only slight fluctuations year-to-year.

5.6.4.5 Demonstration of Effective Institutional Controls

The institutional controls under the AUL at the site remain effective in limiting potential exposure to CVOCs in groundwater. Although there are no institutional controls regarding the restriction of groundwater as a drinking water source at the site, the Stickney Well remains inactive and no drinking water wells exist within one half mile of the site.

5.6.4.6 Verification of Attainment of Remedial Objective for CVOCs

The remedial objective for CVOCs is reduction of CVOC concentrations in overburden and bedrock groundwater over time through MNA. Given the elevated concentrations of CVOCs at the site, including mass within bedrock fractures and micro-fractures, the time frame for reduction in overall CVOC concentrations is on the order of decades. Based on groundwater data collected during this reporting period, the existing groundwater plumes for dissolved CVOC are stable and not expanding. Therefore, the remedial objective for CVOCs in groundwater are being met.

SECTION 6
DEMONSTRATION OF EFFECTIVE INSTITUTIONAL CONTROLS

The Temporary Solution for the site includes the implementation of an activity and use limitation (AUL) to eliminate potential human health risks. A copy of the AUL is included in Appendix D.

On July 13, 2015, Wilmington Realty Trust (WRT) placed an AUL on the portion of the site owned by WRT, encompassing Buildings 1, 1A, and 2 and the Eastern Parking Lot. This AUL was established to prevent uses of the property that would be inconsistent with maintaining a condition of No Substantial Hazard under the Massachusetts Contingency Plan (MCP). These prohibited uses include the following:

- Residential, school, playground, park or daycare use
- Activities that would result in exposure to or the disturbance of potentially contaminated soils, bedrock, groundwater, and indoor air, unless appropriate precautions to prevent human exposure are taken, as described in the AUL

In addition, the AUL imposes certain obligations and conditions to maintain a condition of No Substantial Hazard, including maintenance of concrete floors, management of any excavated soil and/or bedrock under Soil Management Procedures set forth in 310 Code of Massachusetts Regulation (CMR) 40.0030, and appropriate management of any groundwater removed during dewatering activities. Lastly, any activities which could result in exposure to or disturbance of soil, bedrock, or groundwater must be conducted in accordance with some or all of the following, as determined by a Licensed Site Professional:

- the performance standards for Release Abatement Measures set forth by the MCP at 310 CMR 40.0440 (Massachusetts Department of Environmental Protection [MassDEP], 2014)
- the soil management procedures pursuant to 310 CMR 40.0030, the Similar Soils Provisions Guidance (WSC# 13-500; MassDEP, 2014)
- Construction of Buildings in Contaminated Areas (Policy WSC# 00 425; MassDEP, 2000a)

- applicable health and safety procedures outlined in 310 CMR 40.0018

The objectives of the AUL are being met and the institutional controls in place at the site are effectively maintaining a condition of No Substantial Hazard.

SECTION 7
CONDITIONS OR PROBLEMS AFFECTING THE REMEDIAL ACTION

No conditions or problems were identified during this reporting period that may have the potential to affect the remedial action.

SECTION 8
MODIFICATIONS TO THE MONITORING PROGRAM

No modifications to the monitoring program occurred during this monitoring period. The wells and analytes monitored were as detailed in the updated Operations, Maintenance, and/or Monitoring Program groundwater monitoring plan submitted to the Massachusetts Department of Environmental Protection in September 2019.

SECTION 9
FUTURE MONITORING

The Post-Temporary Solution Operations, Maintenance, and/or Monitoring Plan will continue to be implemented according to the schedule presented in Table 9-1, which includes activities described below to be completed up to the submittal of the first five-year review of the Temporary Solution.

- Annual indoor air monitoring of pertinent on-site buildings will continue to be conducted during the heating season (typically in February). During this event, indoor air samples will be collected from approximately 7 to 10 locations in Building 1/1A. Samples will be collected following procedures contained in the Massachusetts Department of Environmental Protection (MassDEP) Vapor Intrusion Guidance Policy #WSC-16-435 dated October 14, 2016 (MassDEP, 2016c). One ambient air sample will be collected during each annual event. Samples will be analyzed for volatile organic compounds via method TO-15 selective ion monitoring including Freon-113. Meteorological data will be obtained from a weather station within a few miles of the site. The results of the indoor air-sampling event completed in February 2020 will be presented in the November 2020 Post-Temporary Solution Status Report. The next indoor air-sampling event is scheduled to take place in February 2021. In the future, indoor air sampling may be performed whereby the results could be included in the May Post-Temporary Solution Status Report. This will depend on activities in and access to Building 1.

- Quarterly light non-aqueous phase liquid (LNAPL) gauging of seven monitoring wells (i.e., AE-03, AE-04, CW-1, CW-2, GZA-102S, PZ-2S, and TRC-101) located in the western portion of the eastern parking lot will be conducted to monitor the presence/absence of LNAPL in this area. If LNAPL thickness of greater than 0.1 ft is detected in a well, an absorbent sock will be deployed to absorb the LNAPL for subsequent disposal. Gauging events will be conducted in March, June, September, and December, annually, with the December and March results presented in May, and the June and September results presented in November. The next quarterly LNAPL-gauging event is scheduled to take place in June 2020. The remedial alternative selected for LNAPL is monitored natural attenuation (MNA). To monitor the progress of LNAPL behavior more specifically, the dissolved phase petroleum hydrocarbon “halo” surrounding the LNAPL pool will be evaluated over time. This evaluation will provide a leading indicator of the potential dissolution of LNAPL and subsequent natural degradation of the associated dissolved phase plume.

- Annual groundwater sampling of select monitoring wells for analysis of site chemicals of concern (i.e., chlorinated volatile organic compounds, 1,4-dioxane, petroleum hydrocarbons, and arsenic) and relevant MNA parameters in overburden and bedrock groundwater will be conducted. Each groundwater-sampling event will include a site-wide water level measurement round. The next annual groundwater-sampling event will occur in

September-October 2020. The scope of the 2020 annual groundwater monitoring will be the same as the scope of the monitoring event conducted in fall 2019 as detailed in Table 2-2.

- The volatile petroleum hydrocarbon samples may be analyzed by additional methods in future sampling rounds as detailed in Section 5.4.1 to better quantify the presence or absence of petroleum impacts by further evaluating interferences from chlorinated volatile organic compounds.

- Post-Temporary Solution Status and Remedial Monitoring Reports will continue to be submitted semiannually. The next semiannual report is due to the MassDEP in November 2020.

- Periodic reviews of site conditions will be conducted every five years to evaluate new technologies and their potential to achieve a Permanent Solution. The next five-year review of the Temporary Solution is due to the MassDEP in May 2022.

SECTION 10
LICENSED SITE PROFESSIONAL OPINION AND CONCLUSIONS

Comprehensive Response Actions at the site are limited to active remedial monitoring that includes monitored natural attenuation under Temporary Solution status. It is the opinion of AECOM Technical Services, Inc. that the Remedial Action Performance Standards are being accomplished as outlined in 310 Code of Massachusetts Regulation 40.0897, and as presented in the Temporary Solution Statement submitted to the Massachusetts Department of Environmental Protection by AECOM Technical Services, Inc. in May 2017. Based upon light non-aqueous phase liquid gauging data collected during this reporting period, the existing light non-aqueous phase liquid has micro-scale mobility (can flow into a well); however, the light non-aqueous phase liquid is stable and not expanding. Based on groundwater data collected during this reporting period, the existing groundwater plumes for chlorinated volatile organic compounds, petroleum, and dissolved arsenic are stable and not expanding.

The seal and signature of the Licensed Site Professional who reviewed this Post-Temporary Solution Status Report No. 4 are contained on the applicable Massachusetts Department of Environment Bureau of Waste Site Cleanup transmittal forms (BWSC-108) submitted via eDEP.

SECTION 11
PUBLIC NOTIFICATION

The former General Electric facility is part of a joint Public Involvement Plan (PIP) with other Potentially Responsible Parties that was prepared in 2000 by the Massachusetts Department of Environmental Protection. As a PIP site, the former General Electric facility must meet additional regulatory requirements above the minimum requirements of the Massachusetts Contingency Plan.

During the Post-Temporary Solution period, Post-Temporary Solution Status Reports are required by the Massachusetts Contingency Plan (MCP) to be submitted every six months to the Massachusetts Department of Environmental Protection (MassDEP). In accordance with the November 17, 2000 PIP (MassDEP, 2000b), these Status Reports are also required to be provided to the designated information repository established in the PIP (Flint Memorial Library, Town of North Reading). All members of the PIP mailing list, including the Chief Municipal Officer and Board of Health agents for the towns of Reading, North Reading, and Wilmington, have been notified of the availability of this report by mail. A copy of the letter sent to the PIP mailing list concerning the availability of documents in the repository, as required under the PIP (MassDEP, 2000b), was included in the initial Post-Temporary Solution Status Report submitted to the MassDEP in November 2017. The 2017 PIP notice informed the mailing list of the availability of semiannual Post-Temporary Solution Status Reports from November 2017 through May 2021.

Prior to groundwater sampling activities completed during this reporting period and after receipt of associated laboratory analytical results, AECOM Technical Services, Inc. (AECOM) submitted notifications using MassDEP Form BWSC-123 to the property owners listed below:

- Wilmington Realty Trust – 40-50 Fordham Road in Wilmington and North Reading
- Howland Development – 87 Concord Street in North Reading
- International Family Church – 99 Concord Street in Wilmington and North Reading
- Ed & Gail Melanson – 0 Furbish Pond Lane in North Reading
- North Reading Town Water – Wells along Concord Street in North Reading

- Wilmington Masonry – 62 Concord Street in North Reading
- YRC Freight – 95 Concord Street in North Reading

In addition, AECOM obtained verbal permission from the resident at 3 Furbish Pond Lane in North Reading to measure the depth to water in their private irrigation well.

Appendix G includes copies of the Bureau of Waste Site Cleanup forms and related notifications sent to property owners documenting the prior notification of the sampling event and the presentation of the analytical results resulting from that sampling event, as required by the MCP.

SECTION 12
REFERENCES

AECOM Technical Services, Inc. (AECOM) 2013. Remedy Operation Status Report, ROS Termination, and Tier 1A Permit Extension, Former General Electric Site, 50 Fordham Road, Wilmington, MA. March 2013.

_____, 2014. Tier Classification Extension Supporting Documentation, Former General Electric Site, 50 Fordham Road, Wilmington, MA, RTN 3-0518, October 10, 2014.

_____, 2017a. Draft Temporary Solution Statement, Former General Electric Facility, 50 Fordham Road, Wilmington, MA, RTN 3-0518. May 2017.

_____, 2017b. Draft MCP Phase II Comprehensive Site Assessment, Former General Electric Facility, 50 Fordham Road, Wilmington, MA, RTN 3-0518. May 2017.

_____, 2017c. Draft Phase III Remedial Action Plan, Former General Electric Facility, 50 Fordham Road, Wilmington, MA, RTN 3-0518. May 2017.

CCC Environmental Services LLC, 2020. Remedy Operation Status/Remedial Monitoring and RAM Status Report, YRC Freight Terminal, 95 Concord Street, North Reading, MA, RTN 3-0002363, January 2020.

Massachusetts Department of Environmental Protection (MassDEP), 2000a. Construction of Buildings in Contaminated Areas, Policy WSC# 00 425; MassDEP, 2000a.

_____, 2000b. Public Involvement Plan, MSM Industries, Former Sterling Supply Corporation Disposal Site, Roadway Express Disposal Site, Former General Electric Disposal Site, Wilmington and North Reading, Massachusetts. November 2000.

_____, 2004. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH), Revision 1, Massachusetts Department of Environmental Protection, May 2004.

_____, 2010. The Compendium of Quality Assurance and Quality Control Requirements and Performance Standards for Selected Analytical Methods Used in Support of Response Actions for the Massachusetts Contingency Plan (MCP), WSC-02-320. July 1, 2010.

_____, 2014. Massachusetts Contingency Plan, 310 CMR 40.0000, December 31, 2007, Amended April 25, 2014 and June 20, 2014.

_____, 2016a. Light Nonaqueous Phase Liquids (LNAPL) and the MCP: Guidance for Site Assessment and Closure, Policy #WSC-16-450. February 19, 2016.

_____, 2016b. Evaluation of MassDEP Volatile Petroleum Hydrocarbon (VPH) Methods, Massachusetts Department of Environmental Protection, June 2016.

_____, 2016c. Vapor Intrusion Guidance: Site Assessment, Mitigation and Closure, Policy #WSC-16-435. October 14, 2016.

_____, 2017. Method for the Determination of Volatile Petroleum Hydrocarbons (VPH) by Gas Chromatography/Mass Spectrometry, Massachusetts Department of Environmental Protection, January 2017.

_____, 2018. Quality Control Requirements and Performance Standards for the Analysis of Volatile Petroleum Hydrocarbons (VPH) by Gas Chromatography/Photoionization Detector/Flame Ionization Detector in Support of Response Actions under the Massachusetts Contingency Plan (MCP), WSC-CAM-IV A, Massachusetts Department of Environmental Protection. June 2018.

Rodriguez, 2016. *Evaluation of 1,4-Dioxane Biodegradation Under Aerobic and Anaerobic Conditions*, Francisco J. Barajas Rodriguez, Clemson University Dissertation, December 2016.

TRC Companies, Inc. (TRC), 2004. Partial Response Action Outcome, Outfalls 001 and 002, Former GE Facility (RTN 3-0518), Wilmington, Massachusetts. December 2004.

_____, 2006. Remedy Operation Status Opinion, Former GE Facility, RTN 3-0518, Wilmington, Massachusetts. April 20, 2006.

_____, 2010. Partial Response Action Outcome, Tank K Area, Former GE Facility (RTN 3-0518), Wilmington, Massachusetts. November 2010.

FIGURES

Figure 1-1 Site Location Map

Figure 1-2 Site Plan

Figure 1-3 Monitoring Well Locations

Figure 3-1 Groundwater Contour Map 0-60 Feet, October 2, 2019

Figure 3-2 Groundwater Contour Map 61-120 Feet, October 2, 2019

Figure 3-3 Groundwater Contour Map 121-250 Feet, October 2, 2019

Figure 4-1 Tank Farm EPL Extent of LNAPL Impacts

Figure 4-2 CW-1 – Depth to Water versus LNAPL Thickness

Figure 4-3 CW-2 – Depth to Water versus LNAPL Thickness

Figure 4-4 PZ-2S – Depth to Water versus LNAPL Thickness

Figure 4-5 TRC-101 – Depth to Water versus LNAPL Thickness

Figure 5-1 Dissolved Arsenic in Groundwater – Overburden (0-78 ft bgs)

Figure 5--2 Dissolved Arsenic in Groundwater – Upper Bedrock (0-60 ft bgs)

Figure 5-3 Dissolved Arsenic in Groundwater – Middle Bedrock (61 120 ft bgs)

Figure 5-4 Dissolved Arsenic in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-5 1,4-Dioxane (SW8270D SIM) in Groundwater – Overburden (0--78 ft bgs)

Figure 5-6 1,4-Dioxane (SW8270D SIM) in Groundwater – Upper Bedrock (0-60 ft bgs)

Figure 5-7 1,4-Dioxane (SW8270D SIM) in Groundwater – Middle Bedrock (61-120 ft bgs)

Figure 5-8 1,4-Dioxane (SW8270D SIM) in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-9 Total Petroleum in Groundwater – Overburden (0--78 ft bgs)

Figure 5-10 Total Petroleum in Groundwater – Upper Bedrock (0-60 ft bgs)

Figure 5-11 Total Petroleum in Groundwater – Middle Bedrock (61--120 ft bgs)

Figure 5-12 Total Petroleum in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-13 PCE in Groundwater – Overburden (0-78 ft bgs)

Figure 5-14 PCE in Groundwater – Upper Bedrock (0-60 ft bgs)

Figure 5-15 PCE in Groundwater – Middle Bedrock (61-120 ft bgs)

Figure 5-16 PCE in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-17 TCE in Groundwater – Overburden (0-78 ft bgs)

Figure 5-18 TCE in Groundwater – Upper Bedrock (0-60 ft bgs)

Figure 5-19 TCE in Groundwater – Middle Bedrock (61-120 ft bgs)

Figure 5-20 TCE in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-21 Total CVOCs in Groundwater – Overburden (0-78 ft bgs)

Figure 5-22 Total CVOCs in Groundwater – Upper Bedrock (0-60 ft bgs)

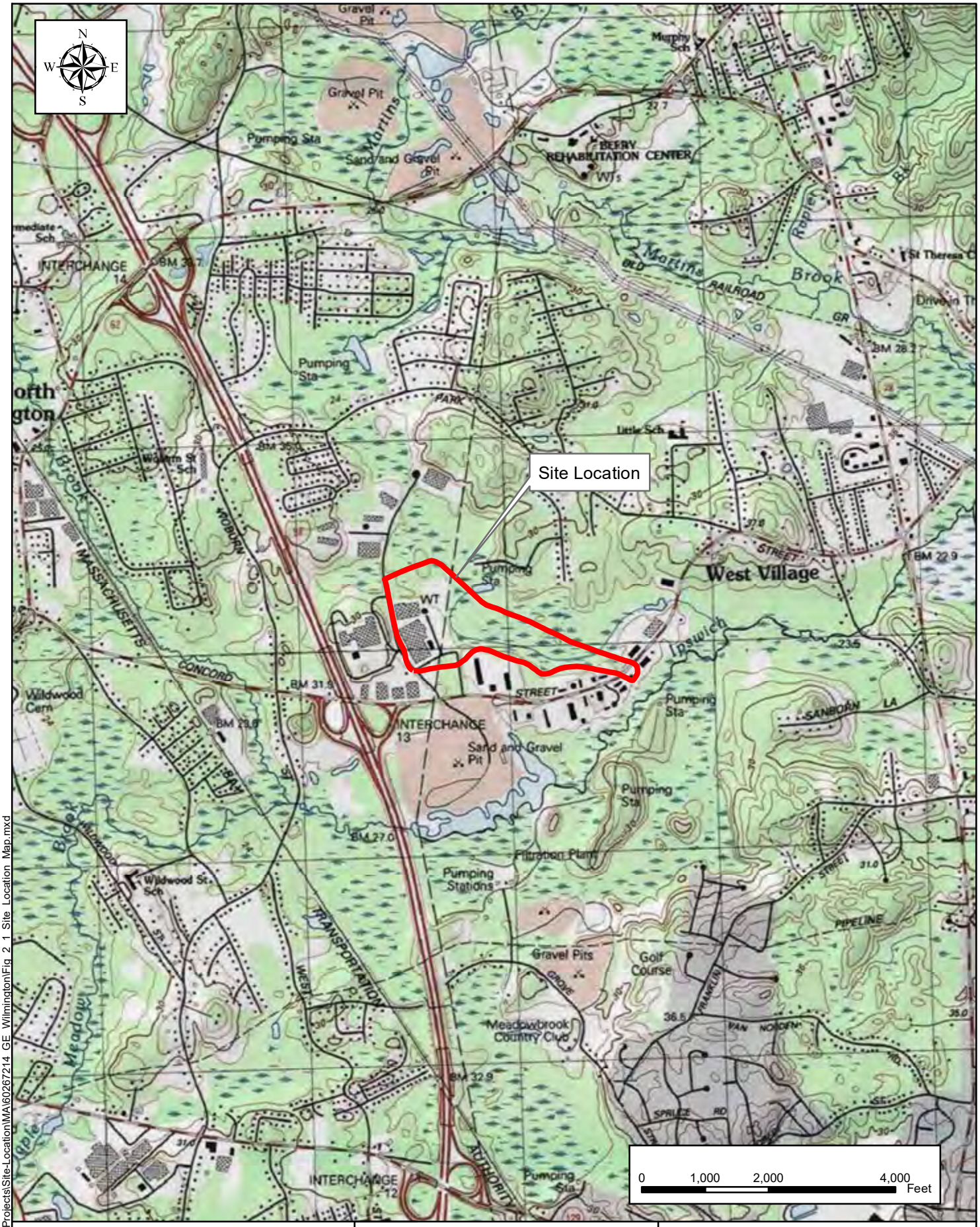
Figure 5-23 Total CVOCs in Groundwater – Middle Bedrock (61-120 ft bgs)

Figure 5-24 Total CVOCs in Groundwater – Lower Bedrock (121-232 ft bgs)

Figure 5-25 2019 Geochemical Parameter Radar Plots

Figure 5-26 2019 PCE and Daughters Radar Plots

Figure 5-27 CVOC Plume Mass and Center of Mass Over Time



Path: L:\Gisprojects\Projects\Site-Location\MA\60267214 GE Wilmington\Fig 2 1 Site Location Map.mxd

AECOM	Former GE Facility 50 Fordham Road, Wilmington, MA		SITE LOCATION MAP
	DATE: 10/10/2017	PROJECT: 60552044	FIGURE: 1-1

Last saved by: BARRYK(2018-03-12) Last Plotted: 2018-03-12
Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\06_MAY 2018 TS STATUS RPT\FIG 1-2_SITE PLAN.DWG
Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ANSI B 11" x 17"

POND
AGFA/ COMPUGRAPHIC CORP.
COMPUGRAPHIC/MSM/ AVCO/TEXTRON
COMPUGRAPHIC CORP.
AGFA COMPUGRAPHICS
CONCORD STREET
#60 MSM INDUSTRIES
#62 WILMINGTON MASONRY
IPSWICH RIVER
PACETTI CORP./ VAL-KE MACHINE
SURREY LANE
PRESTIGE INTERNATIONAL
HALLBERG PARK
REDMOND AVENUE
TRAIL
POND
#71 DL MAHER CO.
CHF PRODUCTS
#70 STERLING
DEPENDABLE MASONRY/ U-DO-IT DELI
DYAR SALES AND MACHINERY
ELECTR DYNAM INC.
DRAKE BAKERIES
MARRIOT FOODS
SULLIVAN TIRE
SANBORN TRANSPORT
STICKNEY WELL ROAD
FURBISH POND LANE
#3
#6
GROUND OBSCURED BY DENSE TREES
COMMON LAND V
LMC PROPERTIES INC.
CENTRE TRUCKING
ACCESS PATH
MELANSON
#87 HOWLAND DEVEL
LILY TRUCKING
STICKNEY WELL
FURBISH POND
W.E 76.9
W.E 77.0
#91 (FED EX)
#90 ST. JOHNSBURY TRUCKING
WETLANDS AREA
CB-2
WATER QUALITY SWALE NETWORK
#95 YRC FREIGHT (ROADWAY EXPRESS)
OUTFALL 002
OUTFALL 001
WASTEWATER TREATMENT PLANT
FORMER METAL CHIP DISPOSAL AREA
WATER QUALITY SWALES
CULVERT
EASTERN PARKING LOT
WATER TANK
GUARD SHACK
2003 TRMT. BLDG.
BIORETENTION AREA
PUMP HOUSE/ VAULT
#99 INTERNATIONAL FAMILY CHURCH (FORMERLY CONVERSE INC.)
OLD TRMT. BLDG.
BLDG. 3
OIL HOUSE
BUILDING 2 (AMETEK)
BUILDING 1A (K1 SPEED) (CRANBARRY)
TRENCH DRAIN
FORMER TANK FARM LOCATION
BUILDING 1 (UPS)
2,000 GAL. TANK (GAS, SAND & OILY WATER RETENTION)
PARKING AREA
FORMER TANK F
PARKING
FORDHAM ROAD
VARIOUS COMMERCIAL
CONCORD STREET
CONSTRUCTION AREA
PARKING AREA

LEGEND

- BUILDING
- FORMER BUILDING
- APPROXIMATE PROPERTY LINE
- APPROXIMATE TOWN LINE
- EDGE OF PAVEMENT
- FENCE LINE
- CULVERT
- WELL LOCATION
- WATER SUPPLY WELL LOCATION
- WATER BODY
- APPROXIMATE EDGE OF WATER/STREAM
- APPROXIMATE EDGE OF WETLANDS
- MCP SITE BOUNDARY

Horizontal: NAD83
Vertical: NGVD29

160 0 320
GRAPHIC SCALE IN FEET

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

SITE PLAN

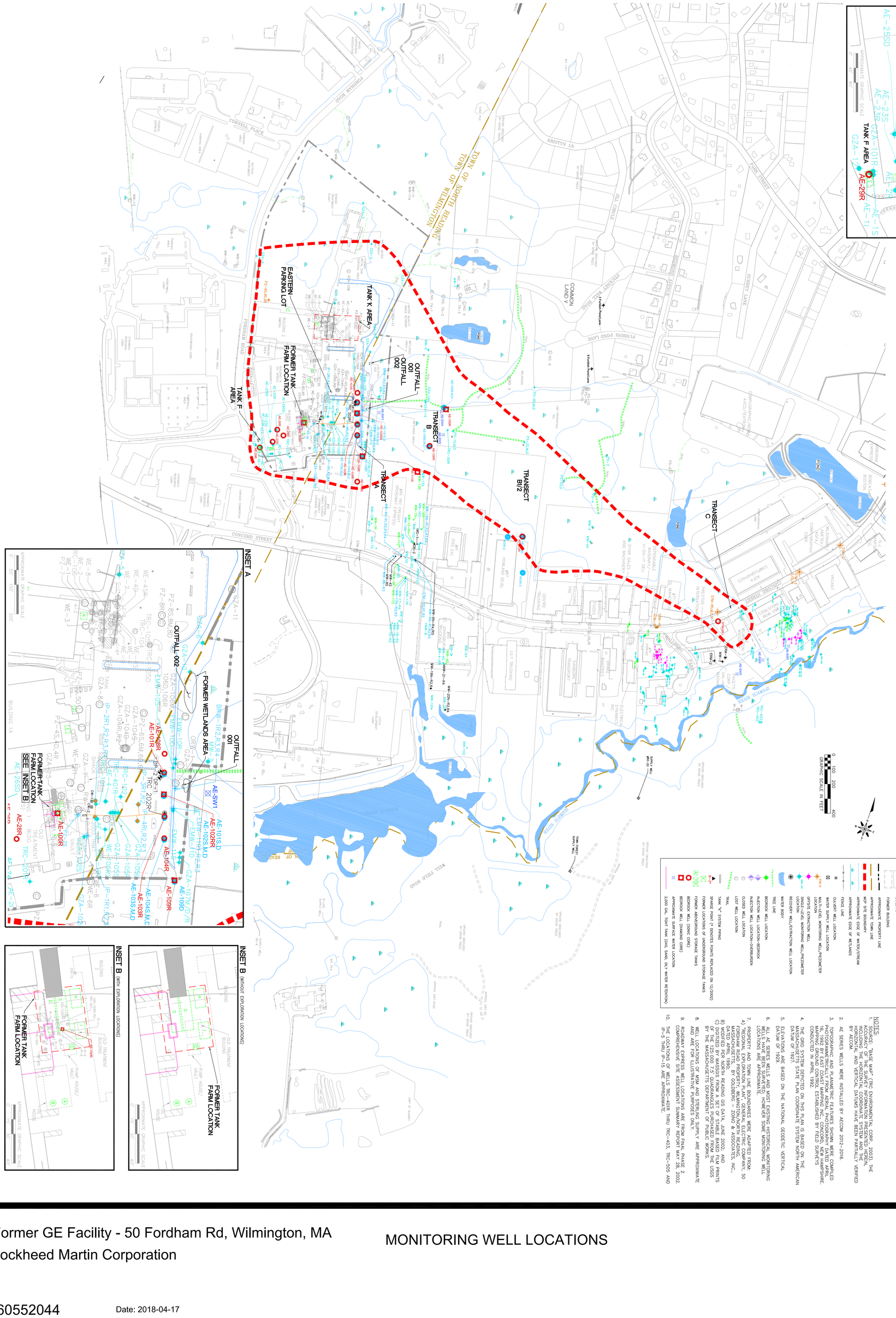
AECOM

60552044 2018-03-12

FIGURE: 1-2

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\06_MAY 2018 TS STATUS RPT\FIG 1-3_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-04-18

Project Management Initials: K.P.B. Designer: S.O. Checked: A.T. Approved: ARCH C 18" x 24"



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY AERIAL MAPPING CO., INC. OF HOPEDALE, NEW HAMPSHIRE. MAPPING GROUND CONTROL ESTABLISHED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AND MOST EXISTING HISTORICAL MONITORING WELLS HAVE BEEN SURVEYED. HOWEVER SOME MONITORING WELL LOCATIONS ARE APPROXIMATE.
7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLAN", GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG-ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) "PROPERTY BOUNDARY PLAN", DATED JUNE 2002; AND C) DIGITIZED BY MASGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

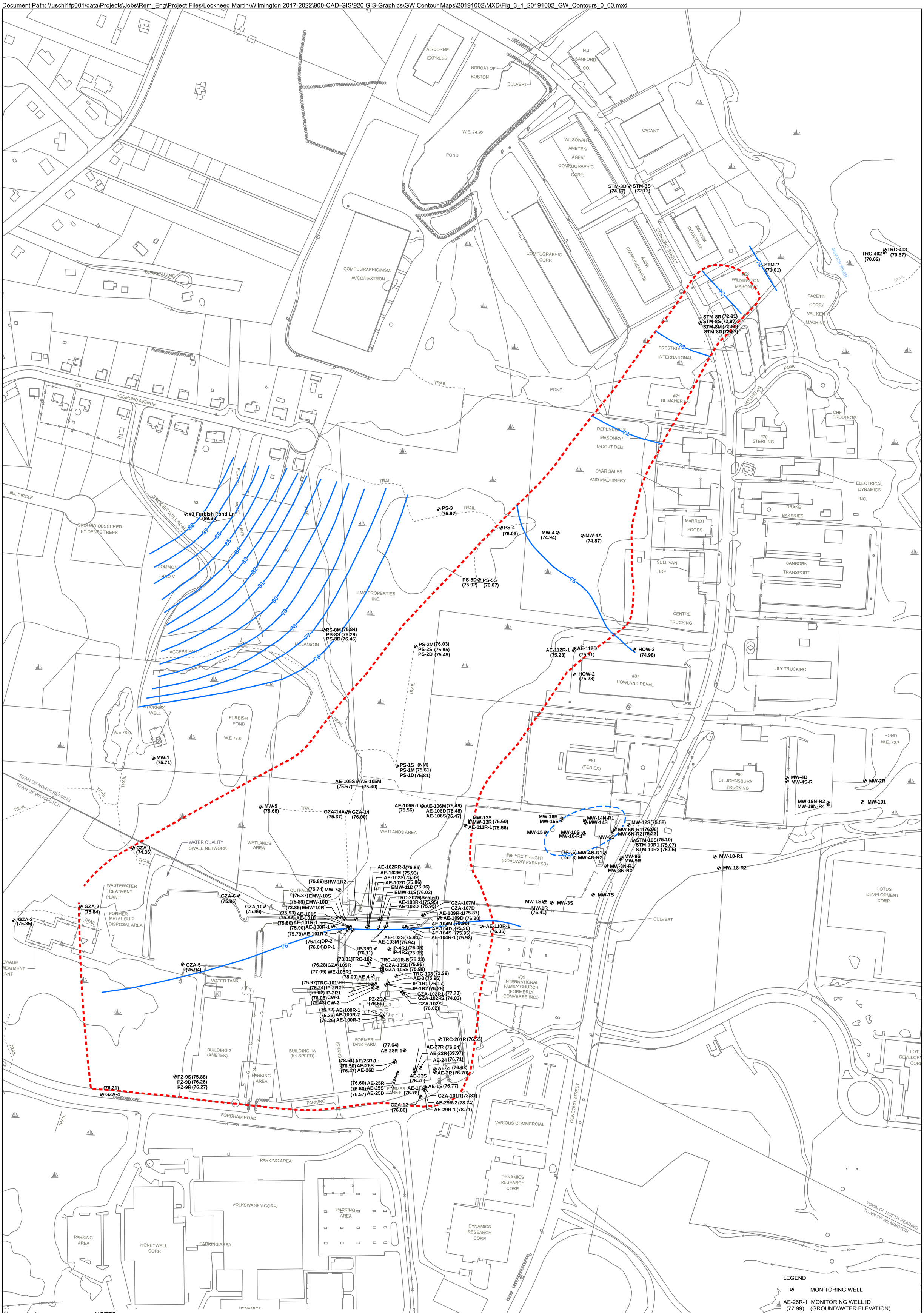
MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-04-17

FIGURE: 1-3

Document Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\GW Contour Maps\20191002\MXD\Fig_3_1_20191002_GW_Contours_0_60.mxd



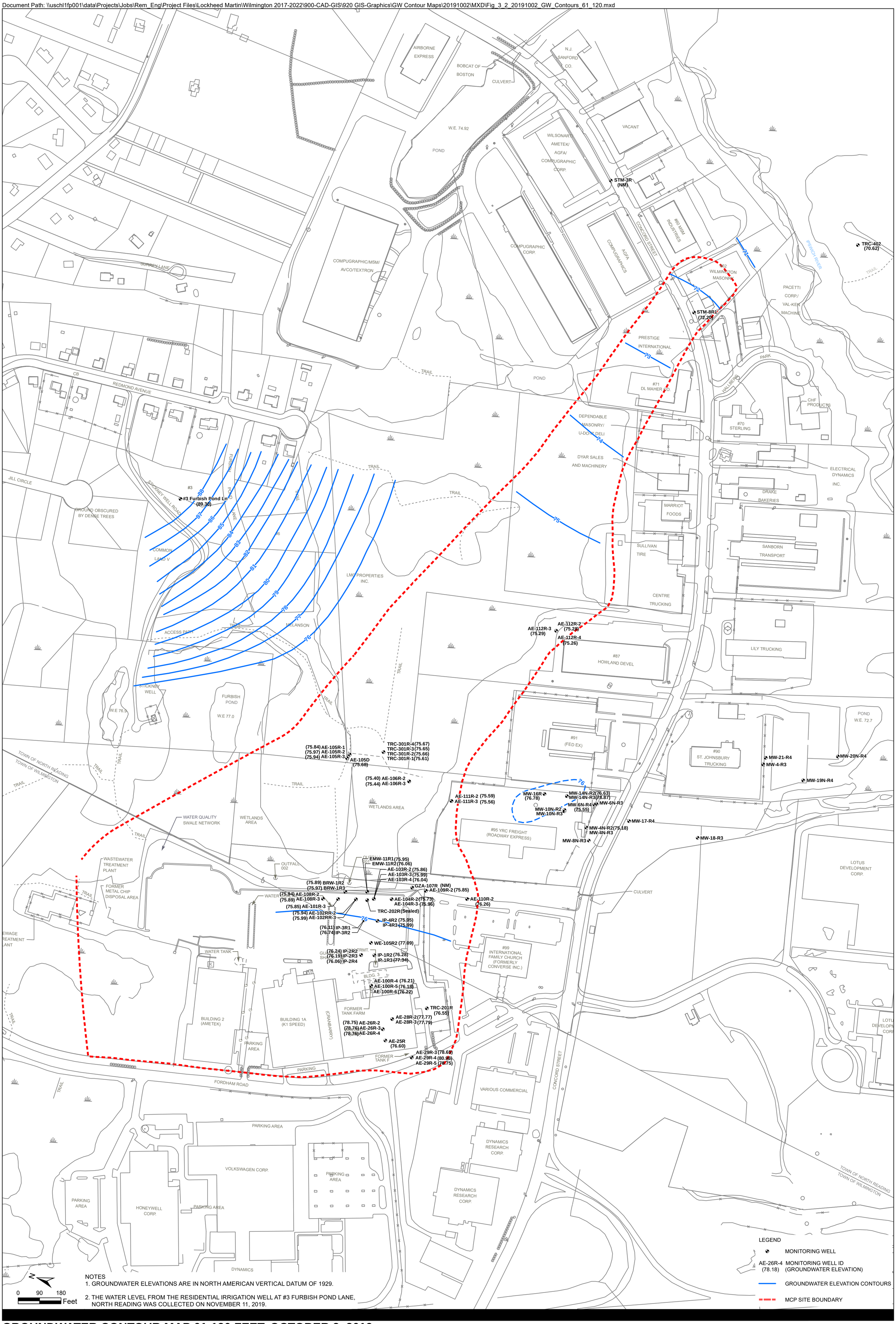
GROUNDWATER CONTOUR MAP 0-60 FEET, OCTOBER 2, 2019
FORMER GE FACILITY
50 FORDHAM RD, WILMINGTON, MA
Project No.: 60552044.13

DRAFT

AECOM

FIGURE 3-1

Document Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\GW Contour Maps\20191002\MXD\Fig_3_2_20191002_GW_Contours_61_120.mxd



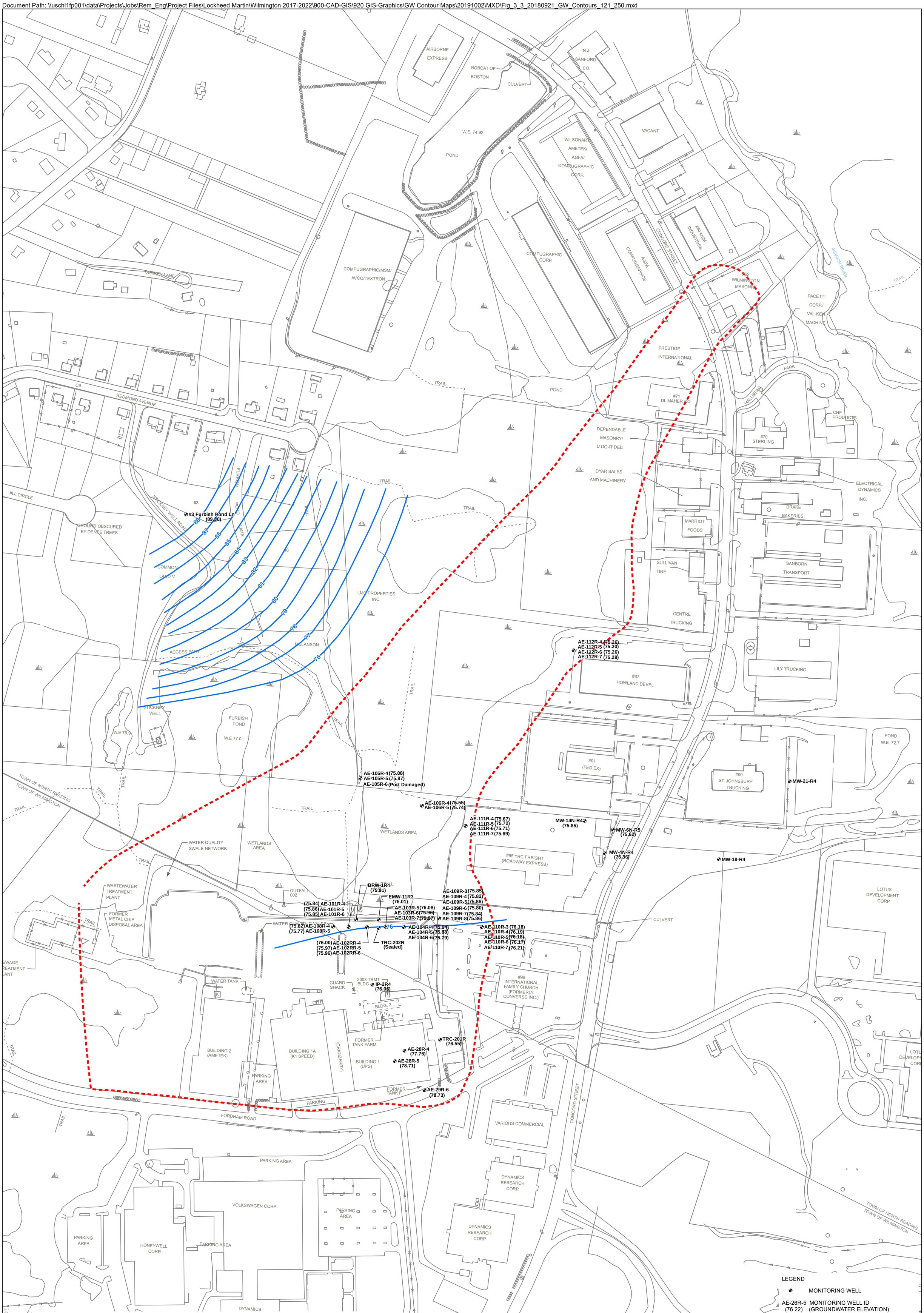
GROUNDWATER CONTOUR MAP 61-120 FEET, OCTOBER 2, 2019
FORMER GE FACILITY
50 FORDHAM RD, WILMINGTON, MA
Project No.: 60552044.13

DRAFT

AECOM

FIGURE 3-2

Document Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\GW Contour Maps\20191002\MXD\Fig_3_3_20180921_GW_Contours_121_250.mxd



GROUNDWATER CONTOUR MAP 121-250 FEET, OCTOBER 2, 2019

FORMER GE FACILITY

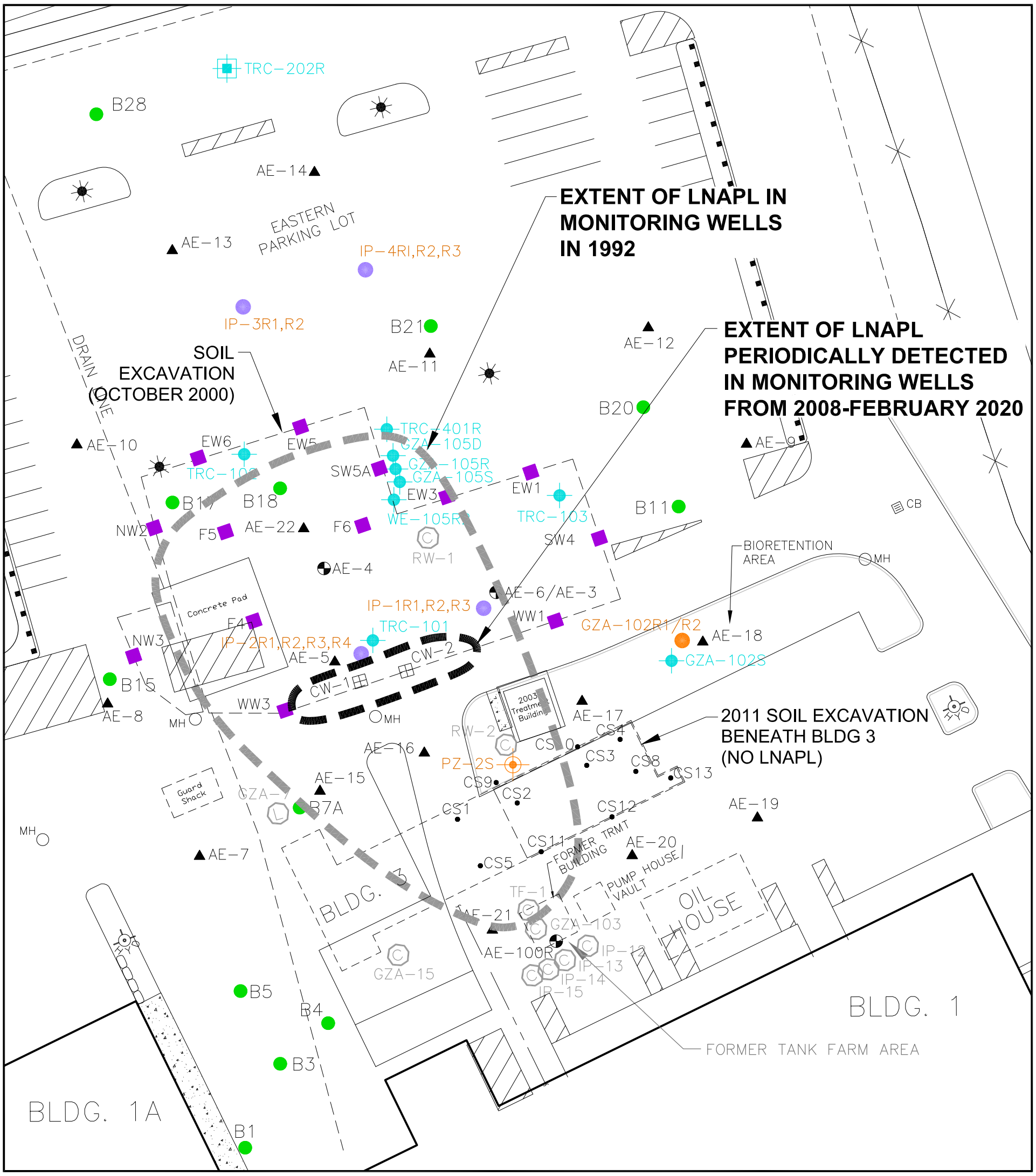
50 FORDHAM RD, WILMINGTON, MA

Project No.: 60552044.13

DRAFT

AECOM

FIGURE 3-3



LEGEND

- MONITORING WELL LOCATIONS
- 2012 SOIL BORING LOCATION
- 1999-2000 SOIL BORING LOCATION (APPROXIMATE)
- 2011 BUILDING 3 POST EXCAVATION SOIL SAMPLE LOCATION (APPROXIMATE)
- 2000 EPL POST EXCAVATION SOIL SAMPLE LOCATION (APPROXIMATE)
- CLOSED WELL LOCATION
- LOST WELL LOCATION
- APPROXIMATE EXTENT OF LNAPL IN 2008-2018 (CW-1, CW-2) [APPROX. 1,792.8 SQ. FT.]
- APPROXIMATE EXTENT OF LNAPL IN 1992 (TF-1, RW-1, RW-2, PZ-2S, GZA-105S, DP-5, DP-6) [APPROX. 19,574.3 SQ. FT.]

SOURCE:

1. EPL Soil Borings (B1, B4, B11, B15, B17, B18, B21, B28) from Phase III RAP Addendum Report (TRC, March 2000)
2. Post Excavation Soil Samples (floor and side walls) and Confirmatory Soil Boring Samples (B7A, B20) from Phase IV As-Built Construction and Final Inspection Report (TRC, January 2001)
3. Building 3 Post Excavation Soil Samples (CS-1 through CS-5, CS-8 through CS-12) from RAM Completion Report (TetraTech, March 2012)
4. Eastern Parking Lot Soil Borings (AE-4 through AE-22, excluding AE-12, -13, -14) from Phase II Comprehensive Site Assesment (AECOM, 2017)

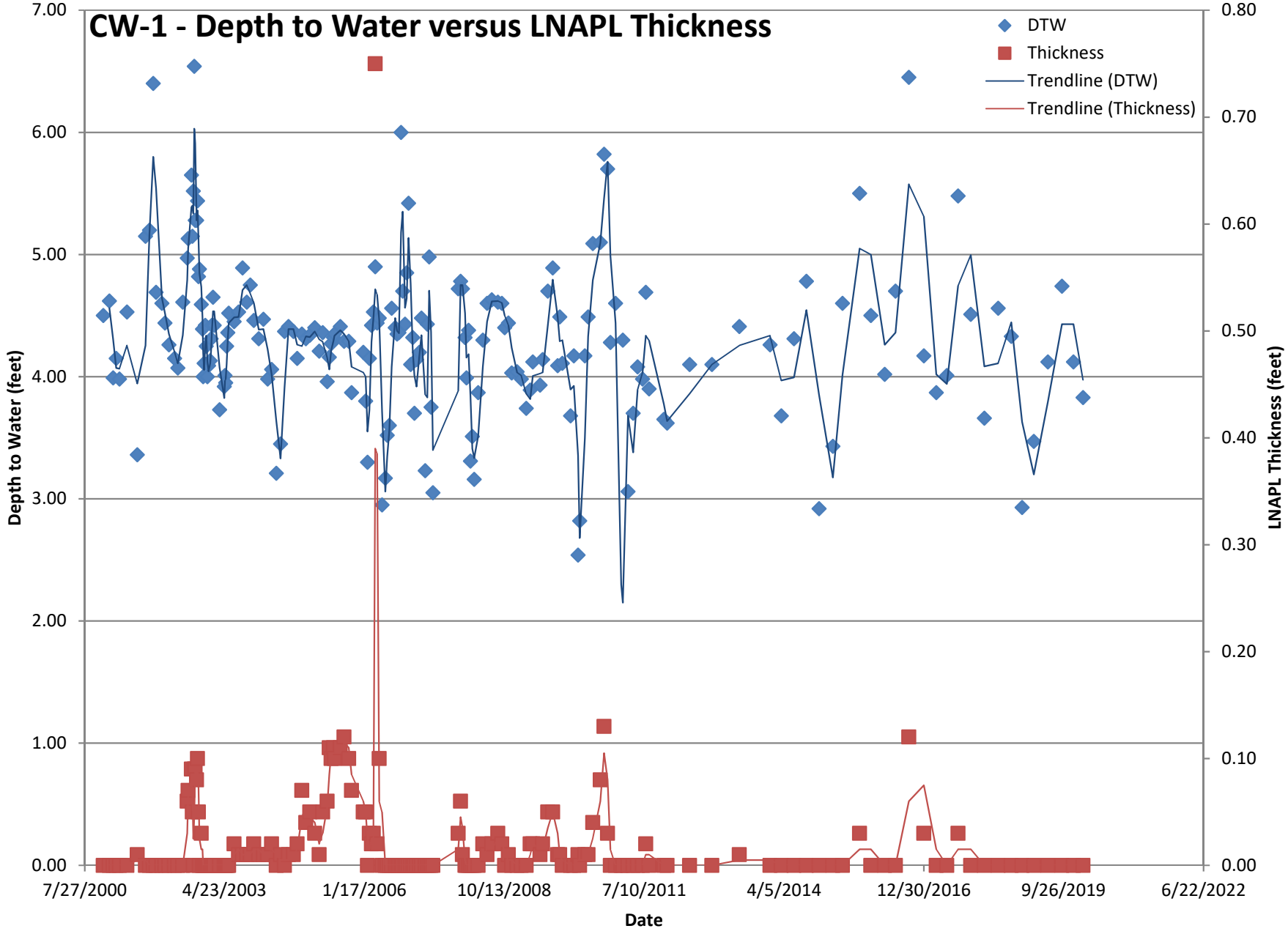
Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

TANK FARM - EPL
EXTENT OF LNAPL IMPACTS

60552044 2020-02-26

AECOM

FIGURE: 4-1



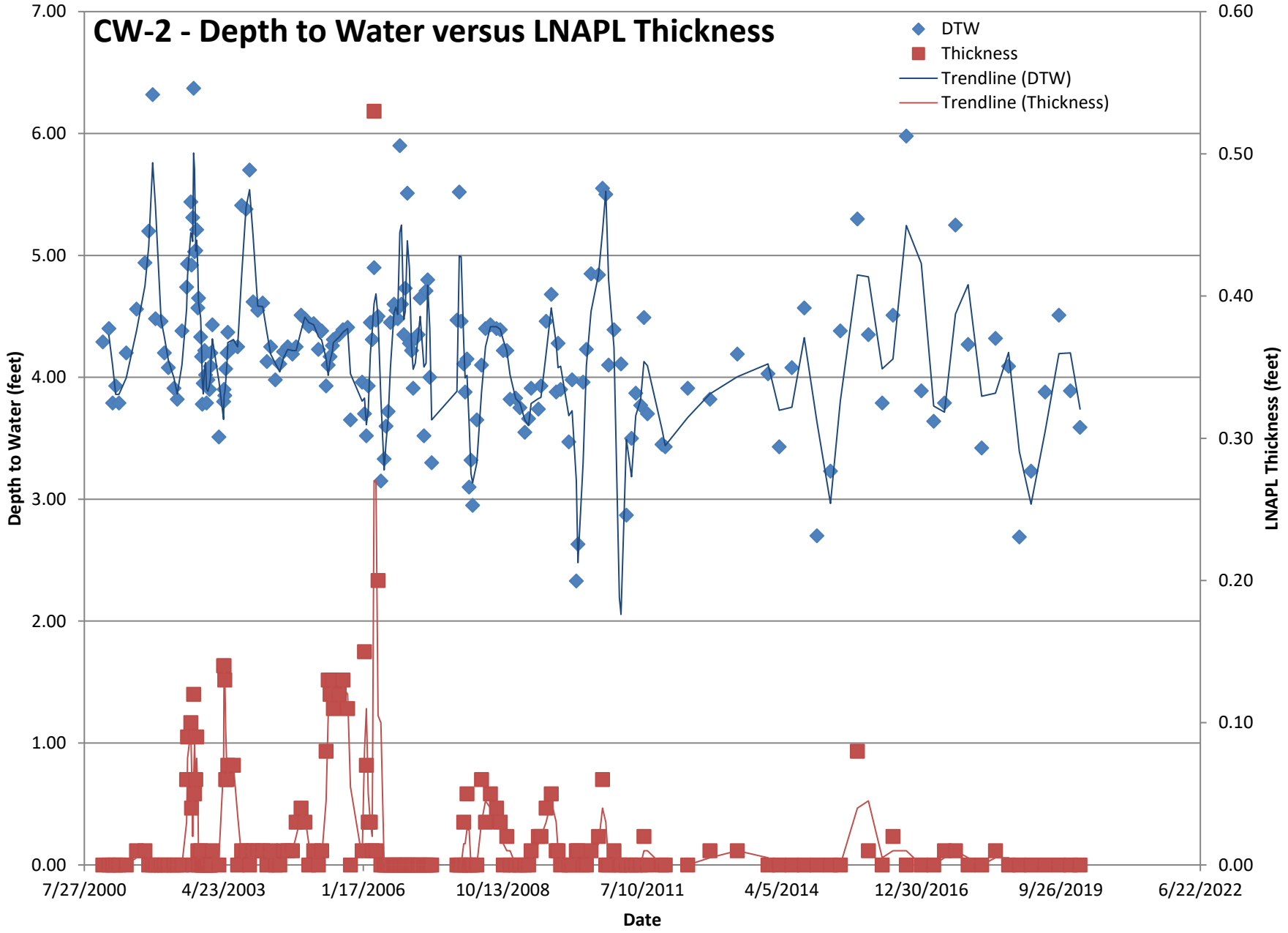
AECOM

Figure: 4-2

CW-1 - DEPTH TO WATER VS LNAPL THICKNESS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Client Lockheed Martin Corporation
60552044

2/25/2020



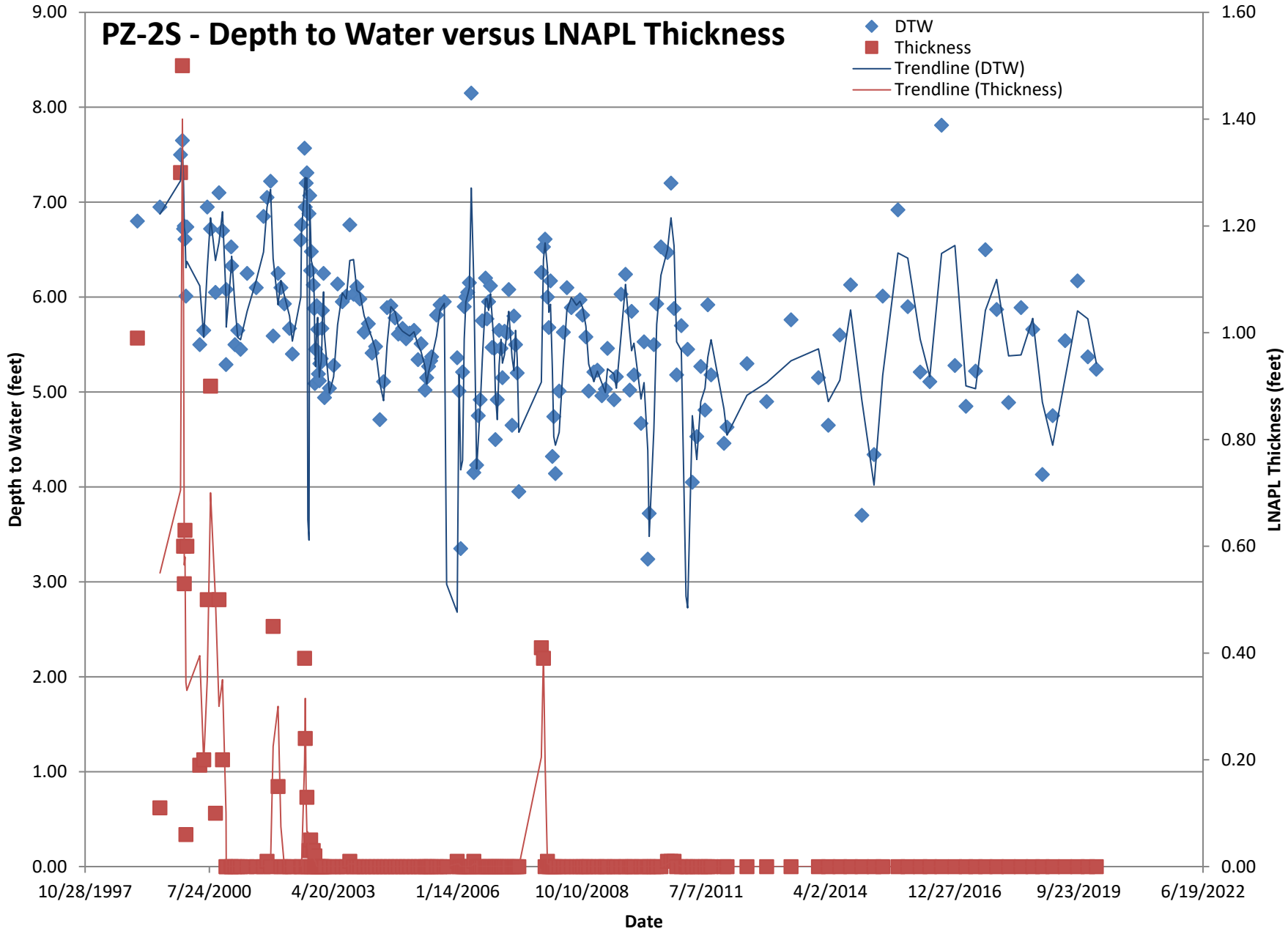
AECOM

Figure: 4-3

CW-2 - DEPTH TO WATER VS LNAPL THICKNESS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Client Lockheed Martin Corporation
60552044

2/25/2020



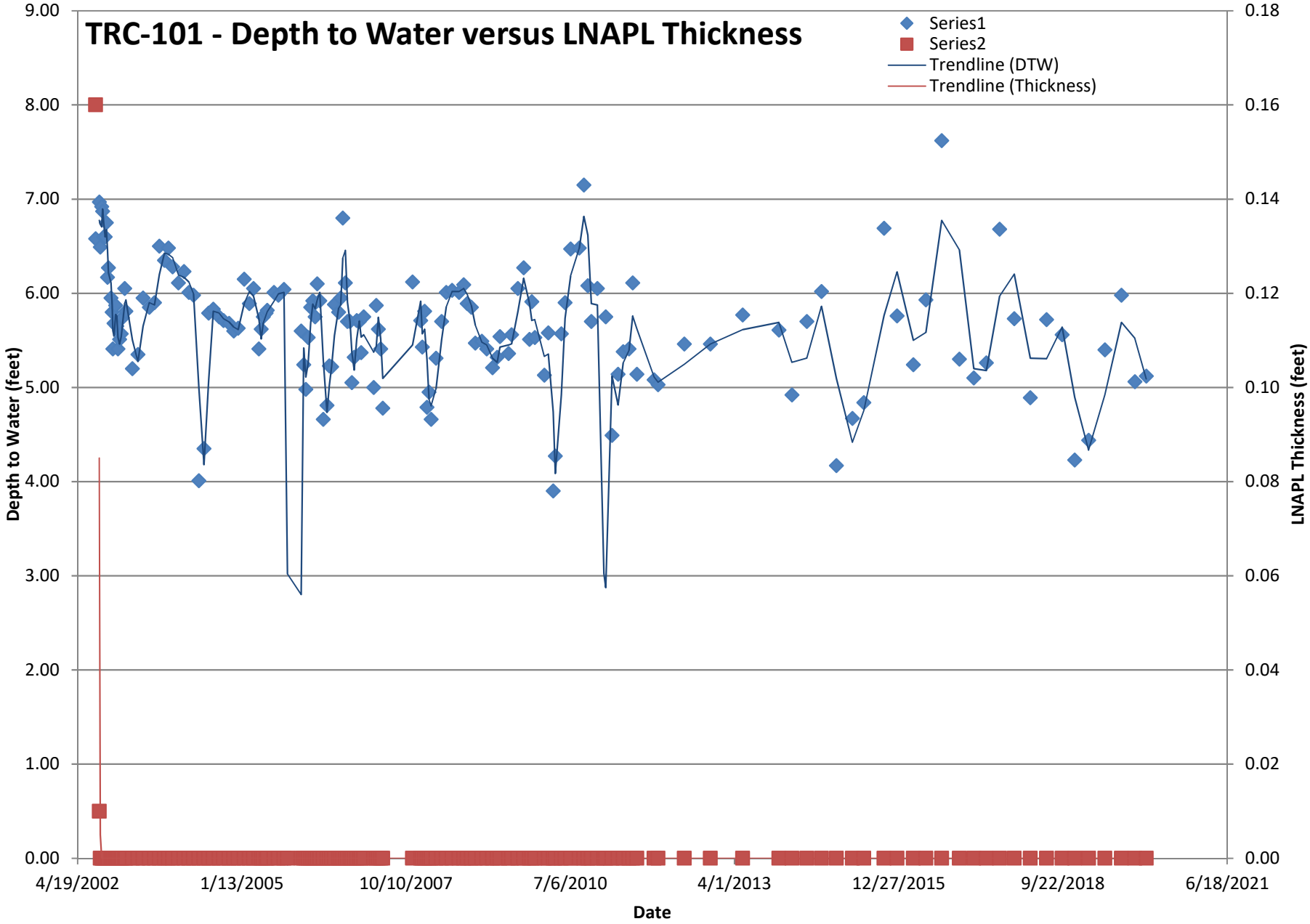
AECOM

Figure: 4-4

PZ-2S - DEPTH TO WATER VS LNAPL THICKNESS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Client Lockheed Martin Corporation
60552044

2/25/2020



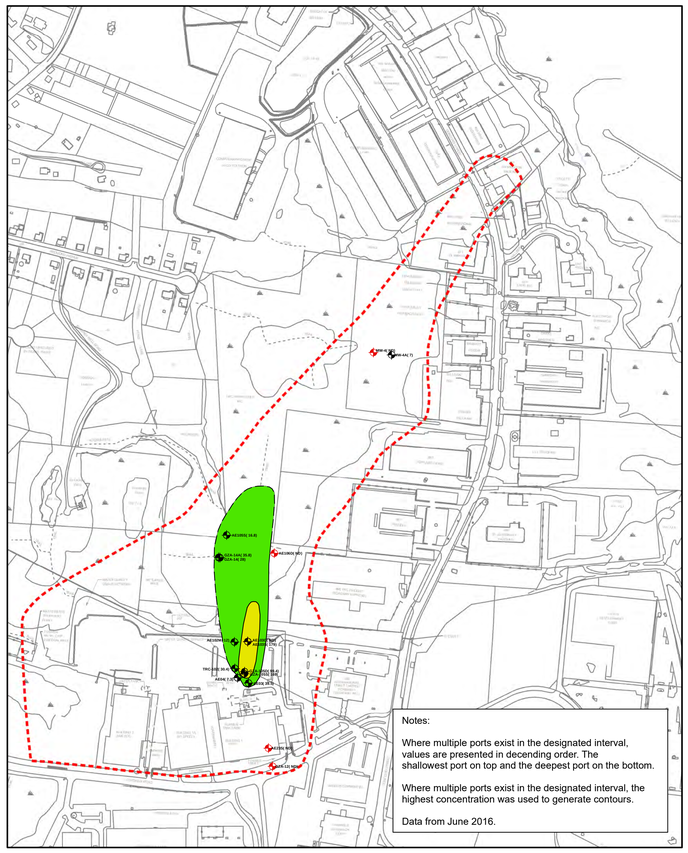
AECOM

Figure: 4-5

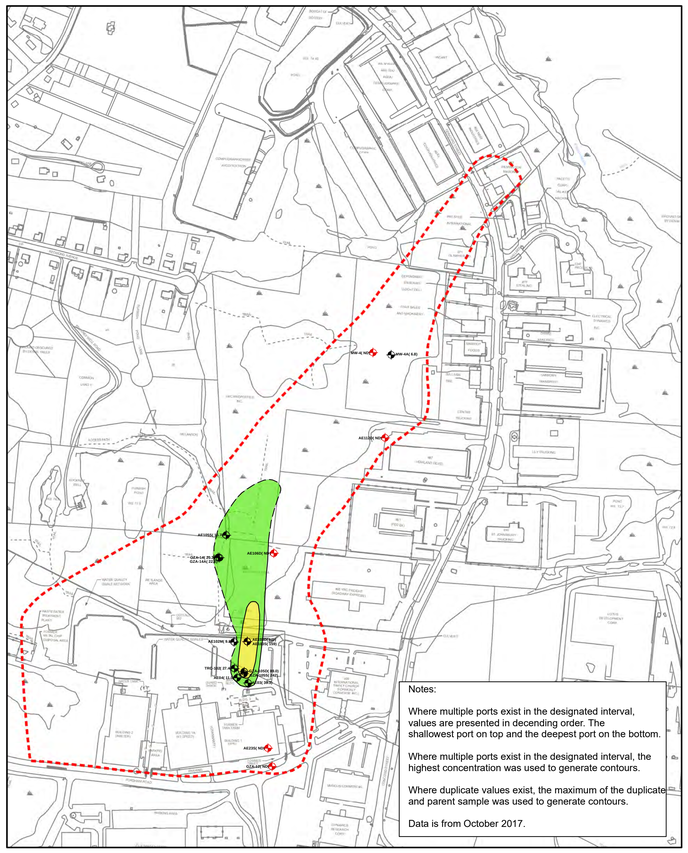
TRC-101 - DEPTH TO WATER VS LNAPL THICKNESS

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Client Lockheed Martin Corporation
60552044

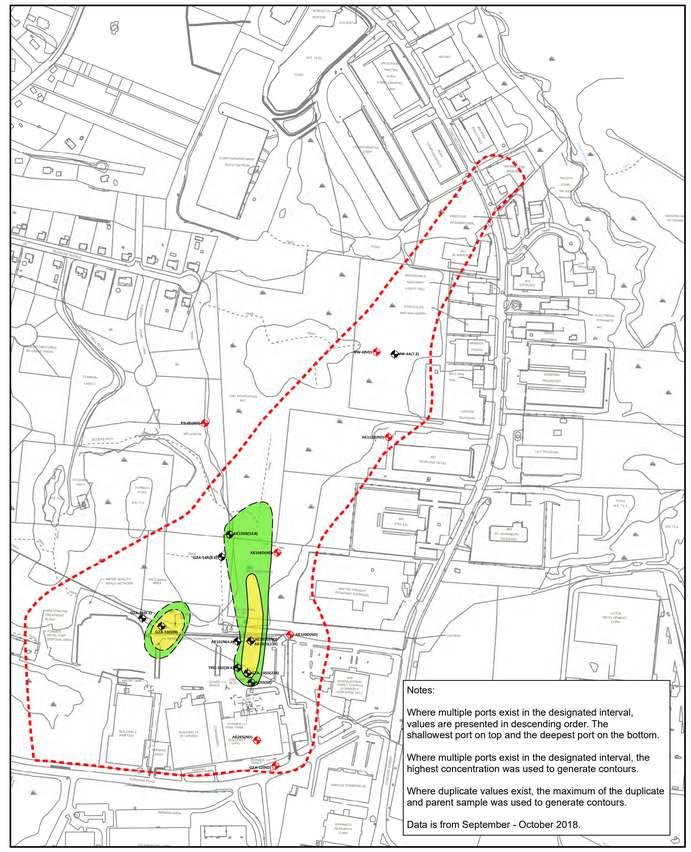
2/25/2020



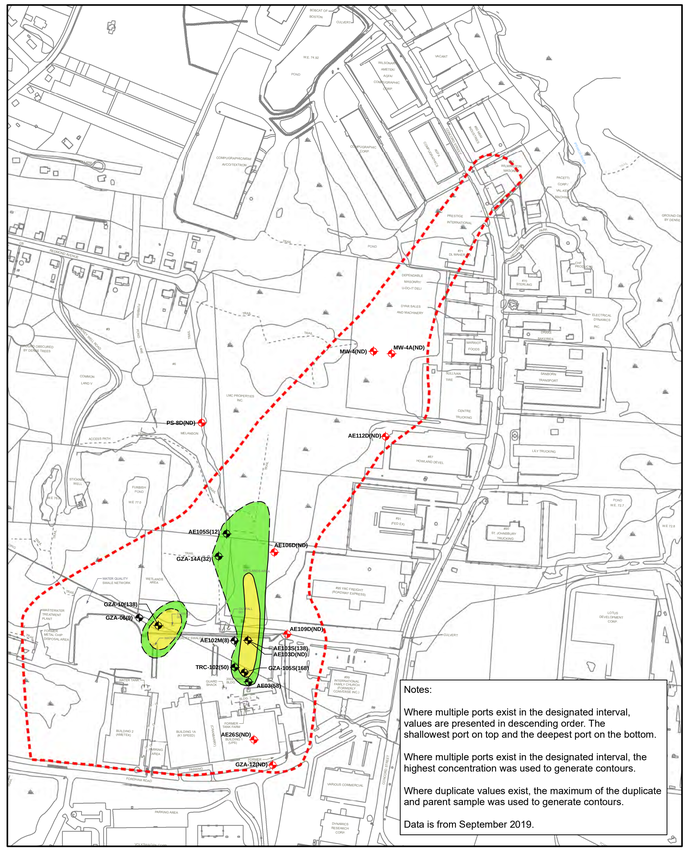
2016 Dissolved Arsenic in Groundwater
Overburden (0 - 78 ft bgs)



2017 Dissolved Arsenic in Groundwater
Overburden (0 - 78 ft bgs)



2018 Dissolved Arsenic in Groundwater
Overburden (0 - 78 ft bgs)



2019 Dissolved Arsenic in Groundwater
Overburden (0 - 78 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 10 µg/l

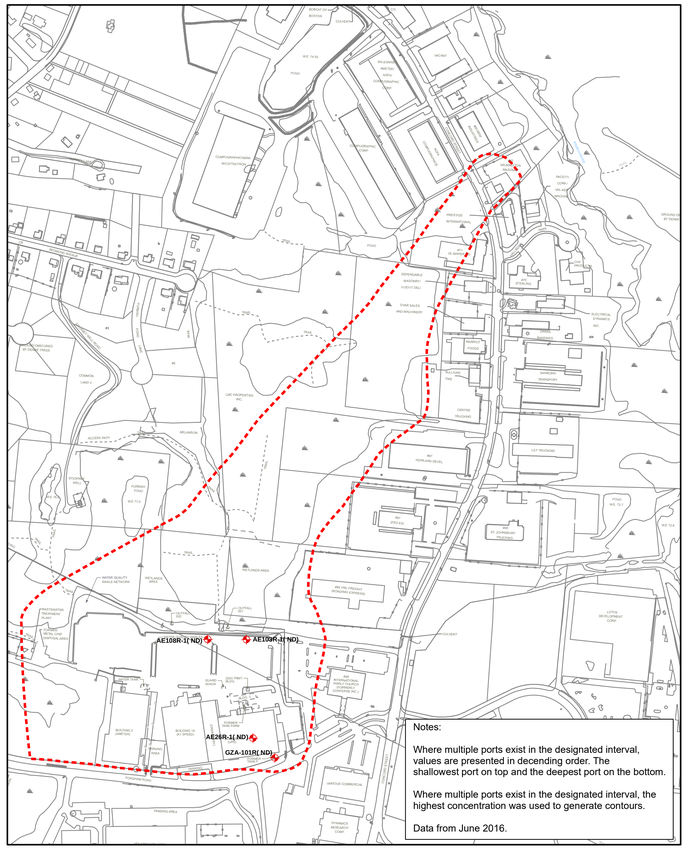
0 100 200 400 600 800 Feet

AECOM

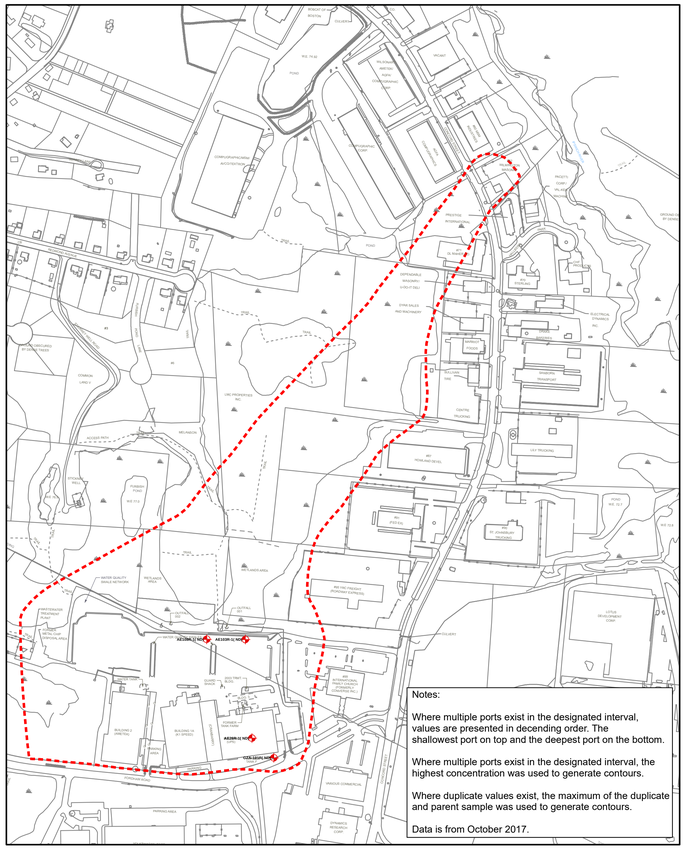
Dissolved Arsenic in Groundwater
Overburden (0 - 78 ft bgs)

Figure 5-1

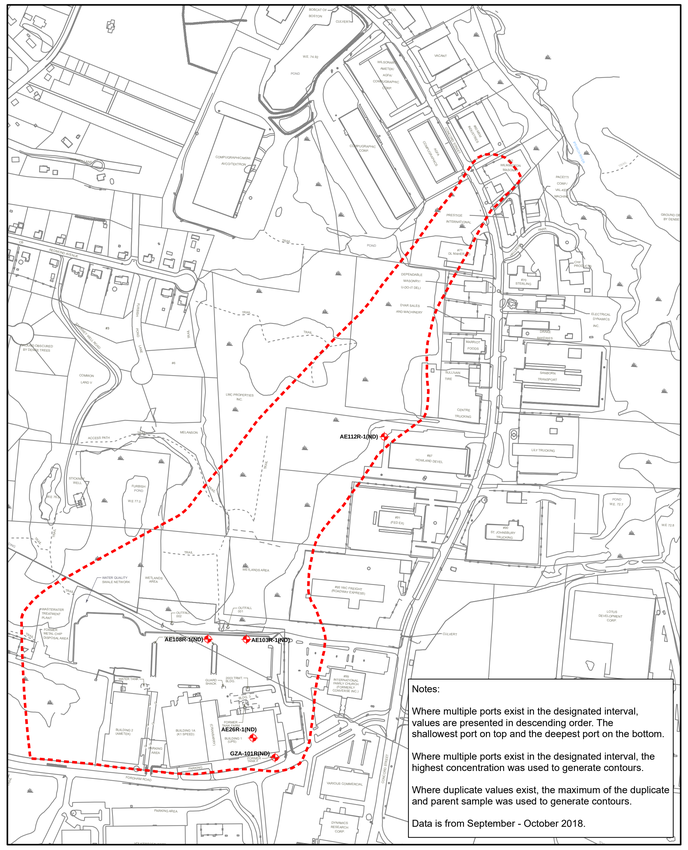
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_1_As_OB_2016_2019.mxd



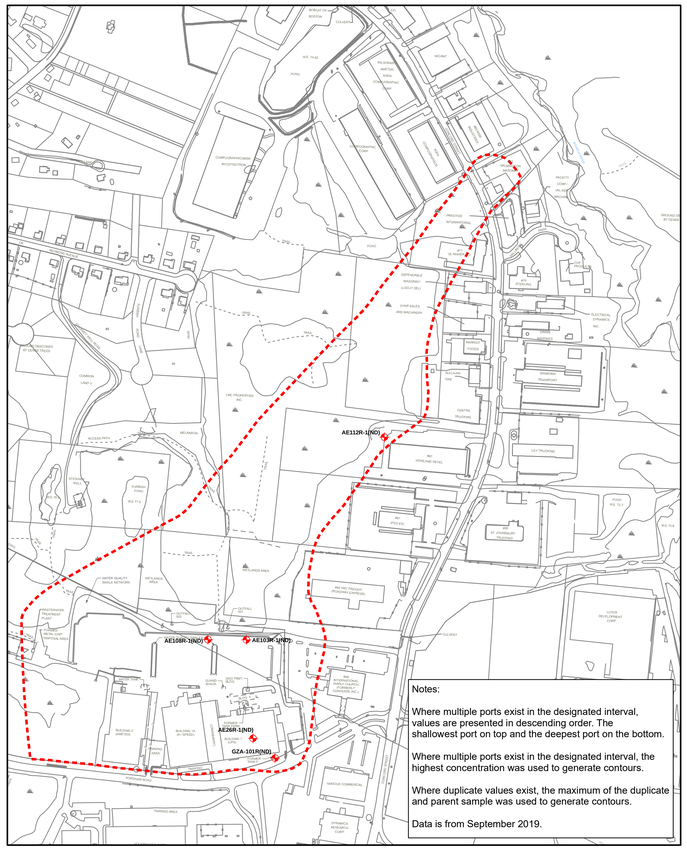
2016 Dissolved Arsenic in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2017 Dissolved Arsenic in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2018 Dissolved Arsenic in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2019 Dissolved Arsenic in Groundwater
Upper Bedrock (0 - 60 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 10 µg/l

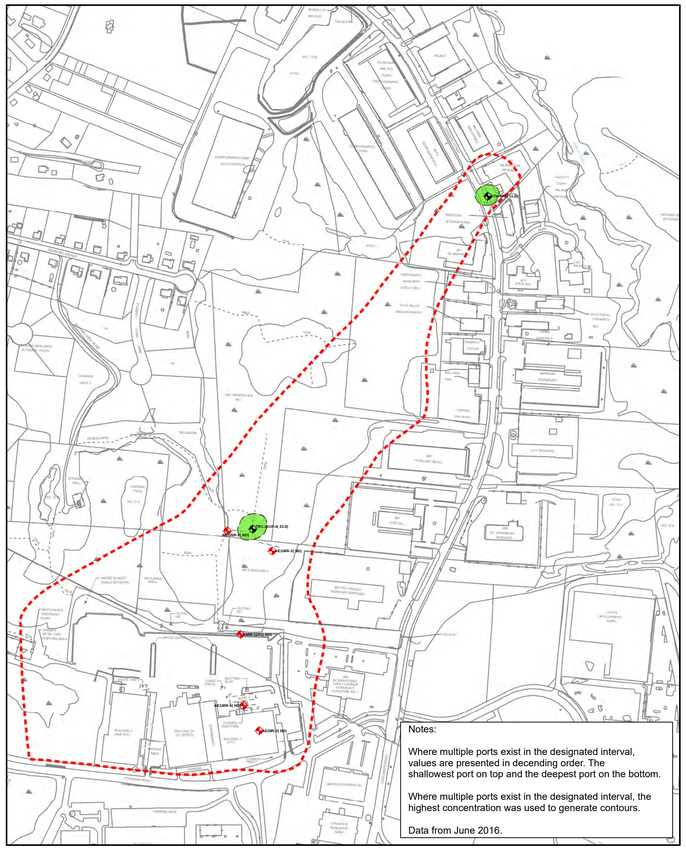
N

0 100 200 400 600 800 Feet

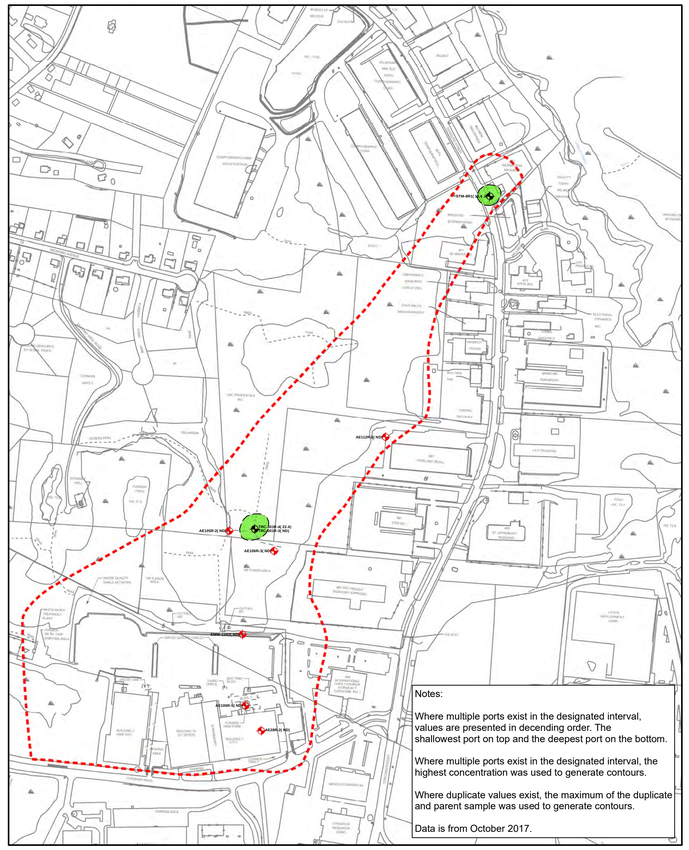
Dissolved Arsenic in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-2

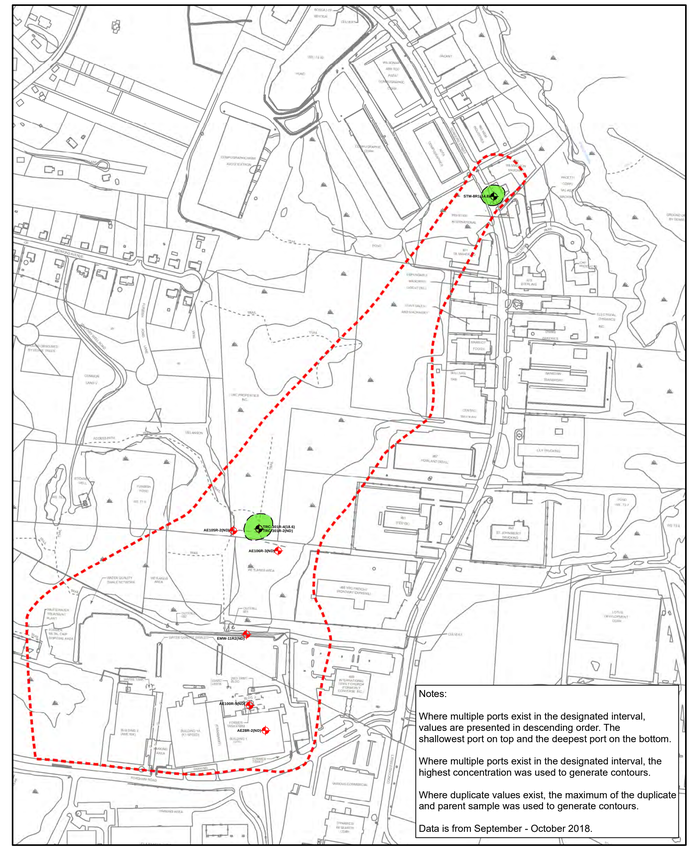
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_2_As_UB_2016_2019.mxd



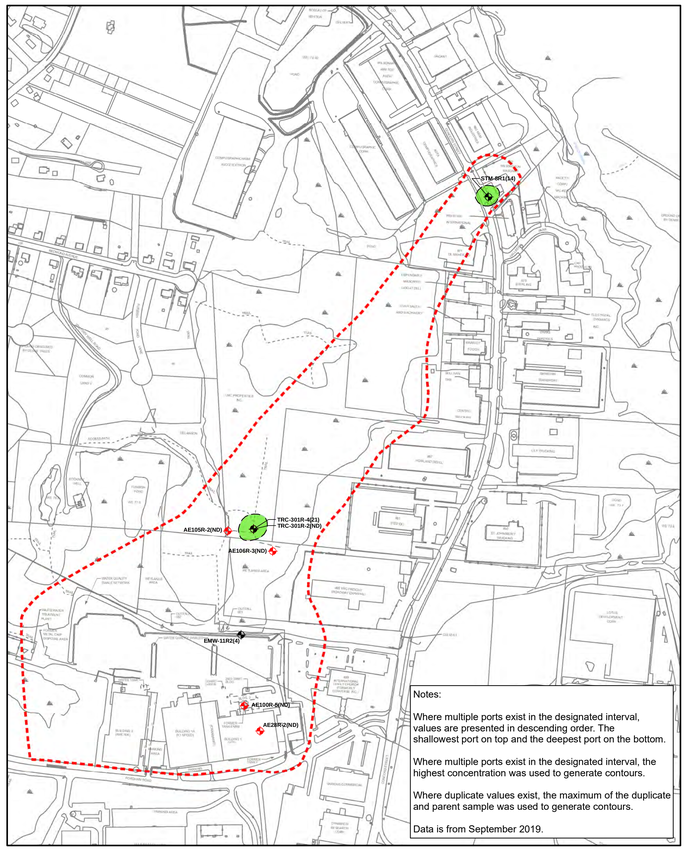
2016 Dissolved Arsenic in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 Dissolved Arsenic in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 Dissolved Arsenic in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 Dissolved Arsenic in Groundwater
Middle Bedrock (61 - 120 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 10 µg/l

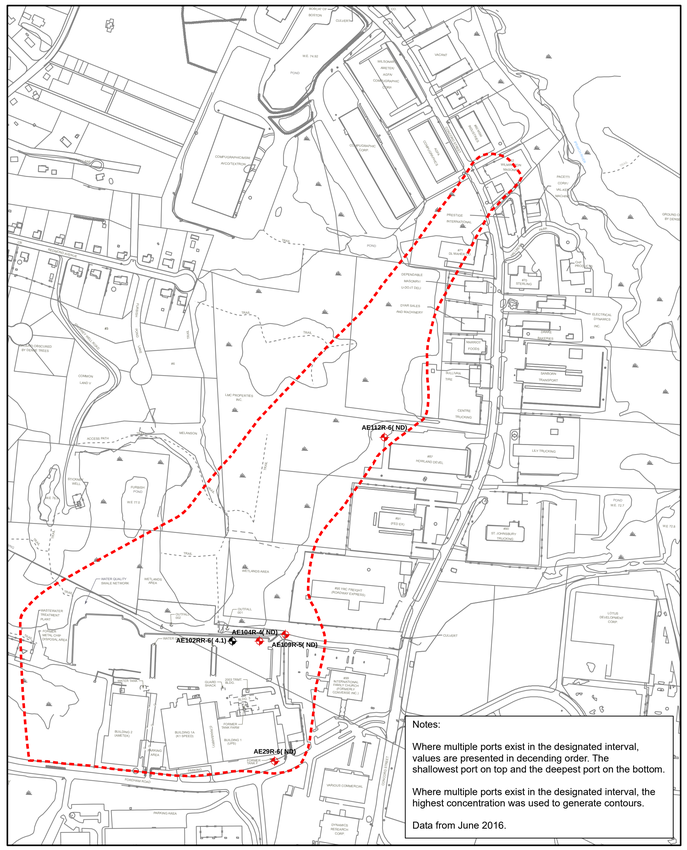
N

0 100 200 400 600 800 Feet

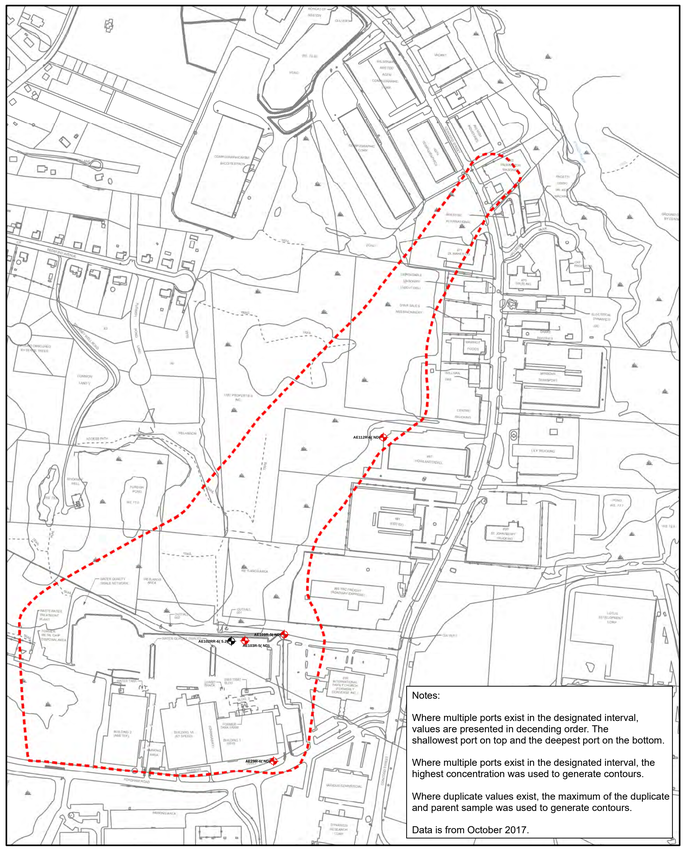
Dissolved Arsenic in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-3

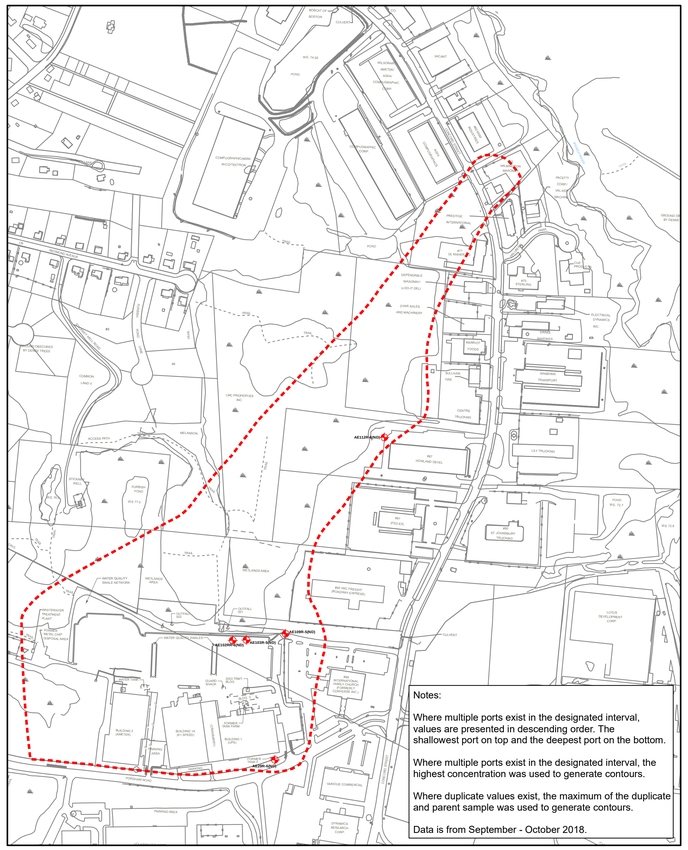
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_3_As_Middle_BR_2016_2019.mxd



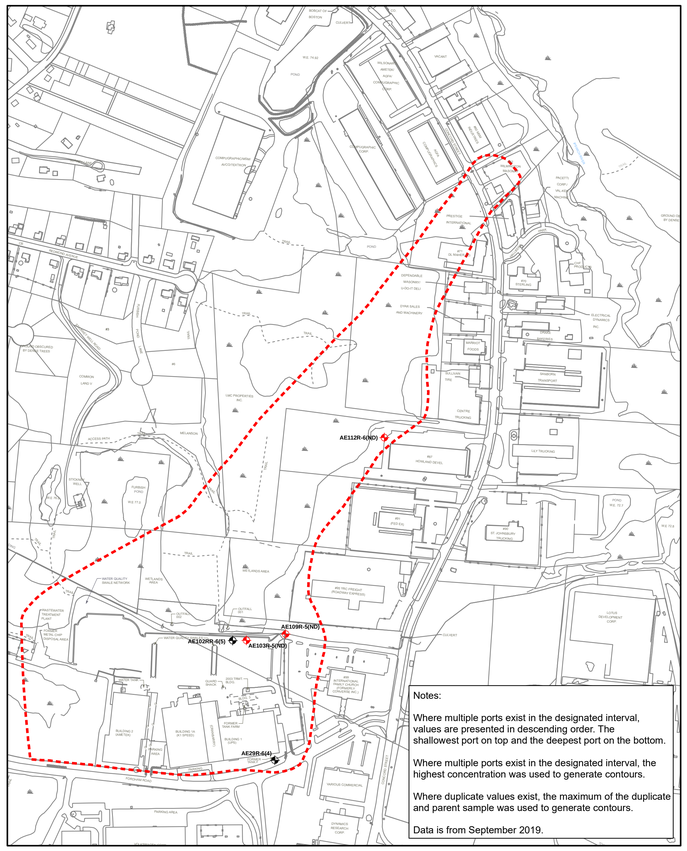
2016 Dissolved Arsenic in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 Dissolved Arsenic in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 Dissolved Arsenic in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 Dissolved Arsenic in Groundwater
Lower Bedrock (121 - 232 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 10 µg/l

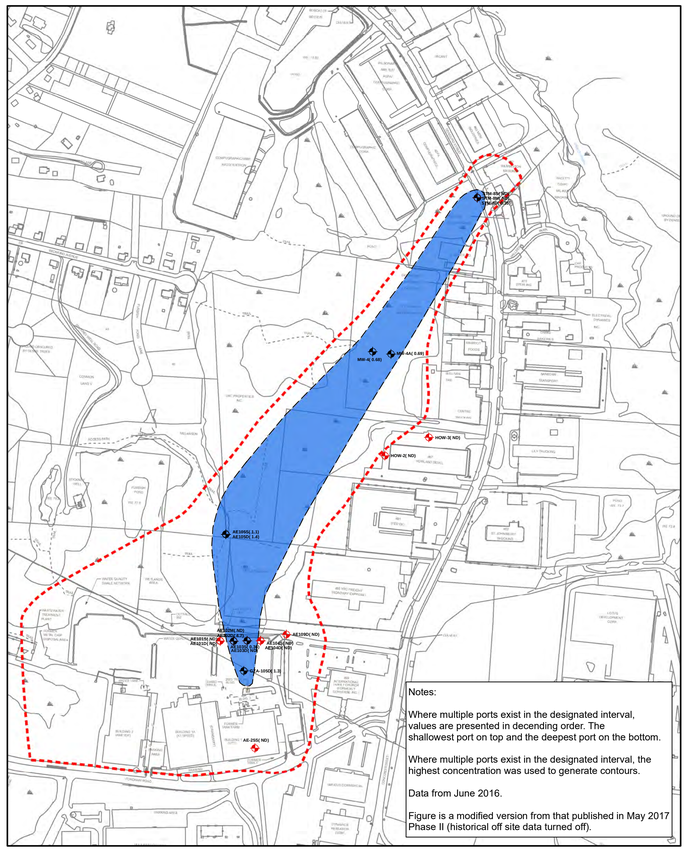
N

0 100 200 400 600 800 Feet

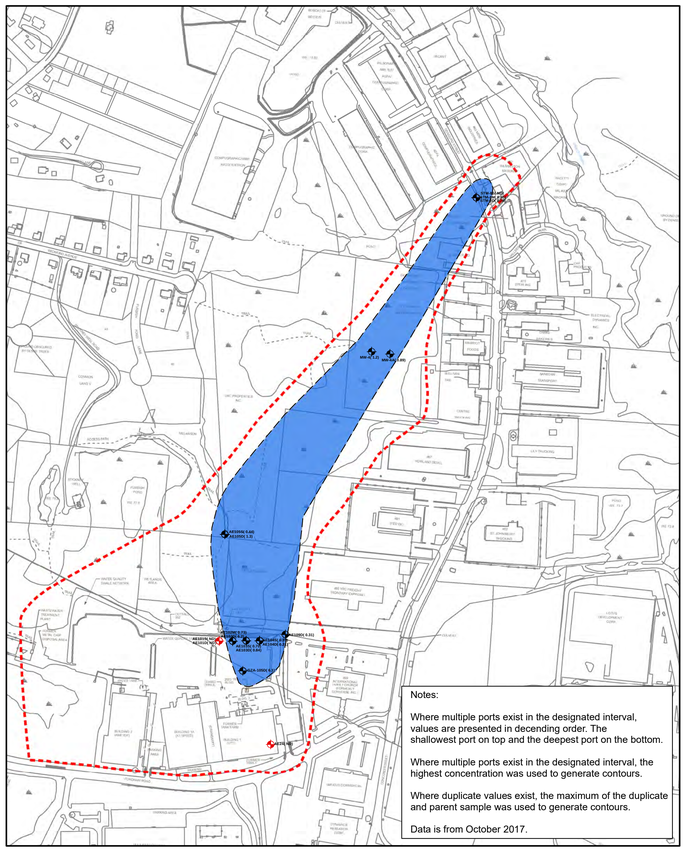
Dissolved Arsenic in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-4

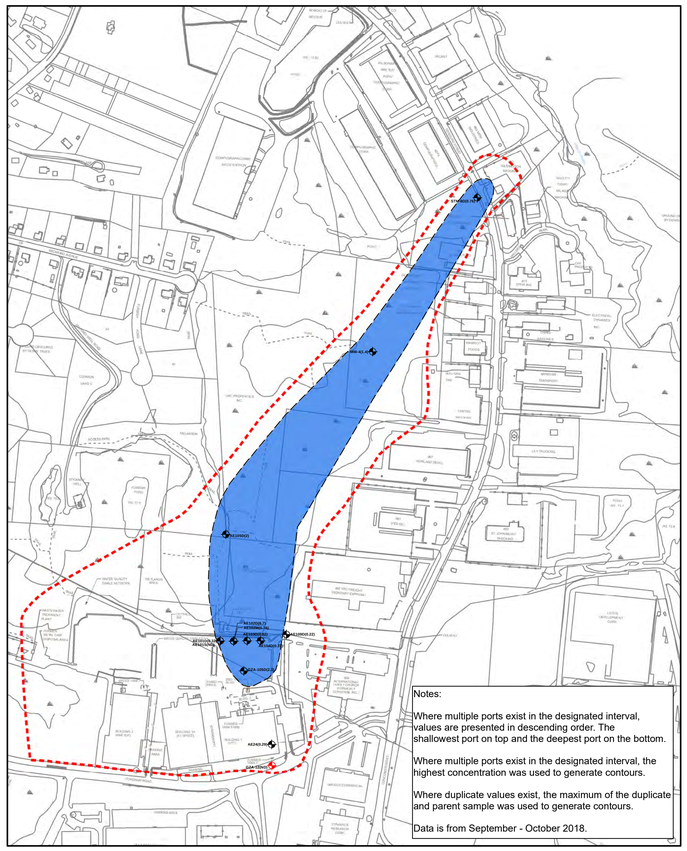
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_4_As_Lower_BR_2016_2019.mxd



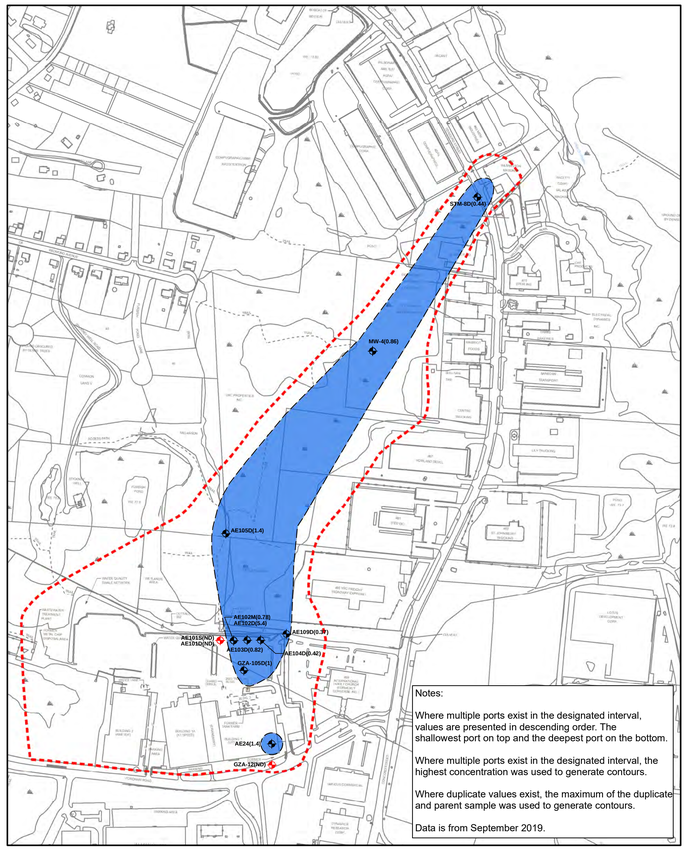
2016 1,4-Dioxane (SW8270D-SIM) in Groundwater Overburden (0 - 78 ft bgs)



2017 1,4-Dioxane (SW8270D-SIM) in Groundwater Overburden (0 - 78 ft bgs)



2018 1,4-Dioxane (SW8270D-SIM) in Groundwater Overburden (0 - 78 ft bgs)



2019 1,4-Dioxane (SW8270D-SIM) in Groundwater Overburden (0 - 78 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- Surface Water Sample
- 0.3-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 0.3 µg/l

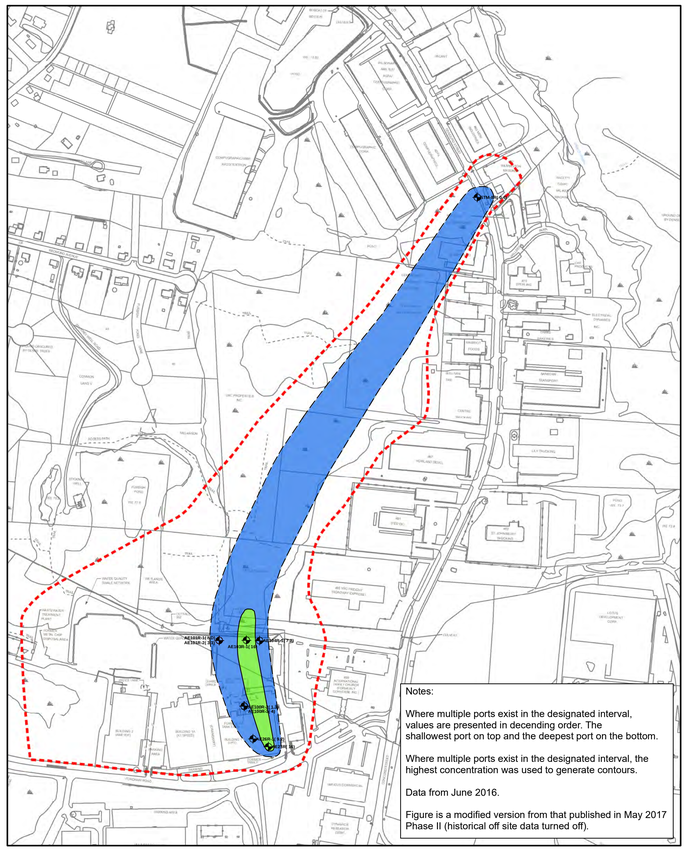
N

0 100 200 400 600 800 Feet

1,4-Dioxane (SW8270D-SIM) in Groundwater Overburden (0 - 78 ft bgs)

Figure 5-5

Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_5_Diox_OB_2016_2019.mxd



Notes:

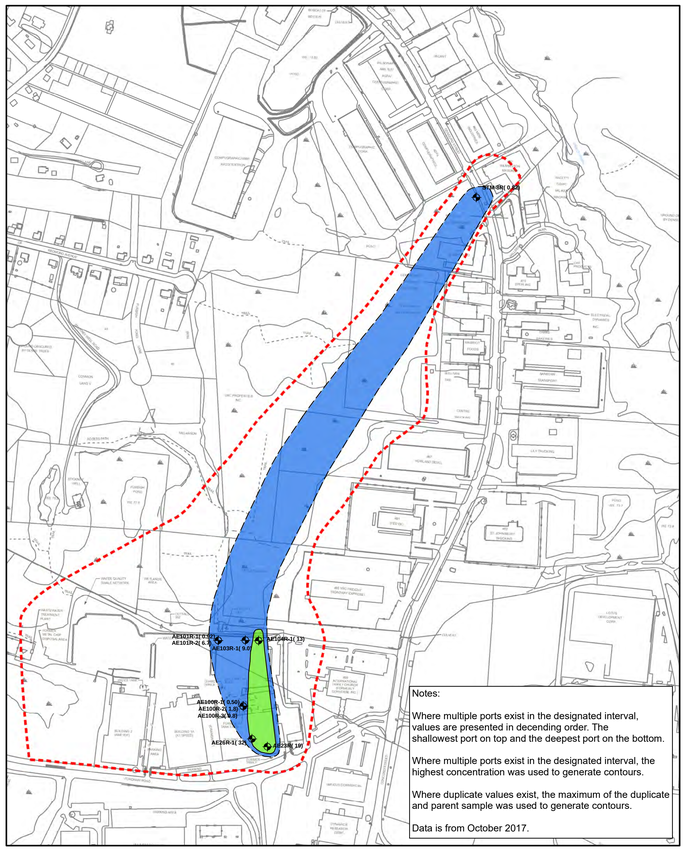
Where multiple ports exist in the designated interval, values are presented in decending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Data from June 2016.

Figure is a modified version from that published in May 2017 Phase II (historical off site data turned off).

2016 1,4-Dioxane (SW8270D-SIM) in Groundwater
Upper Bedrock (0 - 60 ft bgs)



Notes:

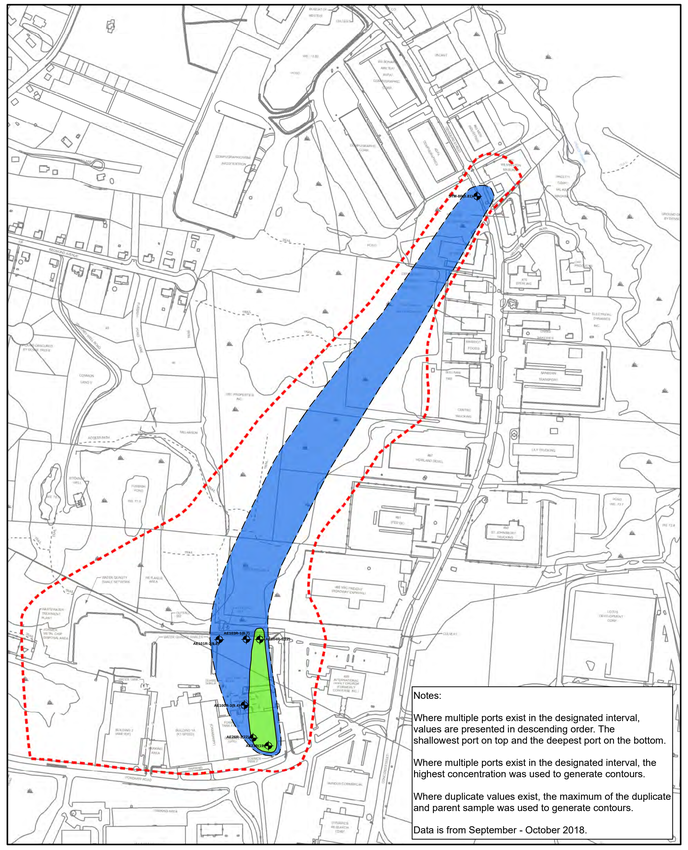
Where multiple ports exist in the designated interval, values are presented in decending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data is from October 2017.

2017 1,4-Dioxane (SW8270D-SIM) in Groundwater
Upper Bedrock (0 - 60 ft bgs)



Notes:

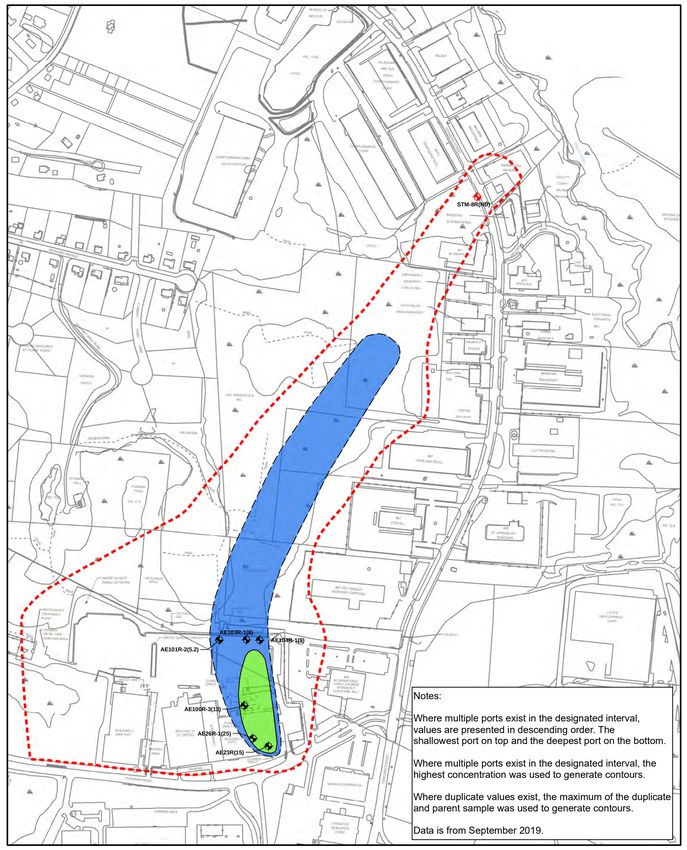
Where multiple ports exist in the designated interval, values are presented in descending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data is from September - October 2018.

2018 1,4-Dioxane (SW8270D-SIM) in Groundwater
Upper Bedrock (0 - 60 ft bgs)



Notes:

Where multiple ports exist in the designated interval, values are presented in descending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data from September 2019.

2019 1,4-Dioxane (SW8270D-SIM) in Groundwater
Upper Bedrock (0 - 60 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 0.3-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 0.3 µg/l

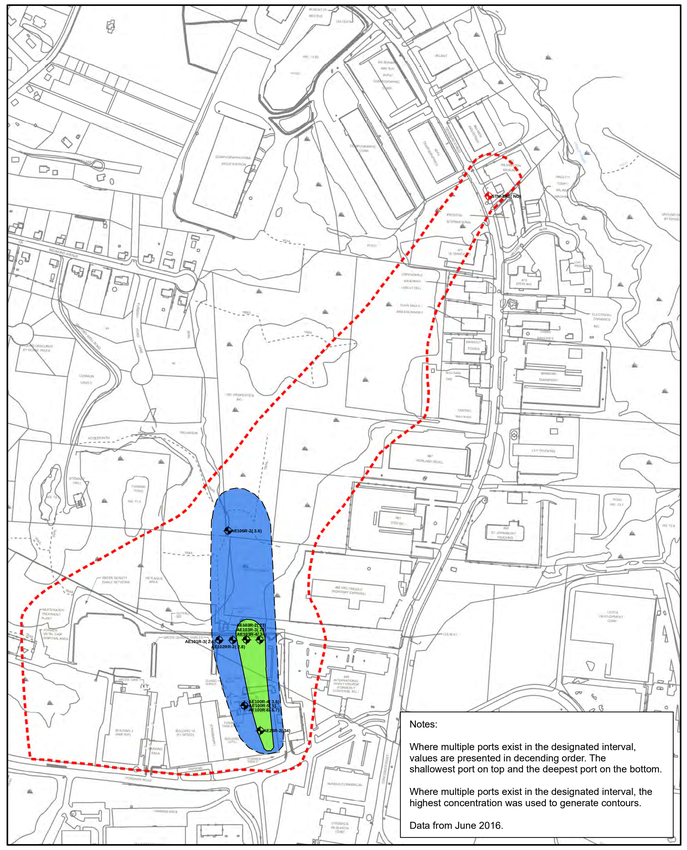
N

0 100 200 400 600 800 Feet

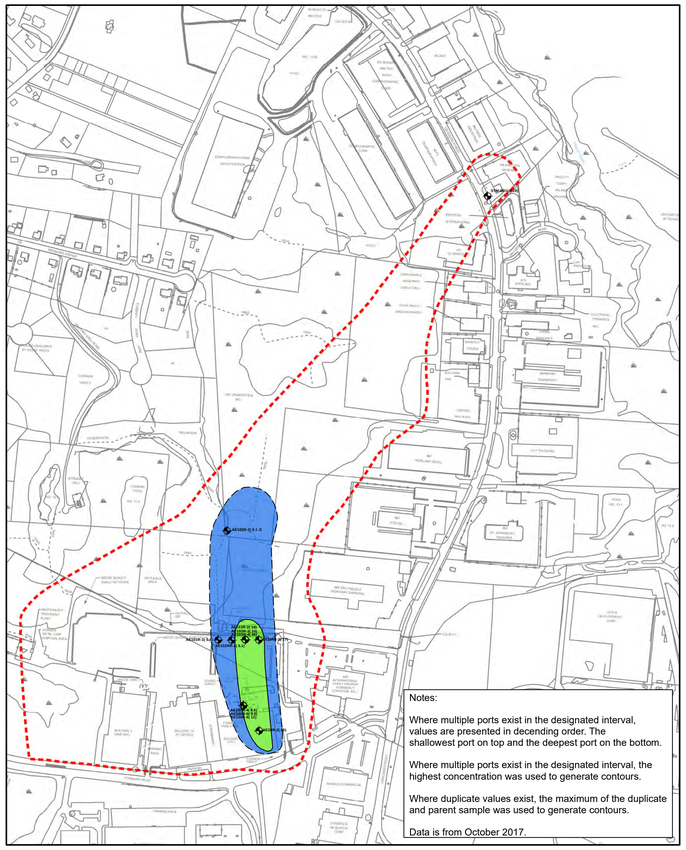
1,4-Dioxane (SW8270D-SIM) in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-6

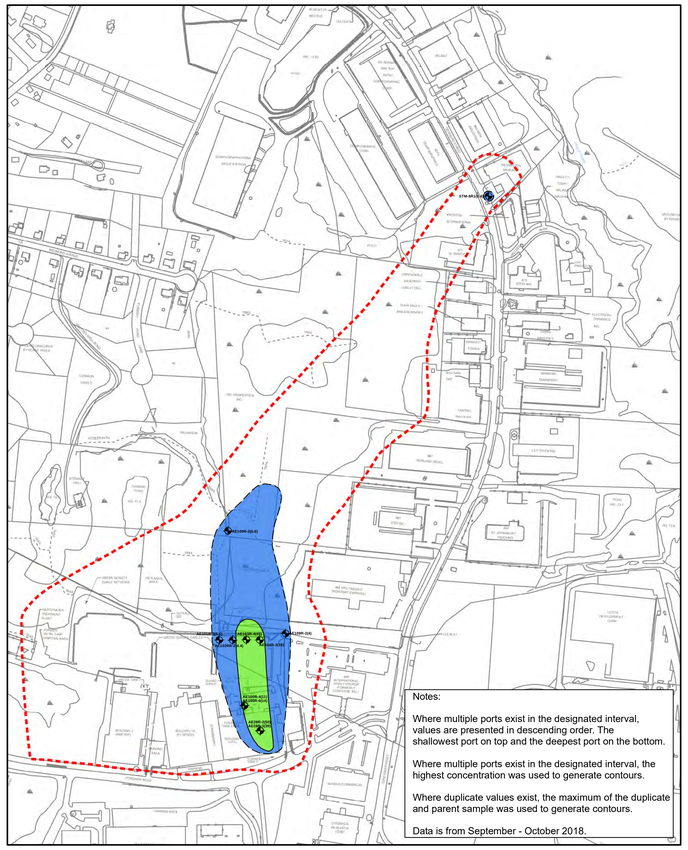
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_6_Diox_Upper_BR_2016_2019.mxd



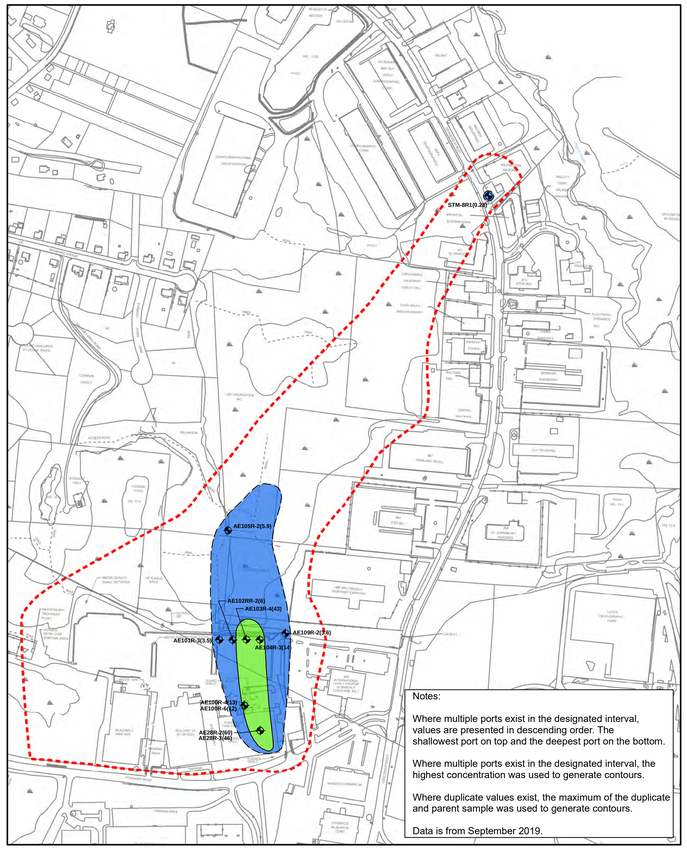
2016 1,4-Dioxane (SW8270D-SIM) in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 1,4-Dioxane (SW8270D-SIM) in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 1,4-Dioxane (SW8270D-SIM) in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 1,4-Dioxane (SW8270D-SIM) in Groundwater
Middle Bedrock (61 - 120 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 0.3-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 0.3 µg/l

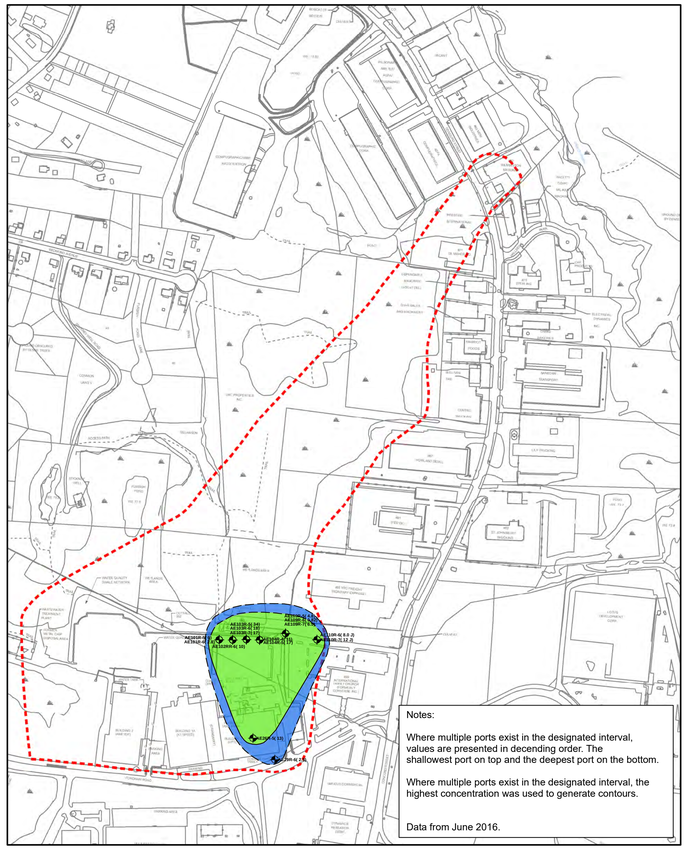
N

0 100 200 400 600 800 Feet

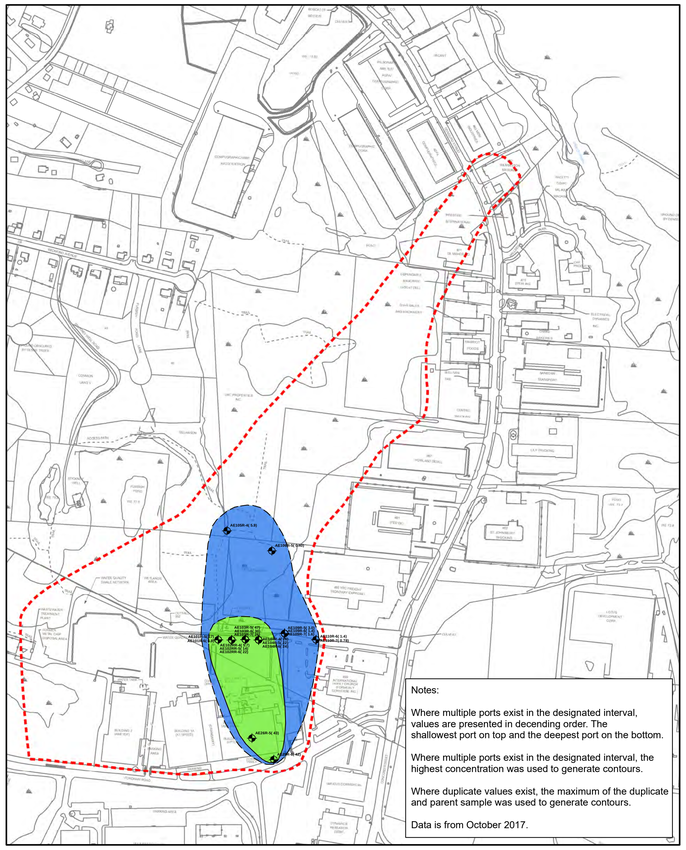
1,4-Dioxane (SW8270D-SIM) in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-7

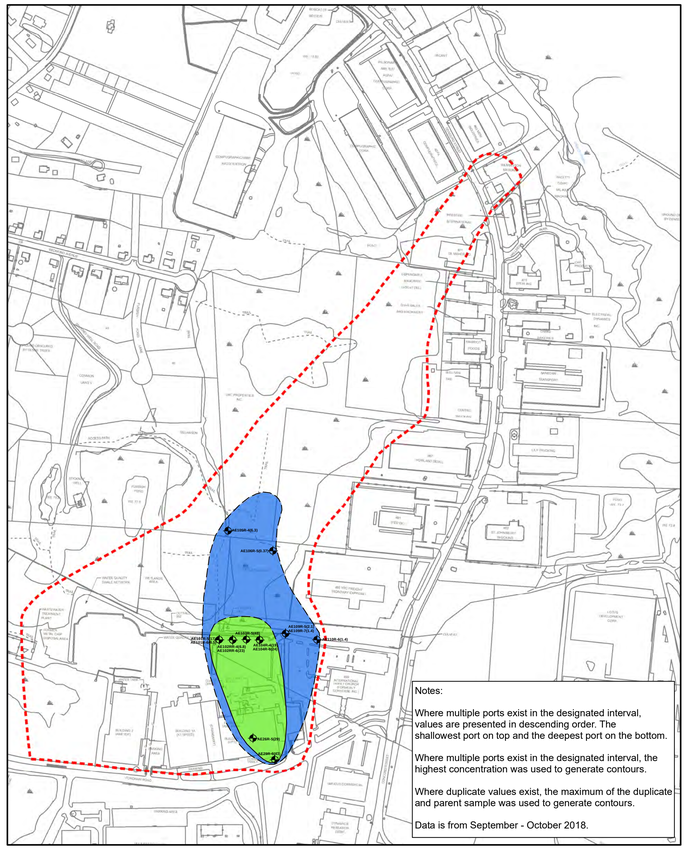
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_7_Diox_Middle_BR_2016_2019.mxd



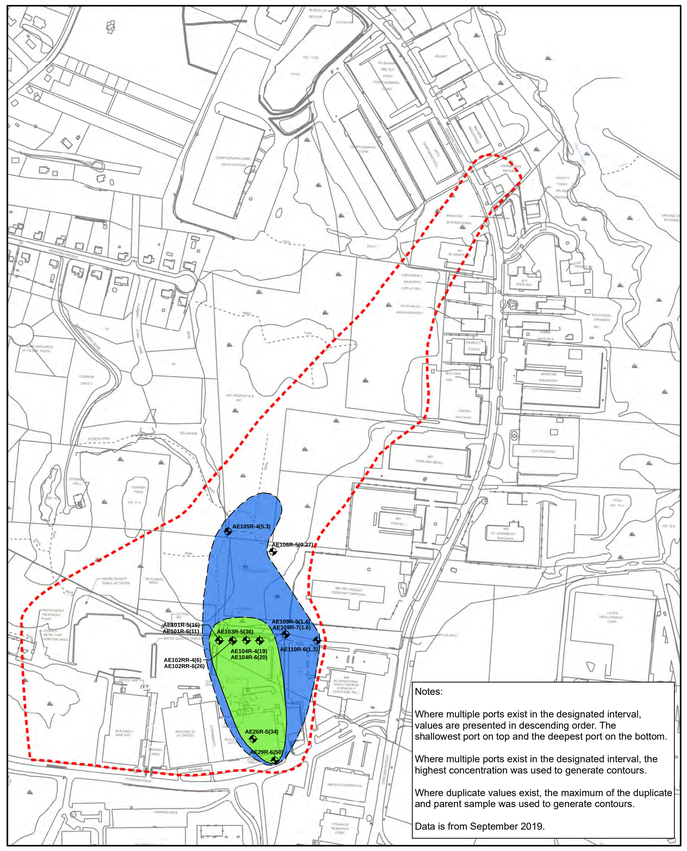
2016 1,4-Dioxane (SW8270D-SIM) in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 1,4-Dioxane (SW8270D-SIM) in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 1,4-Dioxane (SW8270D-SIM) in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 1,4-Dioxane (SW8270D-SIM) in Groundwater
Lower Bedrock (121 - 232 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 0.3-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 0.3 µg/l

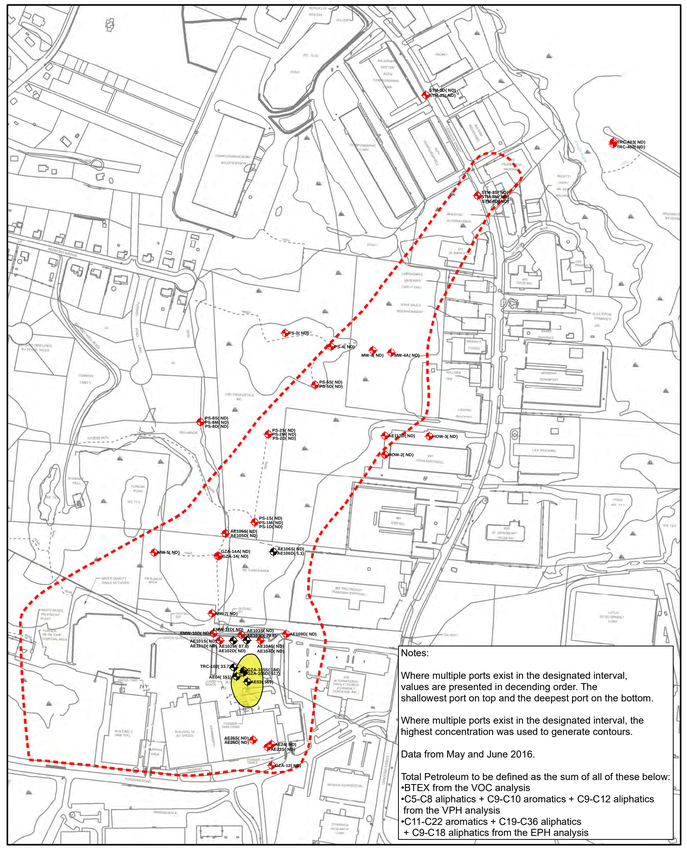
N

0 100 200 400 600 800 Feet

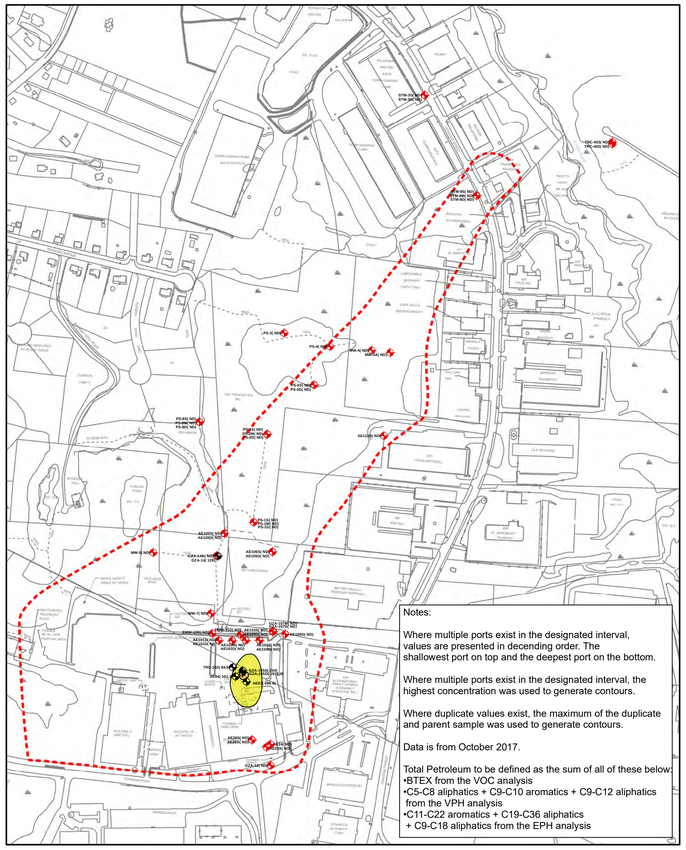
1,4-Dioxane (SW8270D-SIM) in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-8

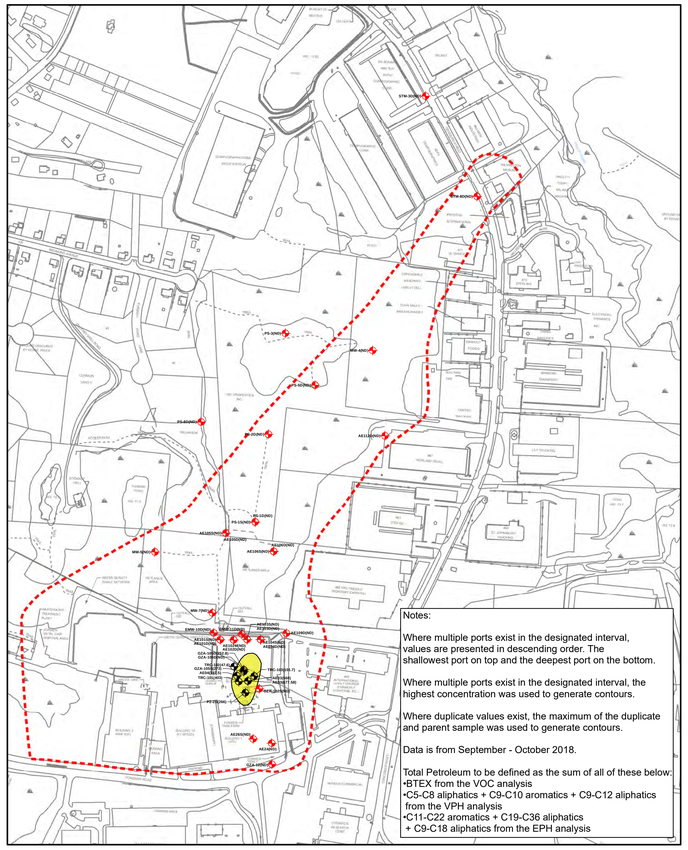
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_8_Diox_Lower_BR_2016_2019.mxd



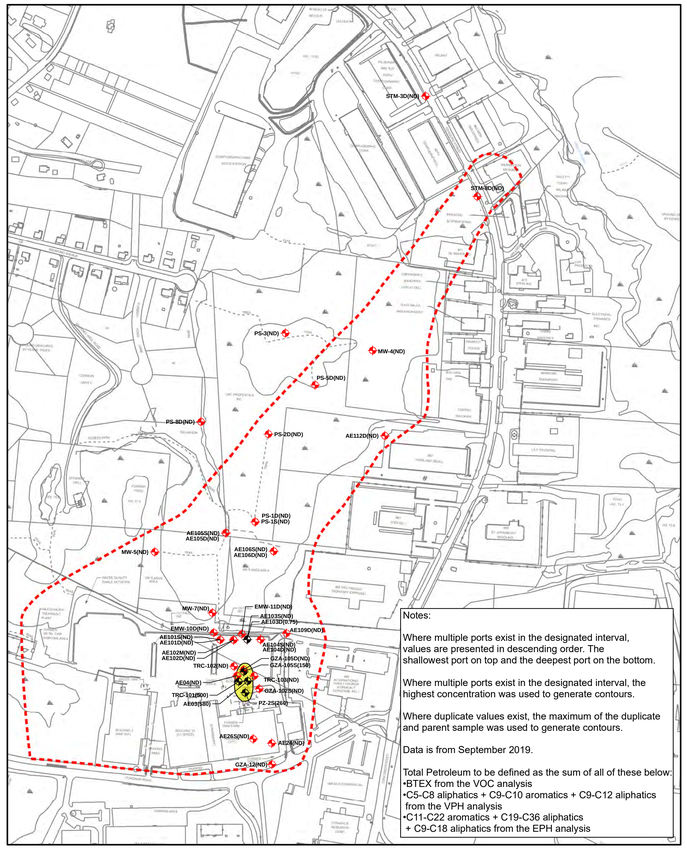
2016 Total Petroleum in Groundwater
Overburden (0 - 78 ft bgs)



2017 Total Petroleum in Groundwater
Overburden (0 - 78 ft bgs)



2018 Total Petroleum in Groundwater
Overburden (0 - 78 ft bgs)



2019 Total Petroleum in Groundwater
Overburden (0 - 78 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

N

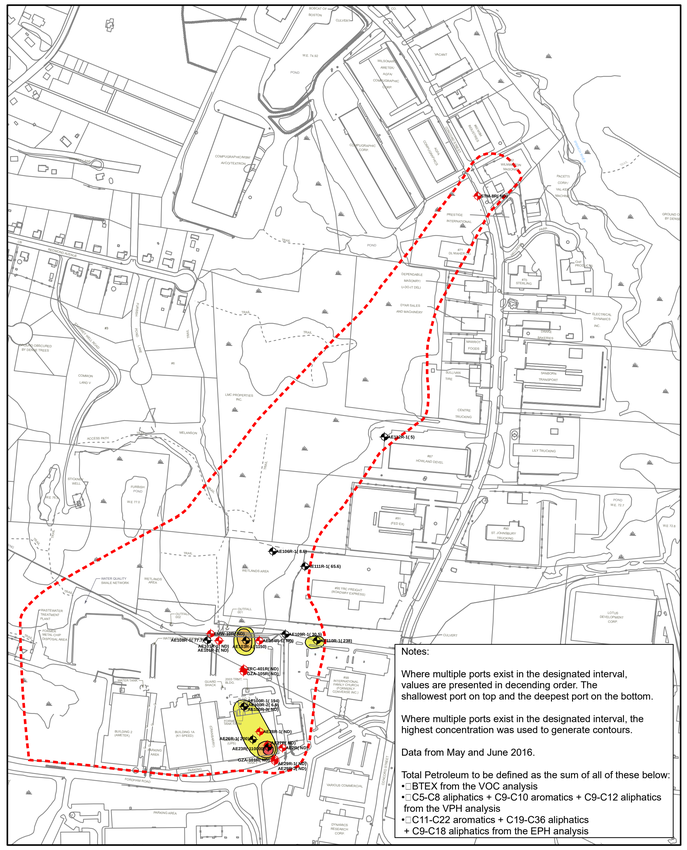
0 100 200 400 600 800 Feet

Total Petroleum in Groundwater
Overburden (0 - 78 ft bgs)

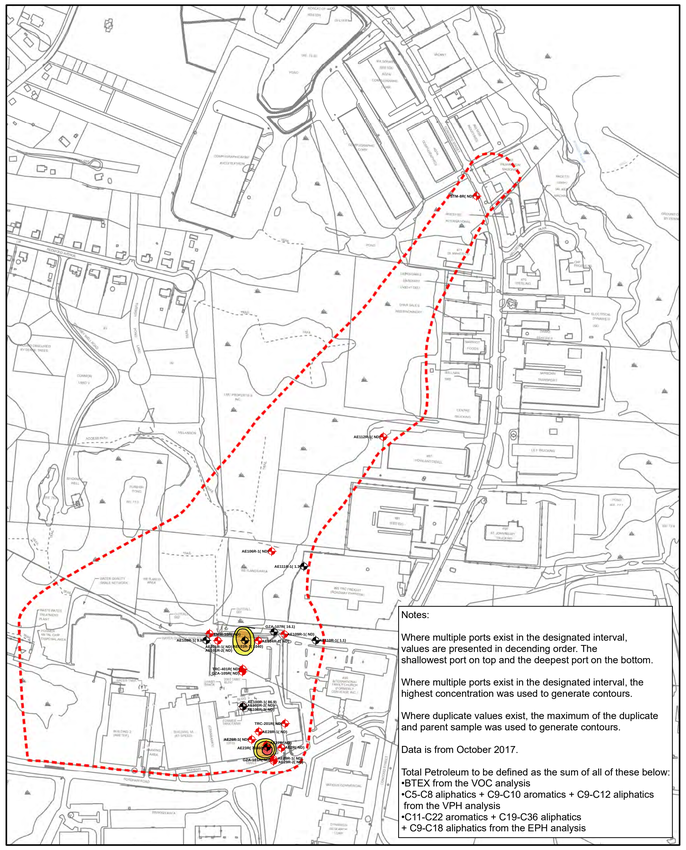
Figure 5-9

AECOM

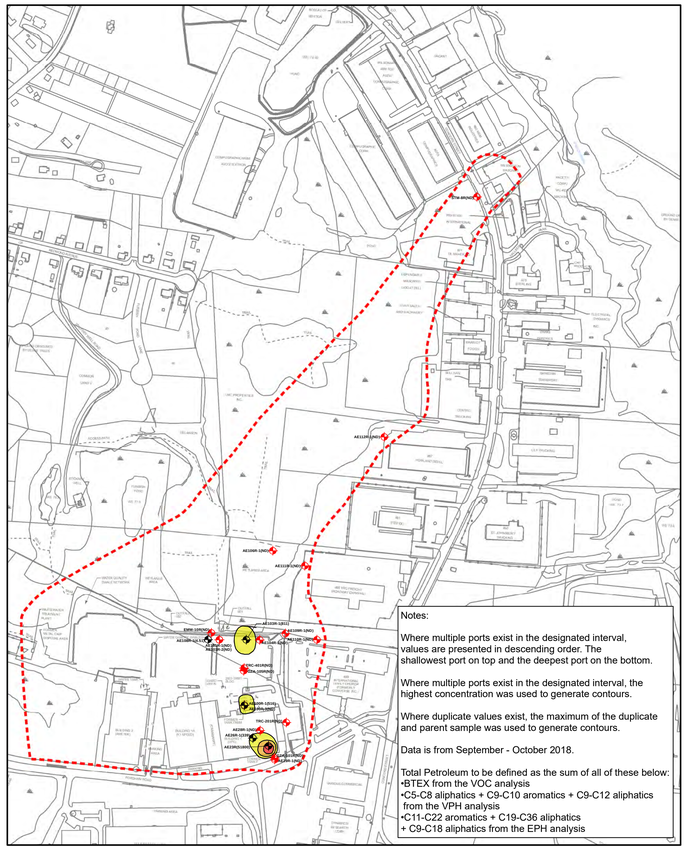
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_9_Petroleum_OB_2016_2019.mxd



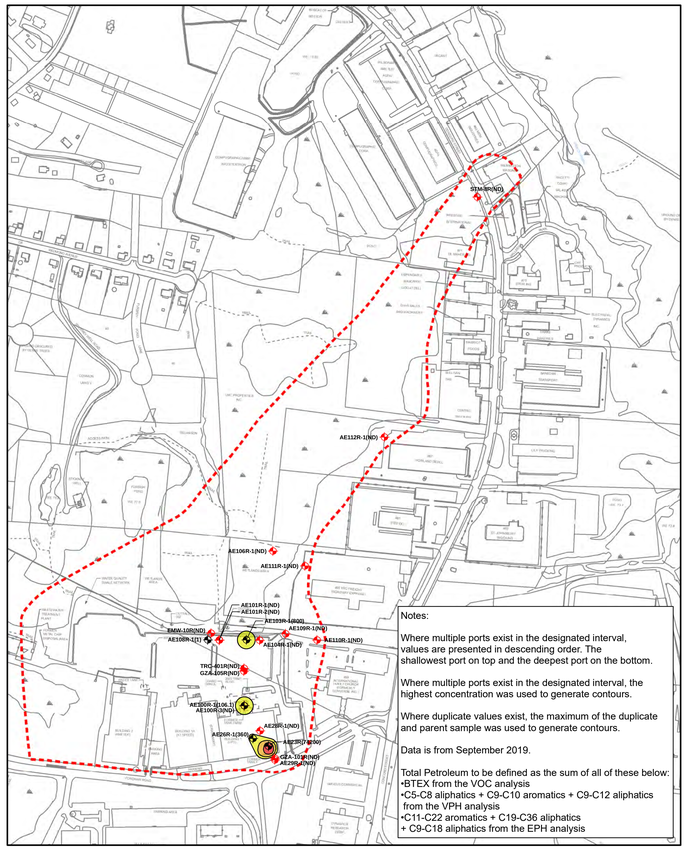
2016 Total Petroleum in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2017 Total Petroleum in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2018 Total Petroleum in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2019 Total Petroleum in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

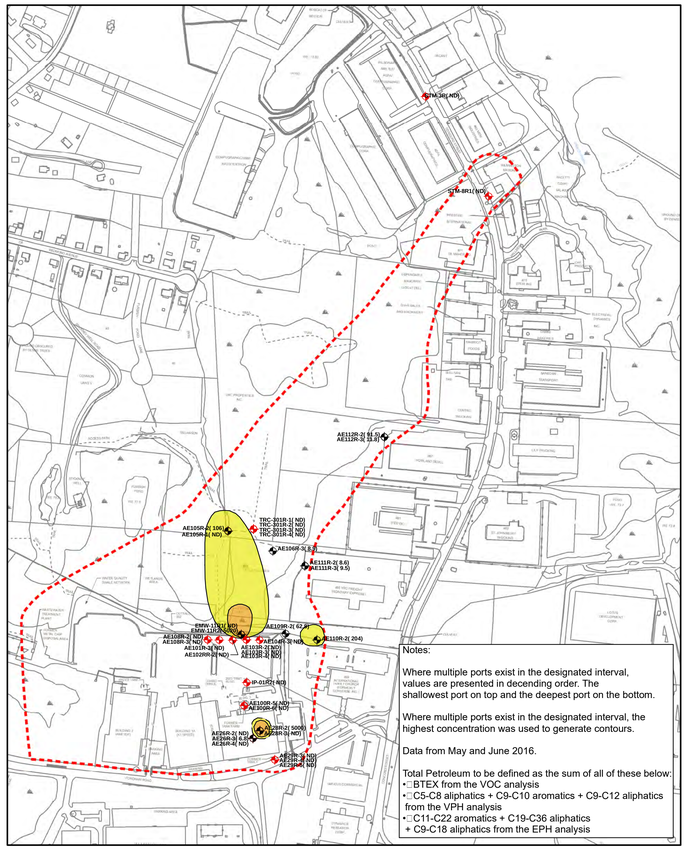
N

0 100 200 400 600 800 Feet

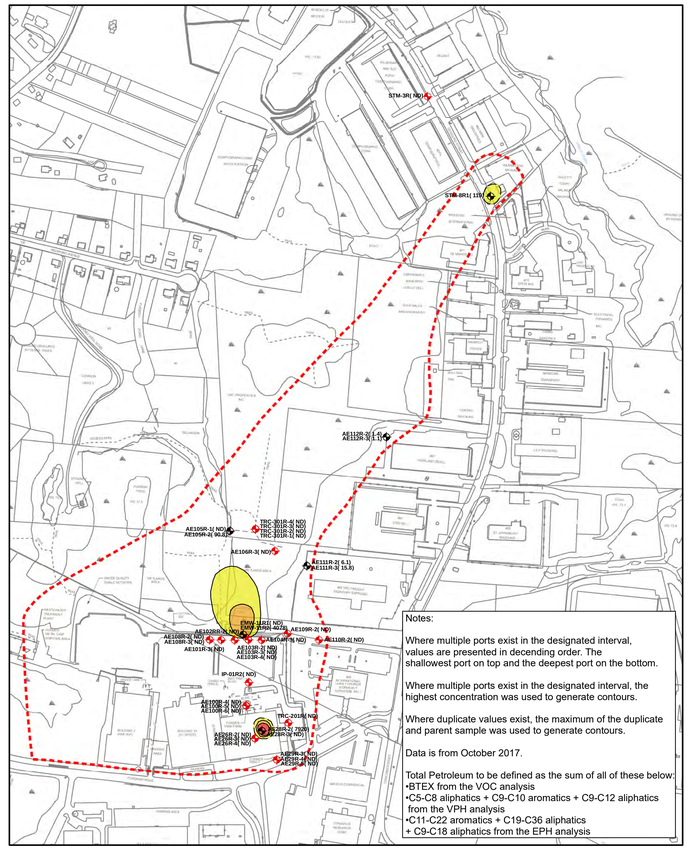
Total Petroleum in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-10

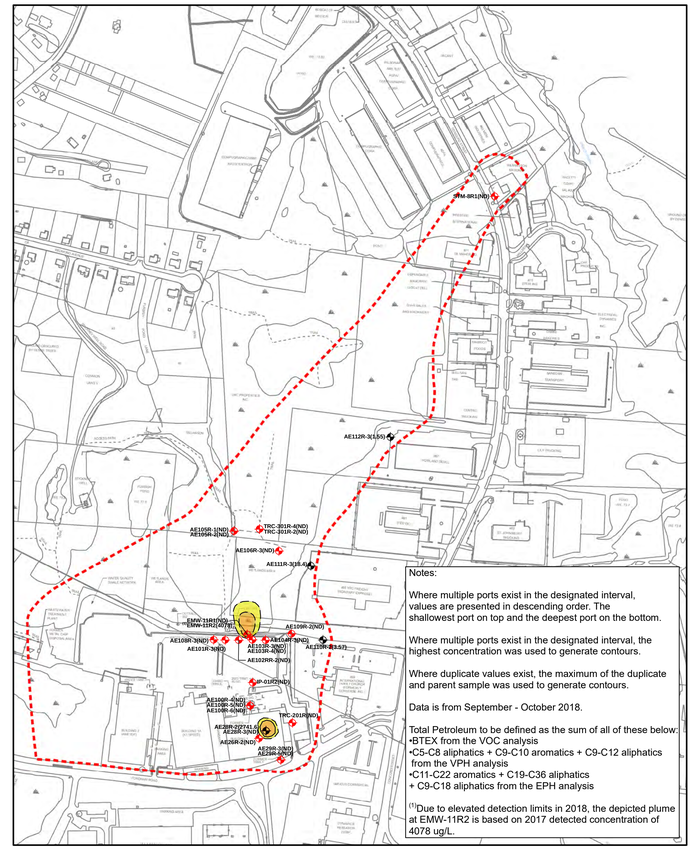
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_10_Petroleum_UB_2016_2019.mxd



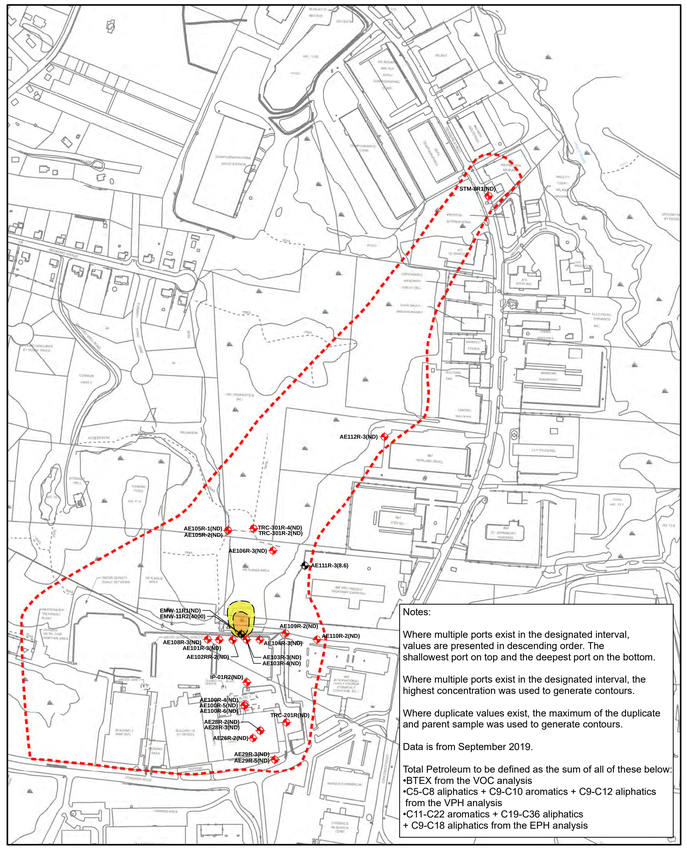
2016 Total Petroleum in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 Total Petroleum in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 Total Petroleum in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 Total Petroleum in Groundwater
Middle Bedrock (61 - 120 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

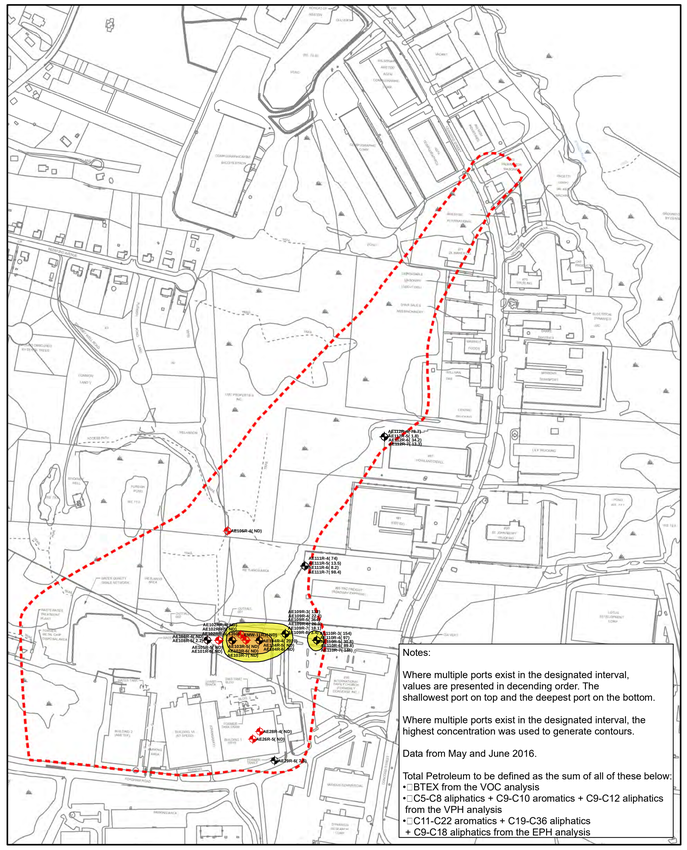
N

0 100 200 400 600 800 Feet

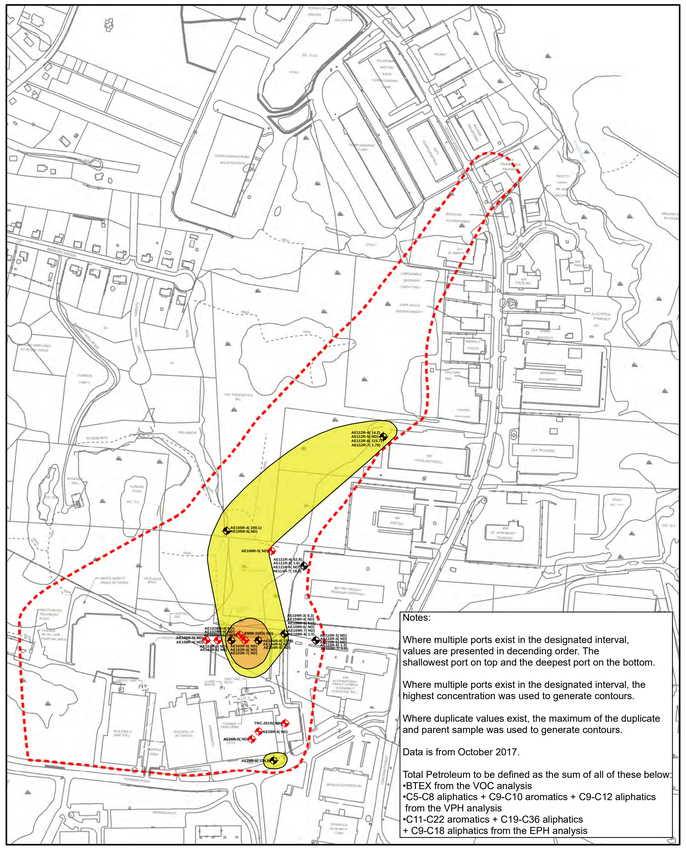
Total Petroleum in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-11

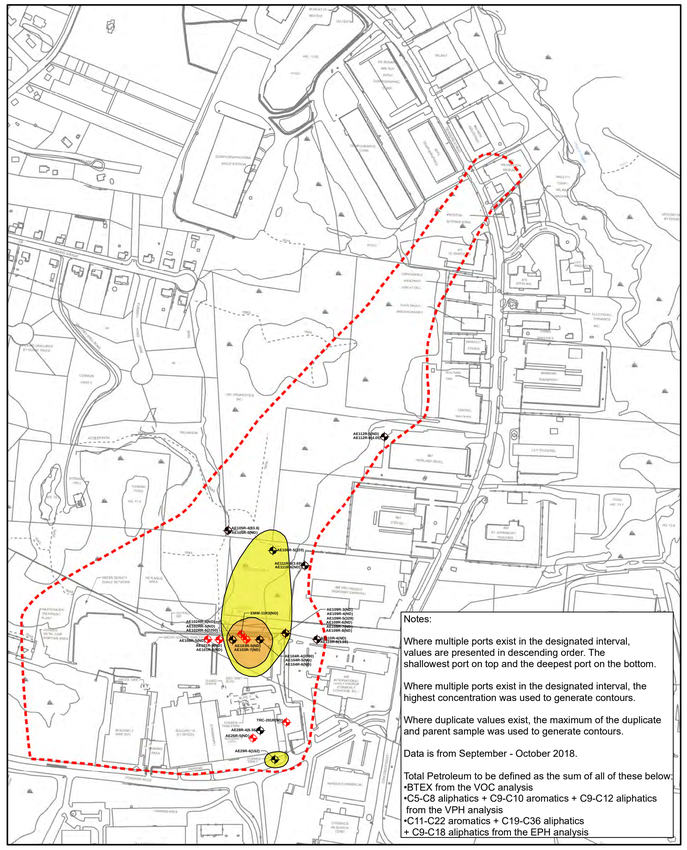
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_11_Petroleum_MB_2016_2019.mxd



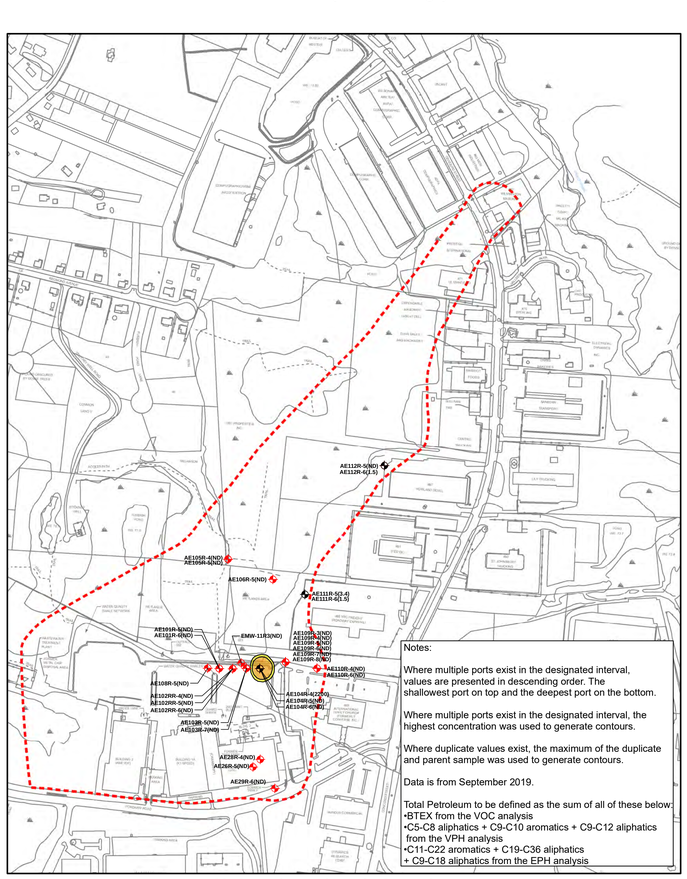
2016 Total Petroleum in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 Total Petroleum in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 Total Petroleum in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 Total Petroleum in Groundwater
Lower Bedrock (121 - 232 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

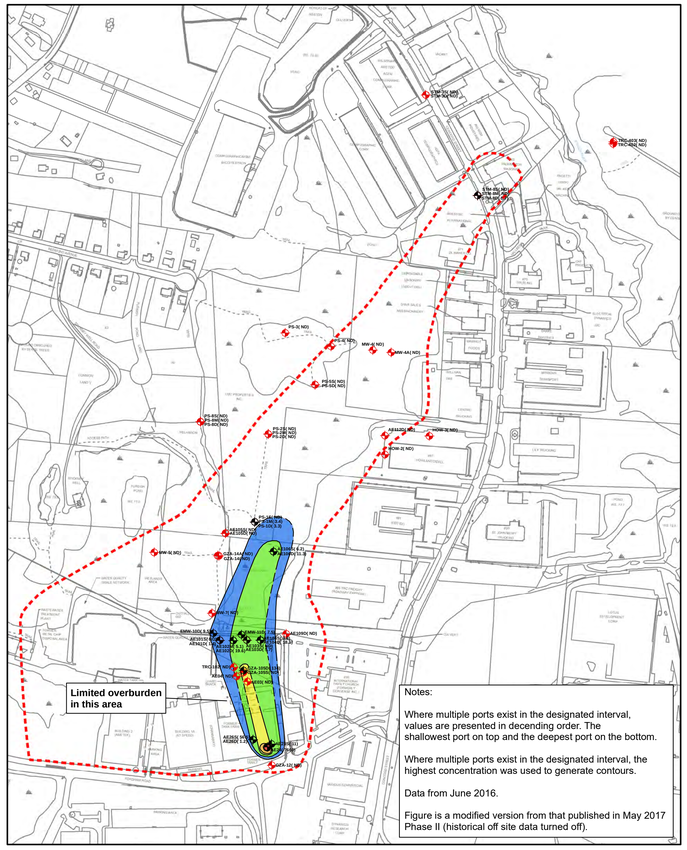
N

0 100 200 400 600 800 Feet

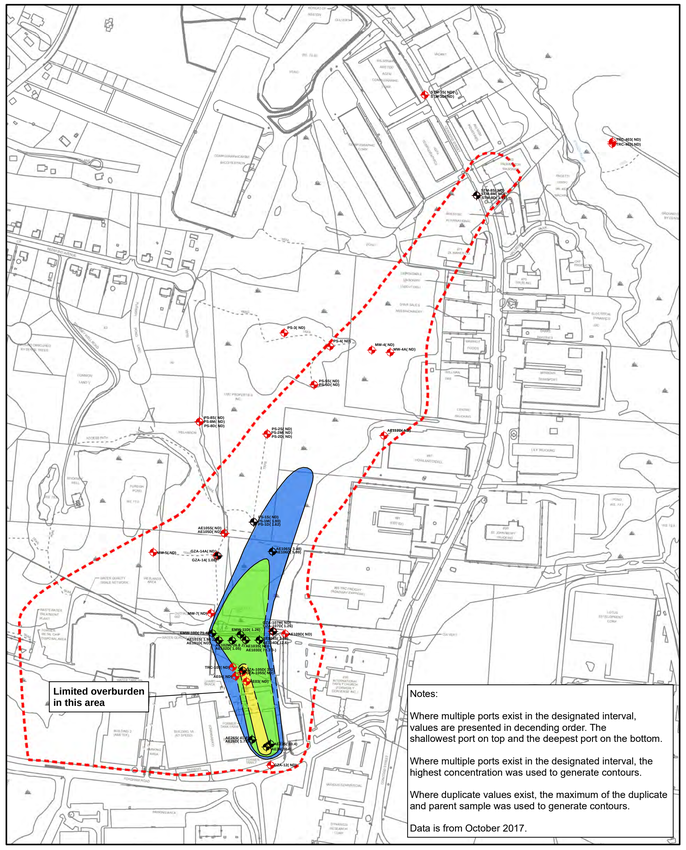
Total Petroleum in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-12

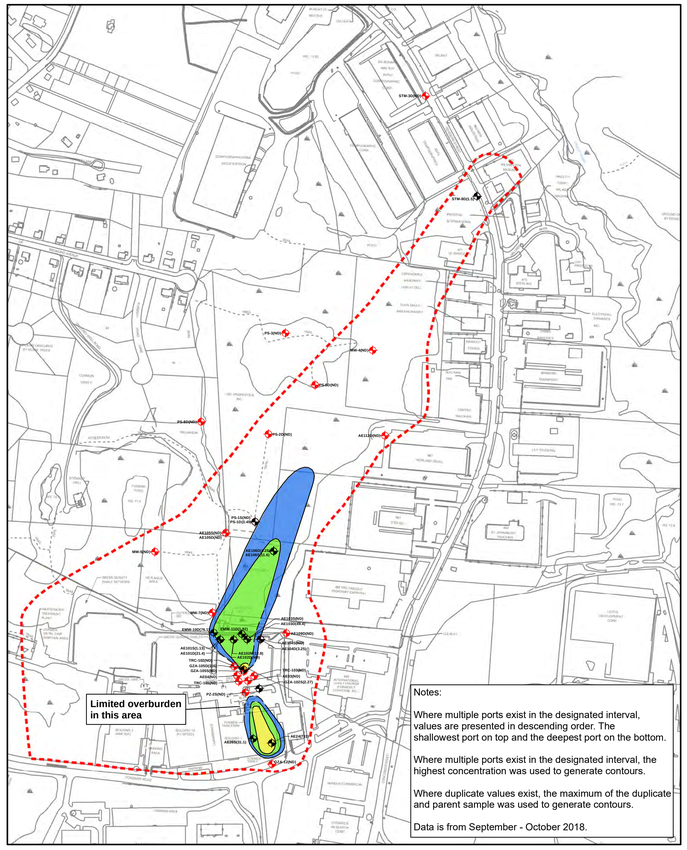
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_12_Petroleum_LB_2016_2019.mxd



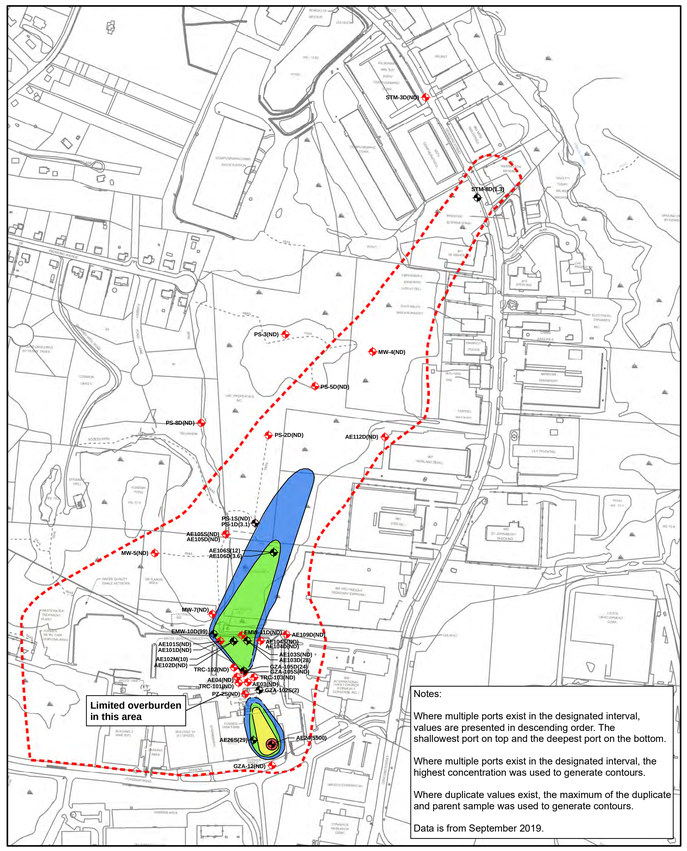
2016 PCE in Groundwater
Overburden (0 - 78 ft bgs)



2017 PCE in Groundwater
Overburden (0 - 78 ft bgs)



2018 PCE in Groundwater
Overburden (0 - 78 ft bgs)



2019 PCE in Groundwater
Overburden (0 - 78 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

N

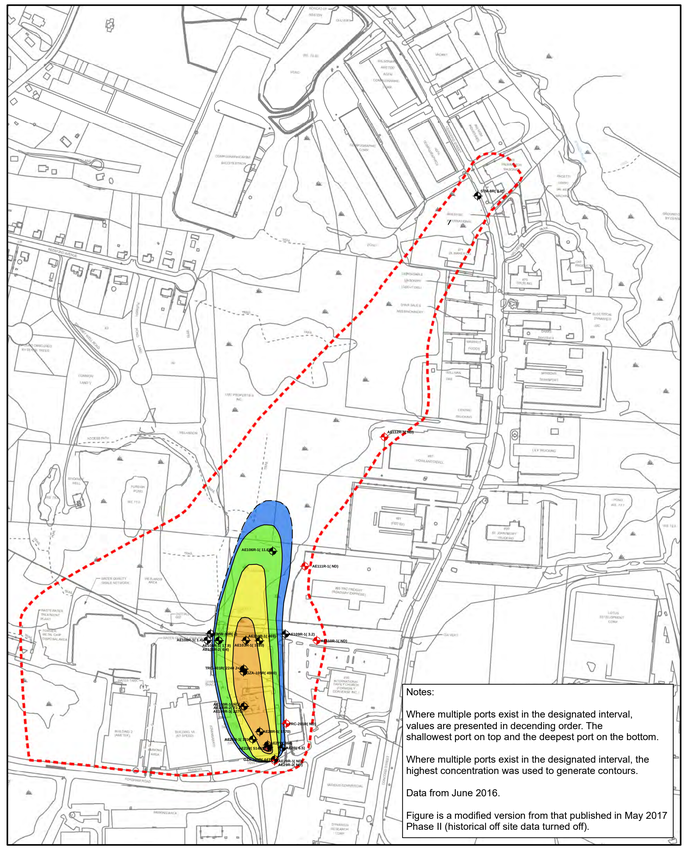
0 100 200 400 600 800 Feet

AECOM

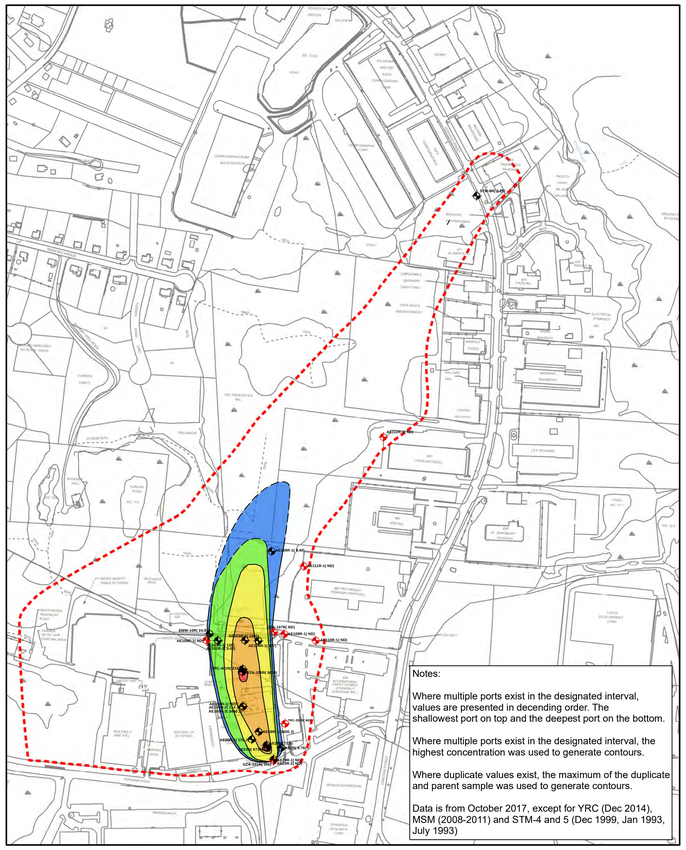
PCE in Groundwater
Overburden (0 - 78 ft bgs)

Figure 5-13

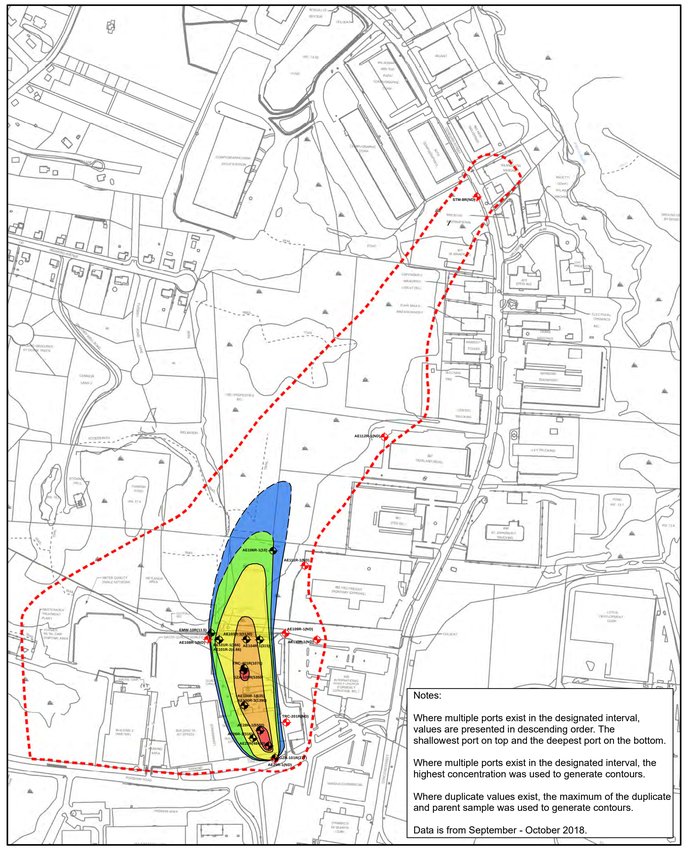
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_13_PCE_OB_2016_2019.mxd



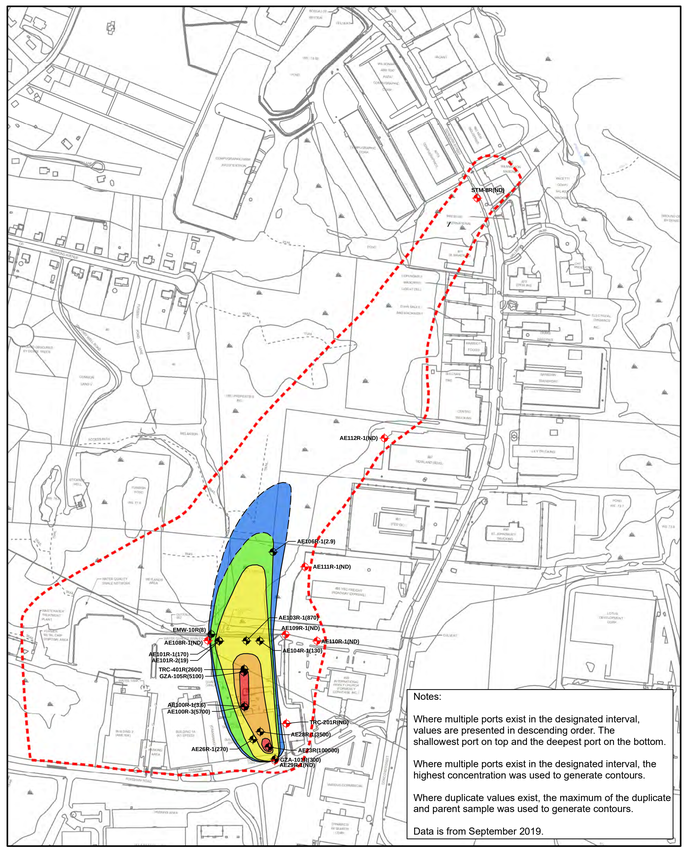
2016 PCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2017 PCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2018 PCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2019 PCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

MCP GW-1 Standard = 5 µg/l

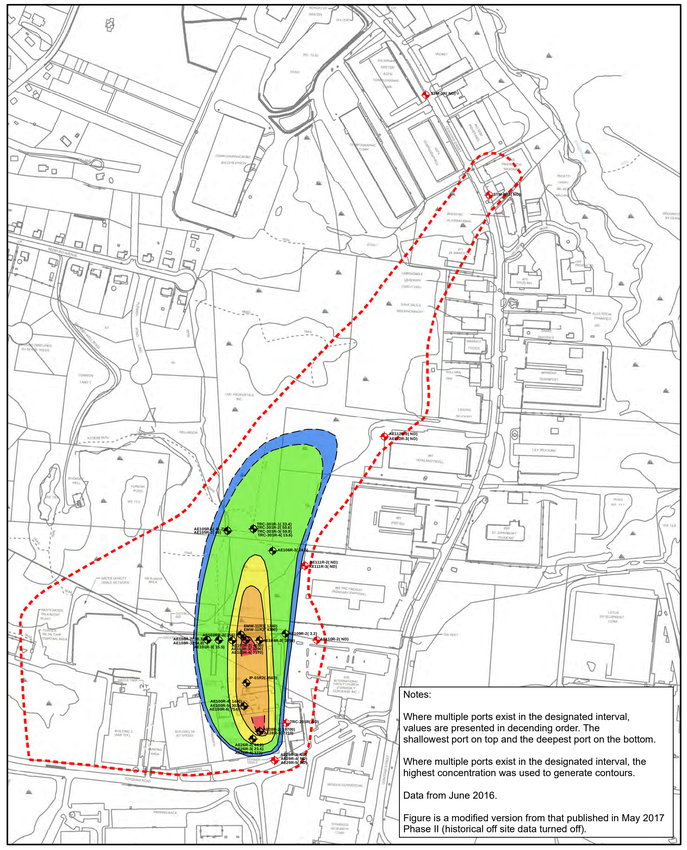
N

0 100 200 400 600 800 Feet

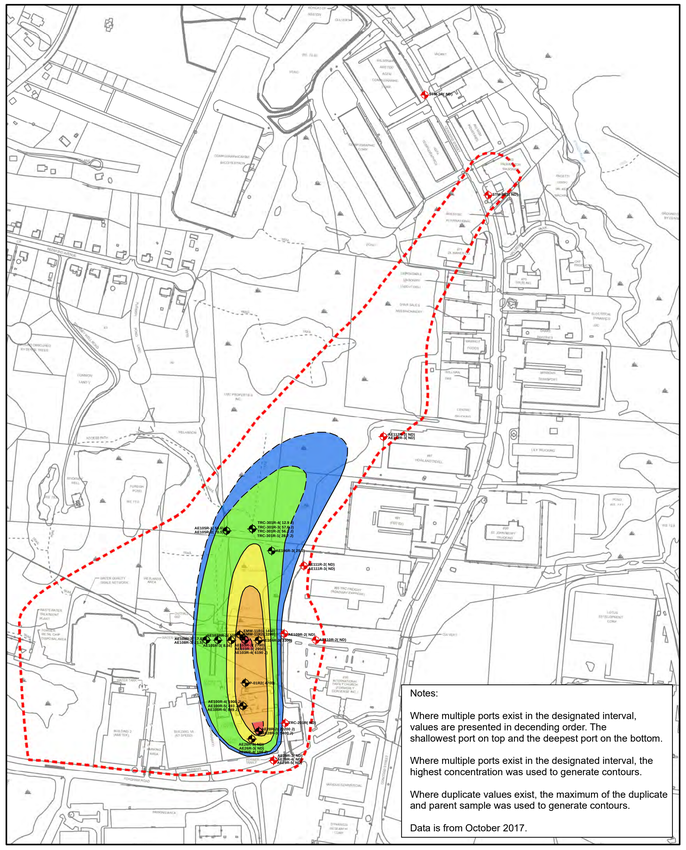
PCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-14

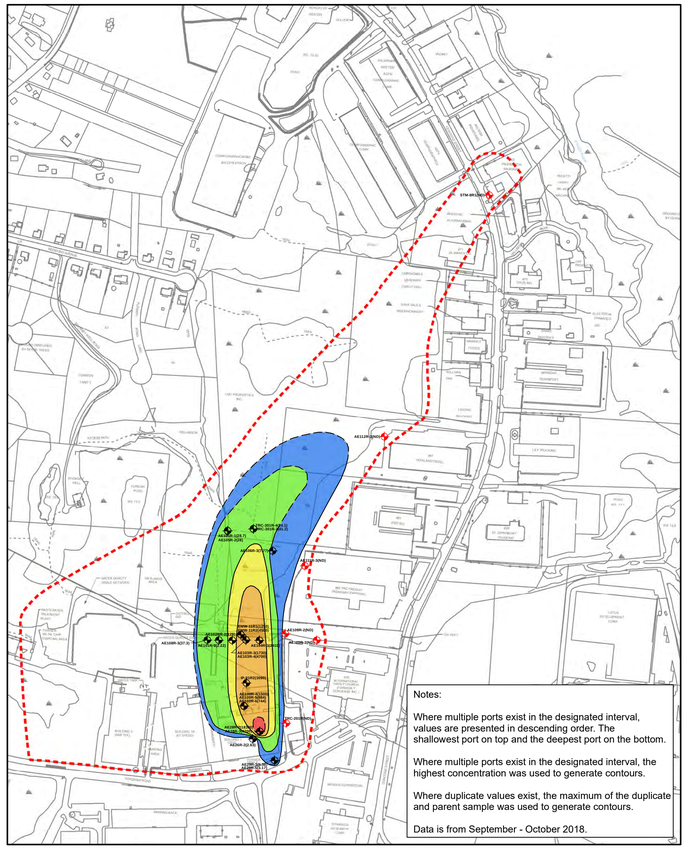
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_14_PCE_Upper_BR_2016_2019.mxd



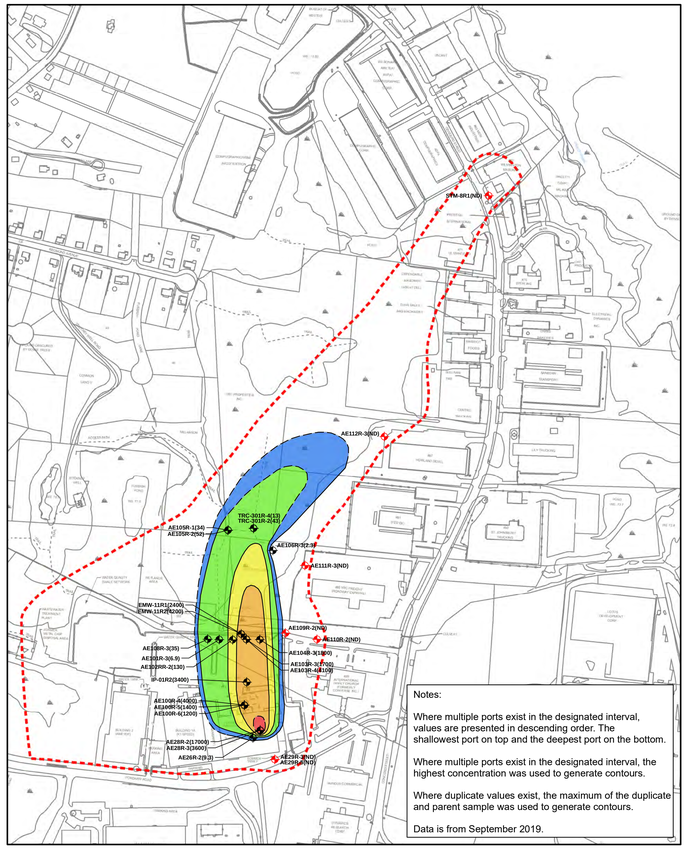
2016 PCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 PCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 PCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 PCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

N

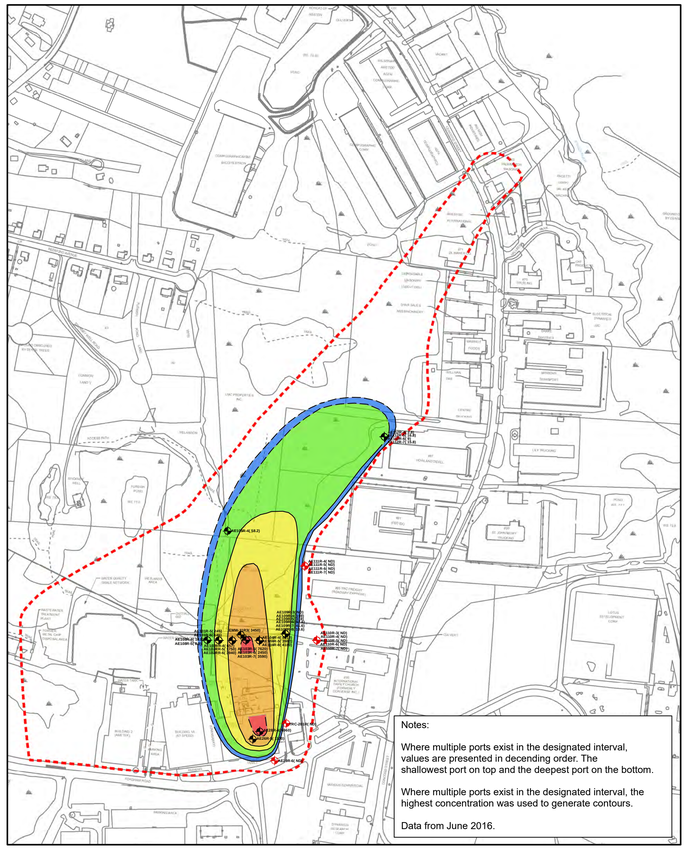
0 100 200 400 600 800 Feet

AECOM

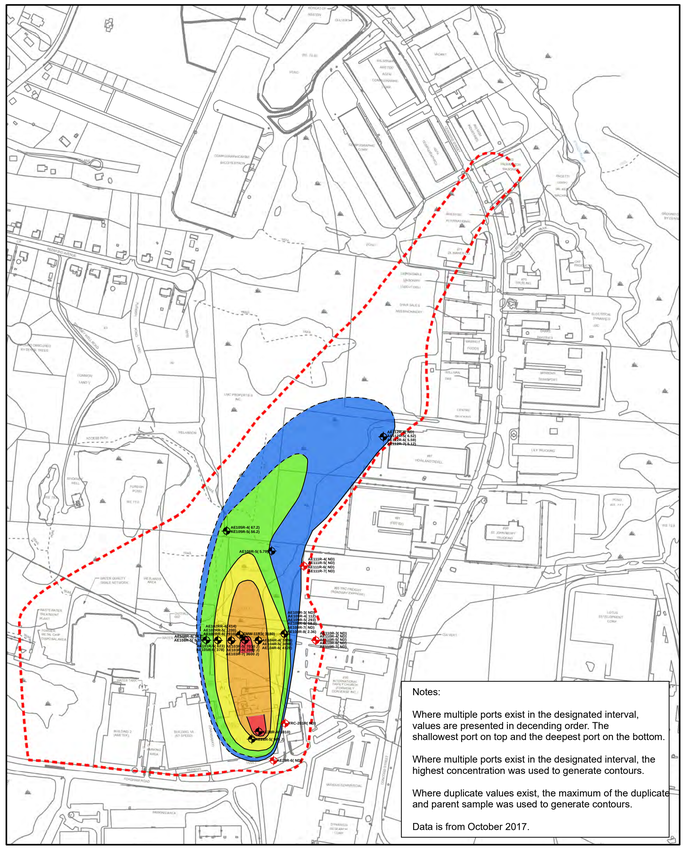
PCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-15

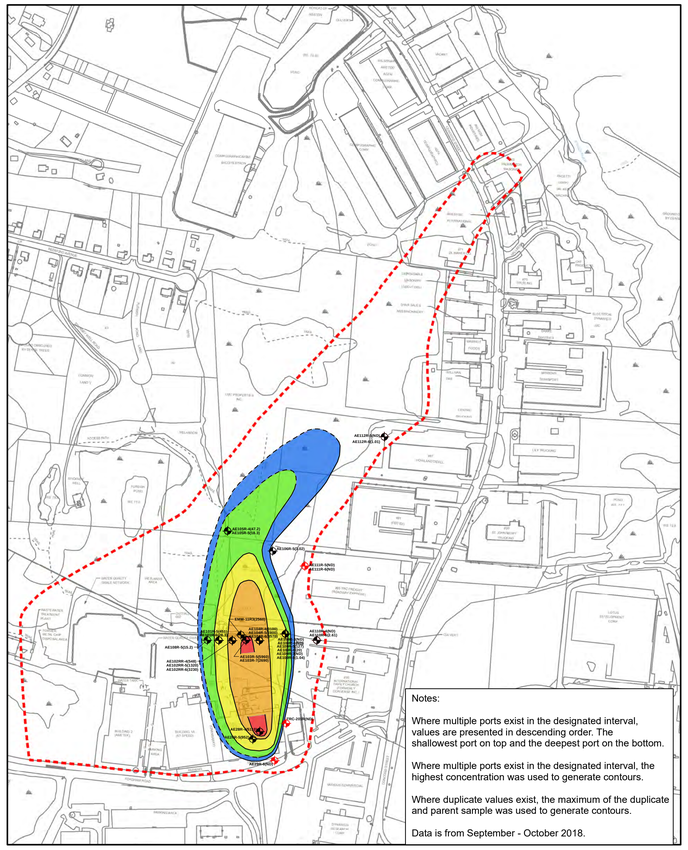
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_15_PCE_Middle_BR_2016_2019.mxd



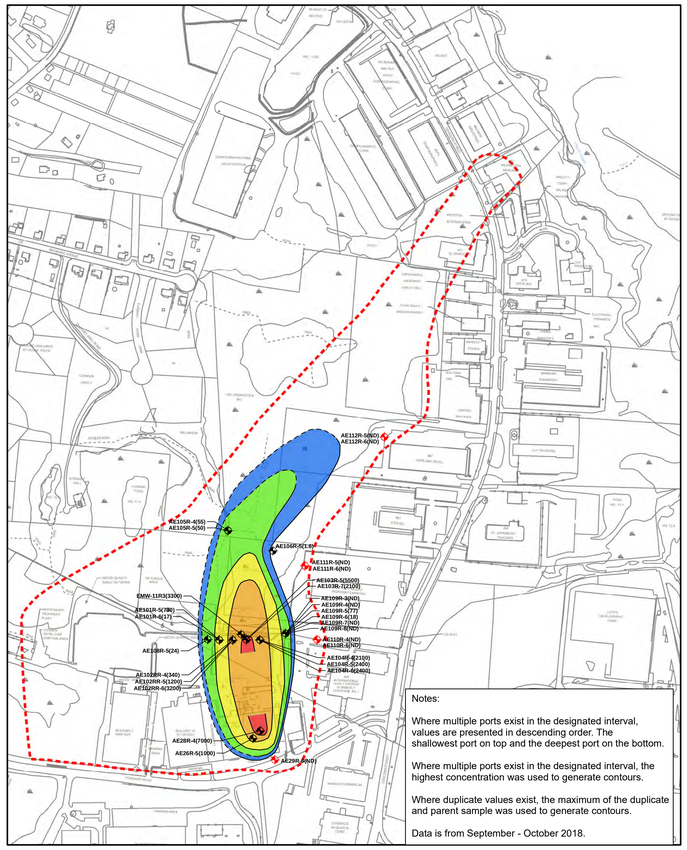
2016 PCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 PCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 PCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 PCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Legend

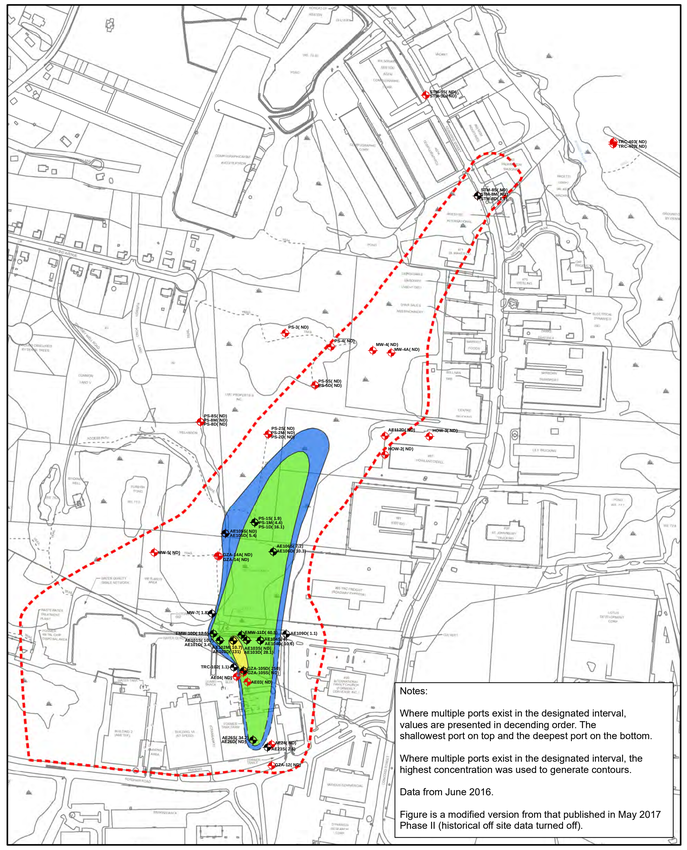
- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

0 100 200 400 600 800 Feet

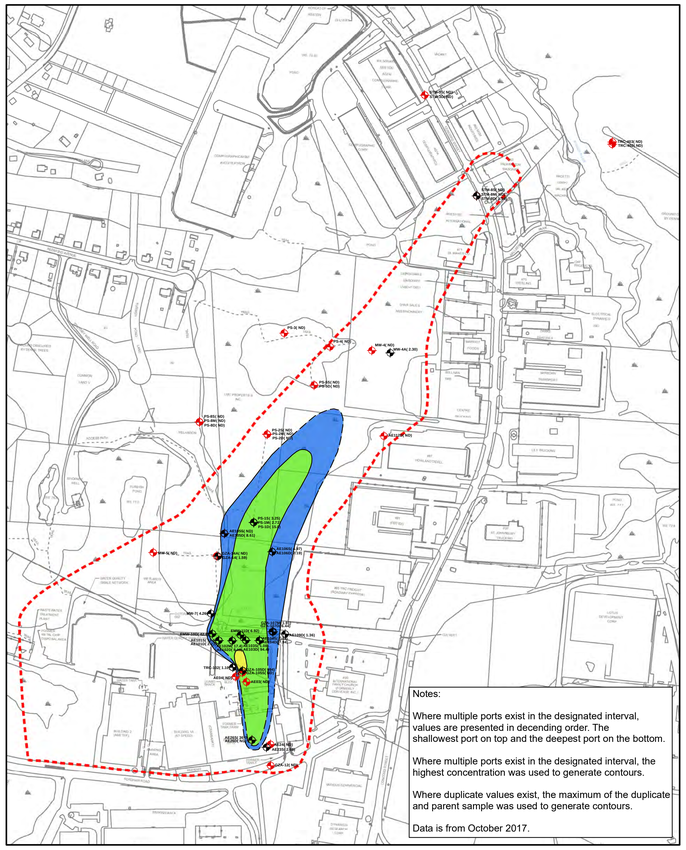
PCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-16

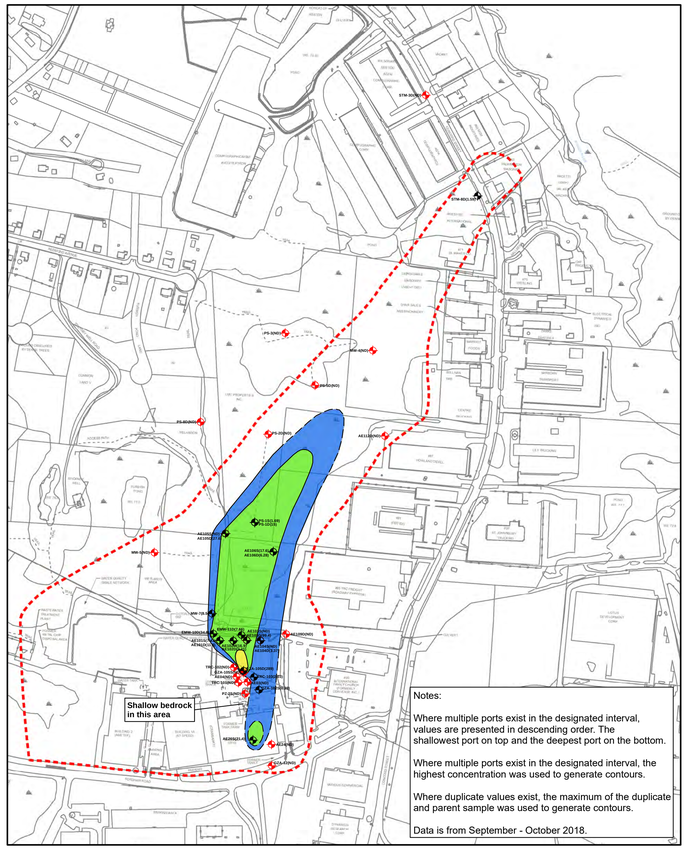
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_16_PCE_Lower_BR_2016_2019.mxd



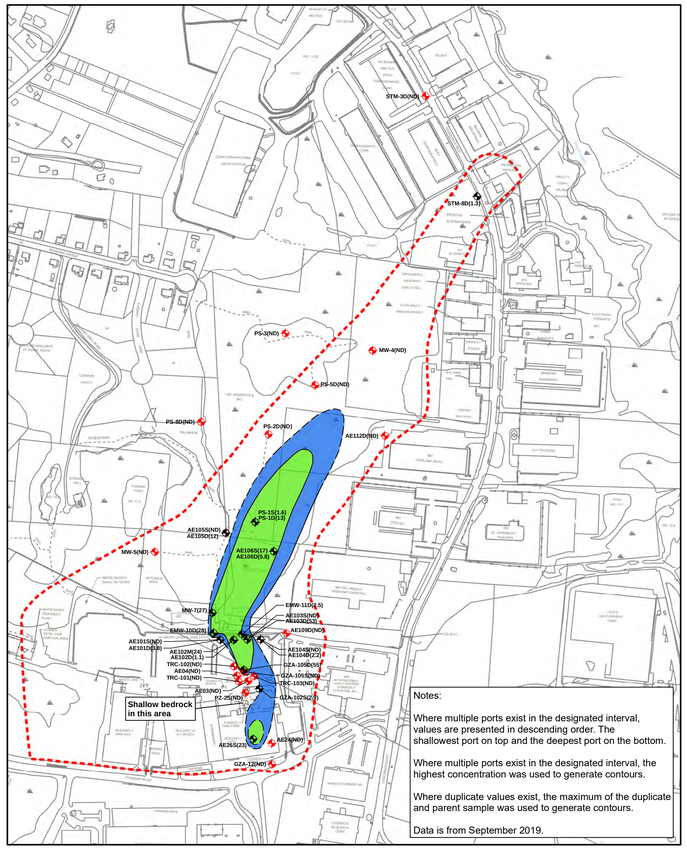
2016 TCE in Groundwater
Overburden (0 - 78 ft bgs)



2017 TCE in Groundwater
Overburden (0 - 78 ft bgs)



2018 TCE in Groundwater
Overburden (0 - 78 ft bgs)



2019 TCE in Groundwater
Overburden (0 - 78 ft bgs)

AECOM

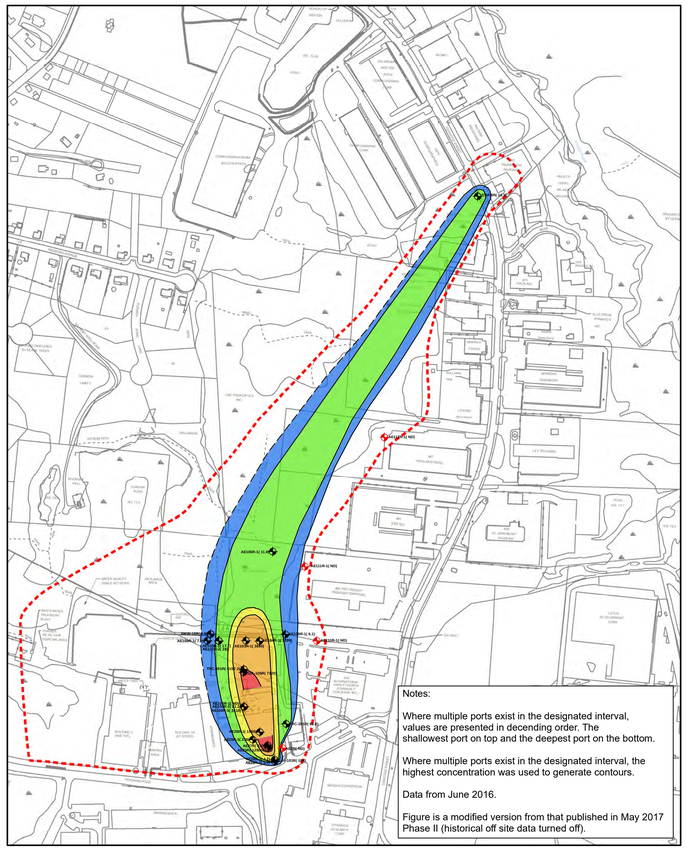
N

0 100 200 400 600 800 Feet

TCE in Groundwater
Overburden (0 - 78 ft bgs)

Figure 5-17

Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_17_TCE_OB_2016_2019.mxd



Notes:

Where multiple ports exist in the designated interval, values are presented in decending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data from September 2019.

2019 TCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Notes:

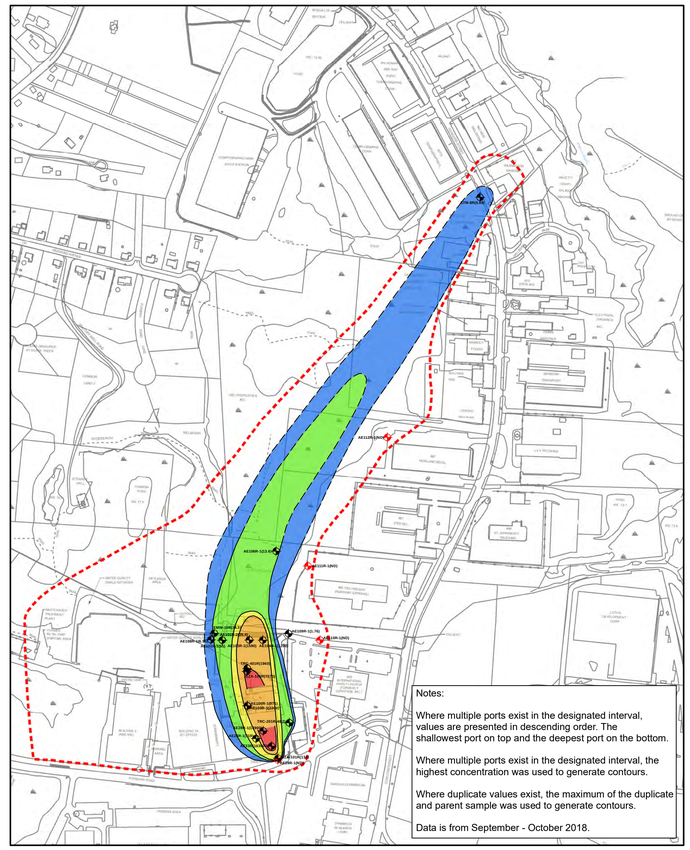
Where multiple ports exist in the designated interval, values are presented in decending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data is from October 2017.

2017 TCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)



Notes:

Where multiple ports exist in the designated interval, values are presented in descending order. The shallowest port on top and the deepest port on the bottom.

Where multiple ports exist in the designated interval, the highest concentration was used to generate contours.

Where duplicate values exist, the maximum of the duplicate and parent sample was used to generate contours.

Data is from September - October 2018.

2018 TCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

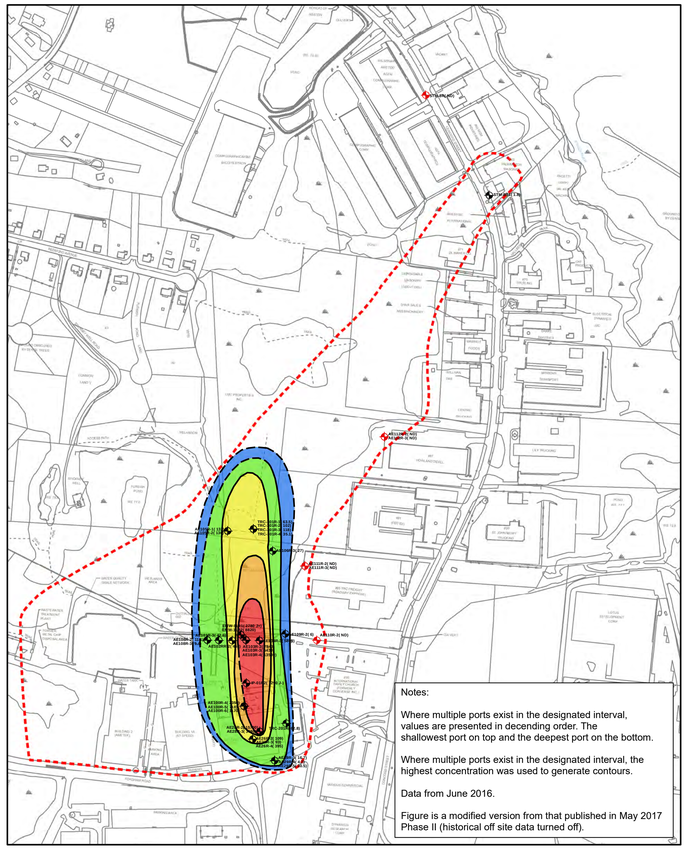
N

0 100 200 400 600 800 Feet

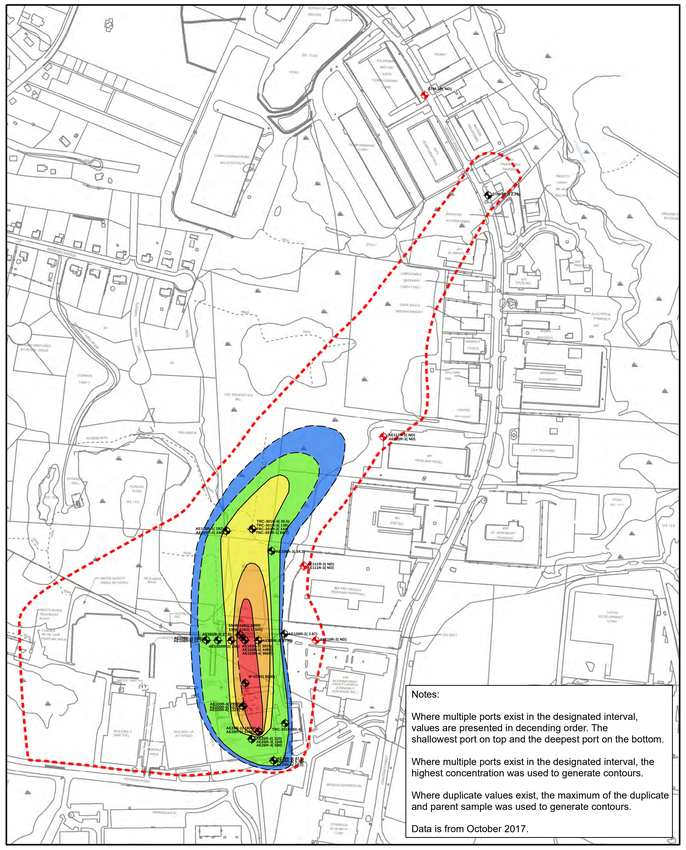
TCE in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-18

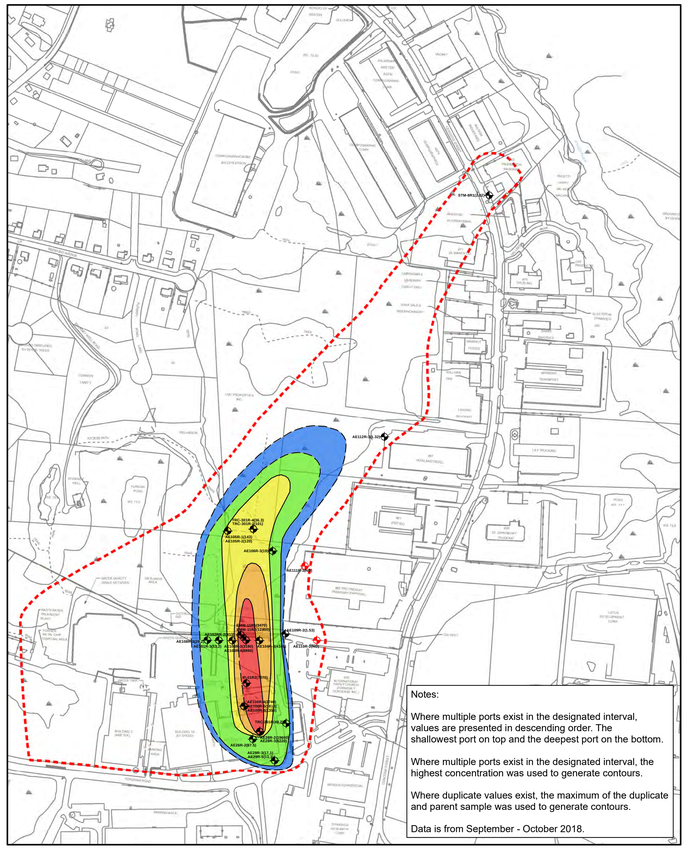
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_18_TCE_Upper_BR_2016_2019.mxd



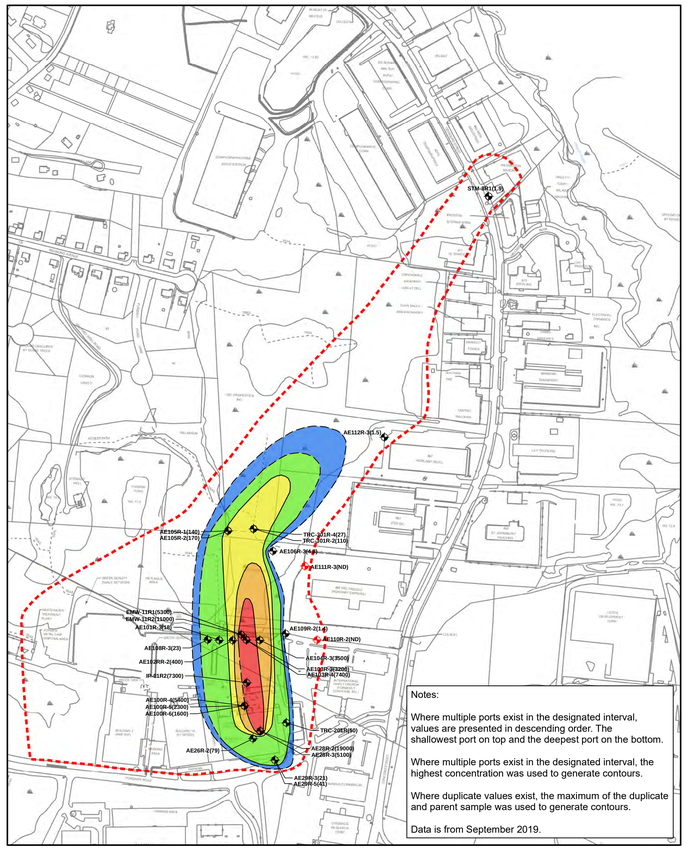
2016 TCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 TCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 TCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 TCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

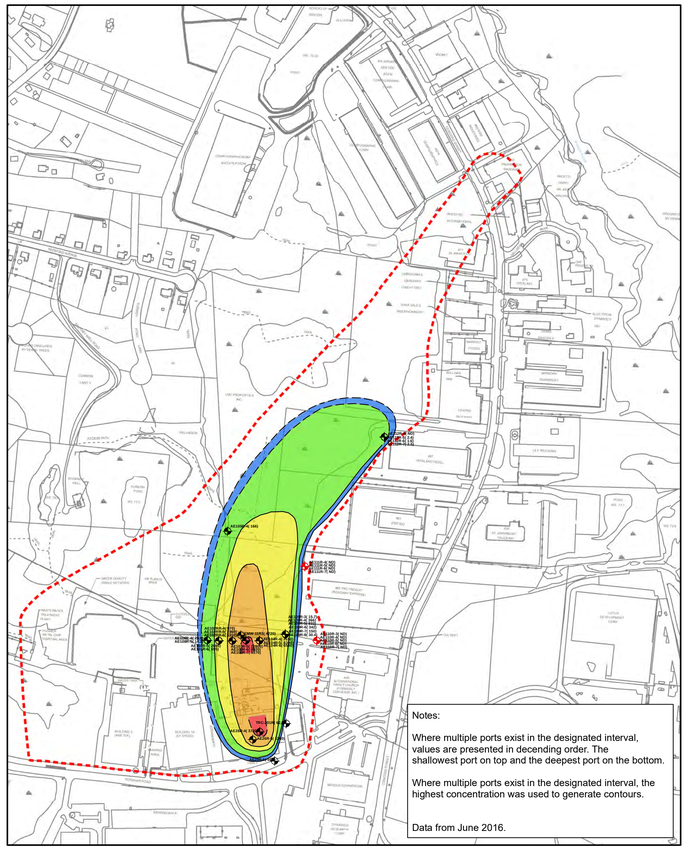
N

0 100 200 400 600 800 Feet

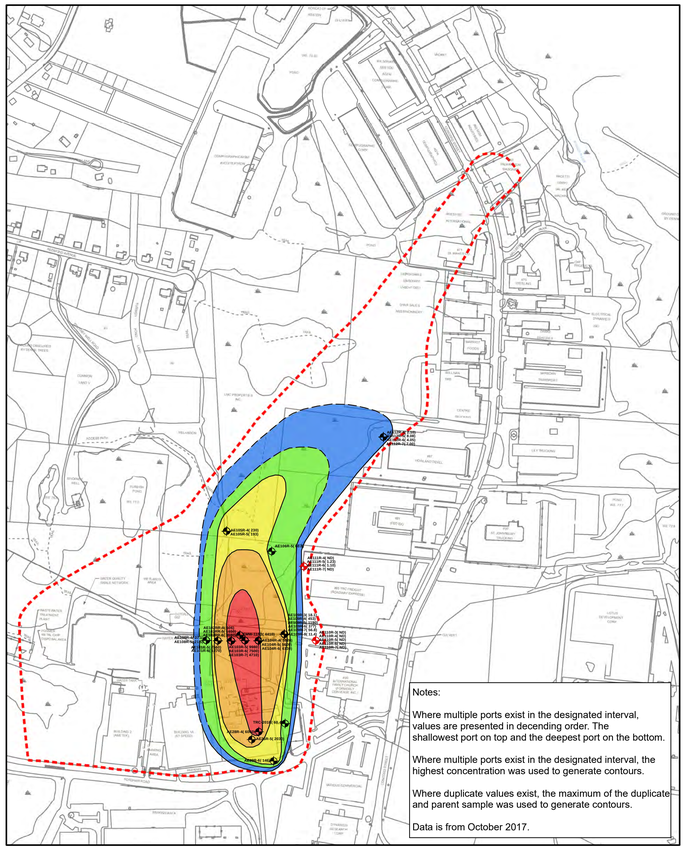
TCE in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-19

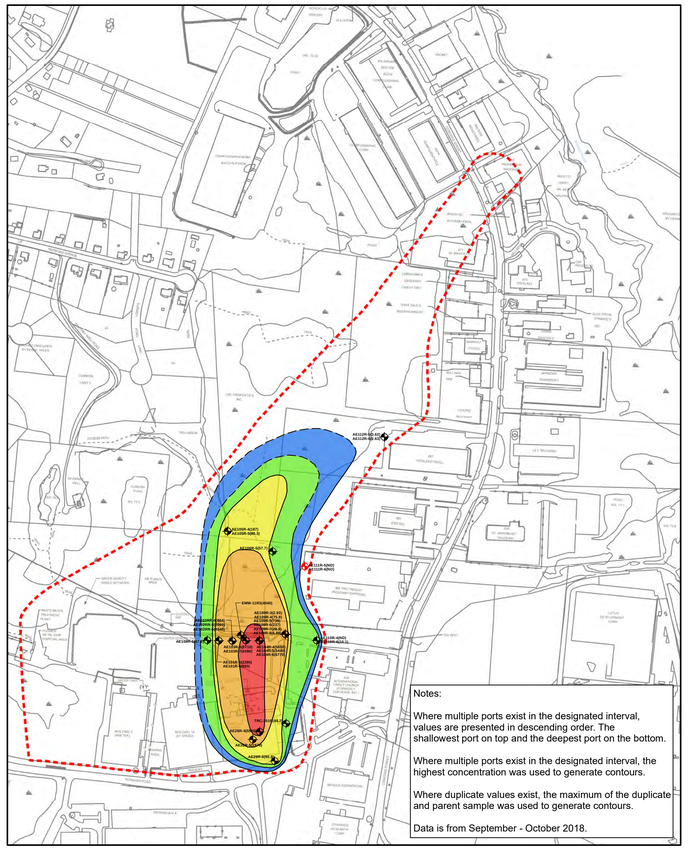
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_19_TCE_Middle_BR_2016_2019.mxd



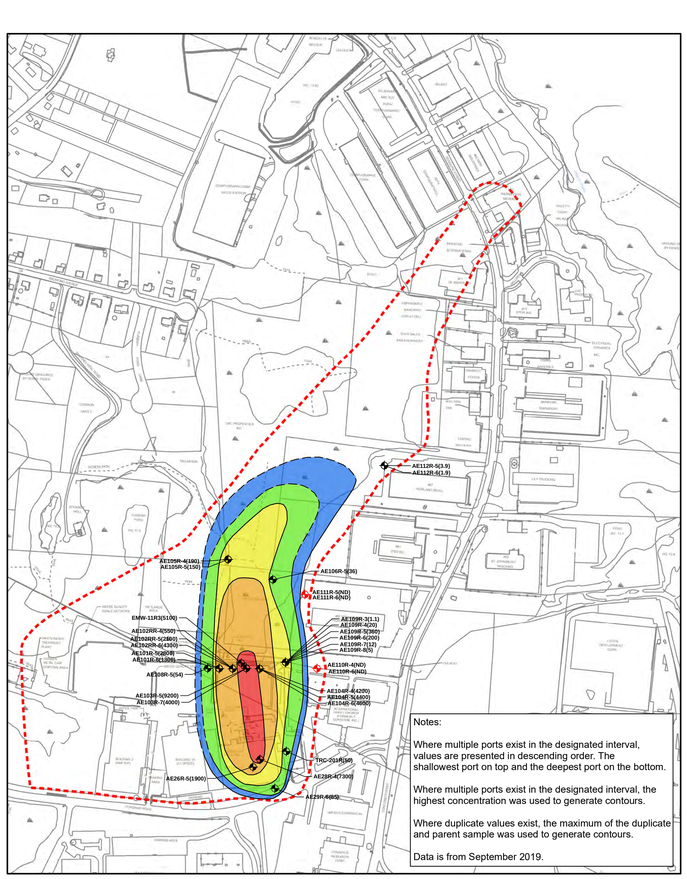
2016 TCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 TCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 TCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 TCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary
- MCP GW-1 Standard = 5 µg/l

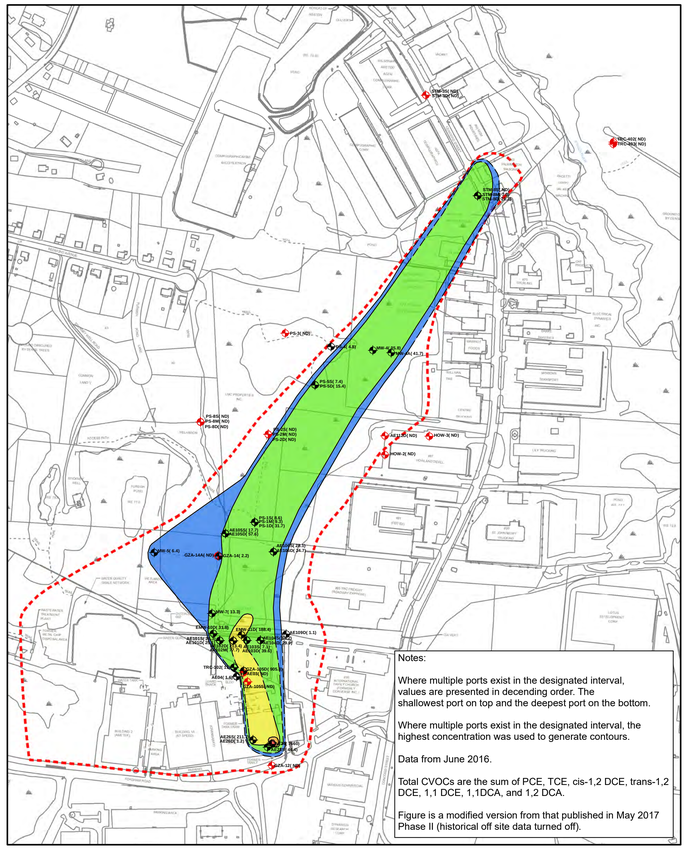
Feet
0 100 200 400 600 800

AECOM

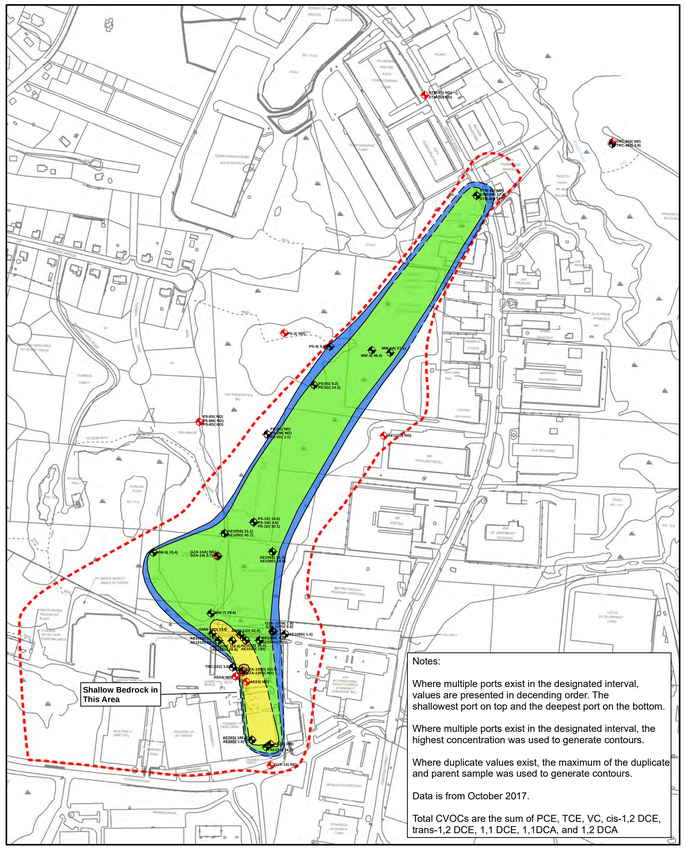
TCE in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-20

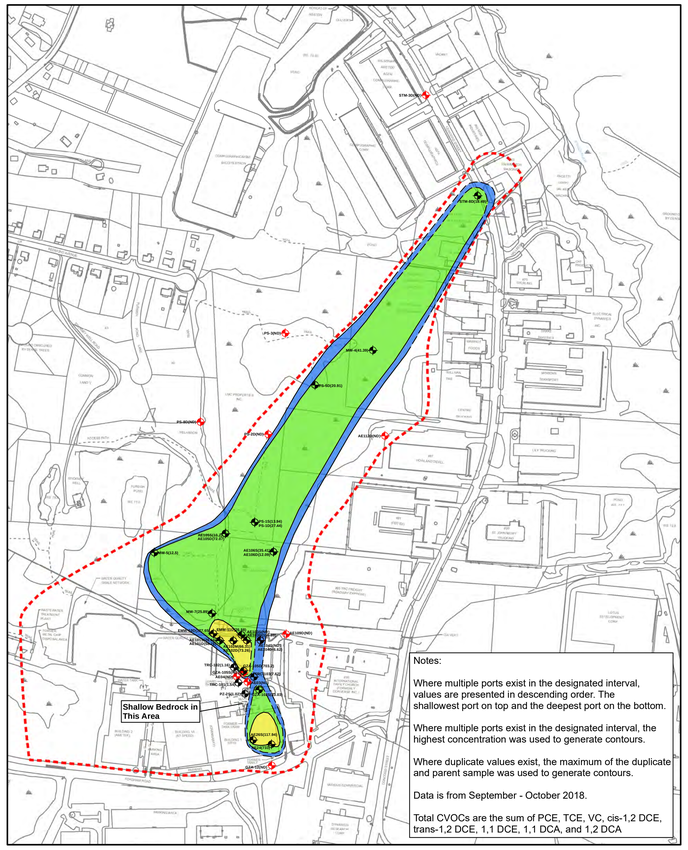
Path: \\uschi1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_20_TCE_Lower_BR_2016_2019.mxd



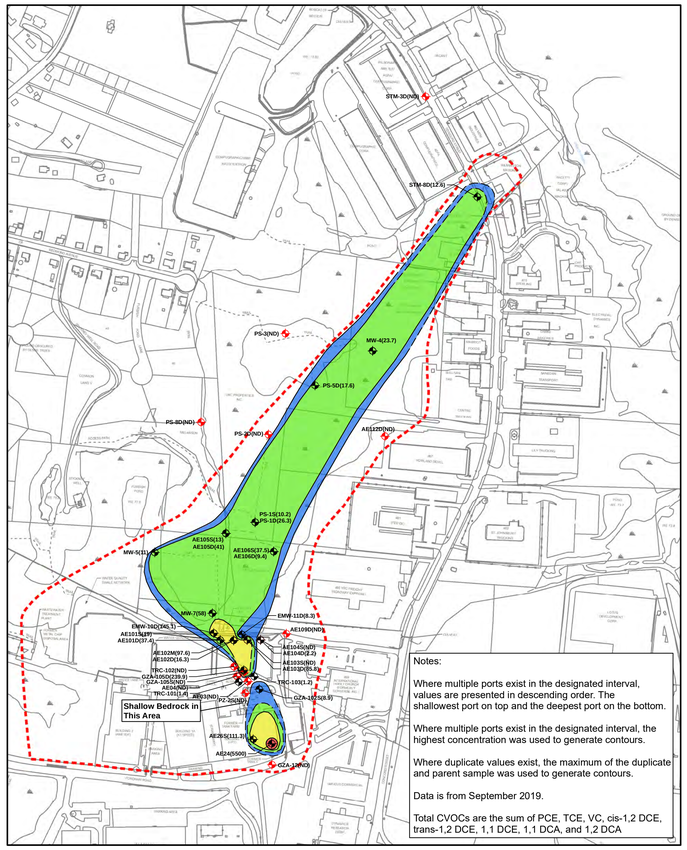
2016 Total CVOCs in Groundwater
Overburden (0 - 78 ft bgs)



2017 Total CVOCs in Groundwater
Overburden (0 - 78 ft bgs)



2018 Total CVOCs in Groundwater
Overburden (0 - 78 ft bgs)



2019 Total CVOCs in Groundwater
Overburden (0 - 78 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

N

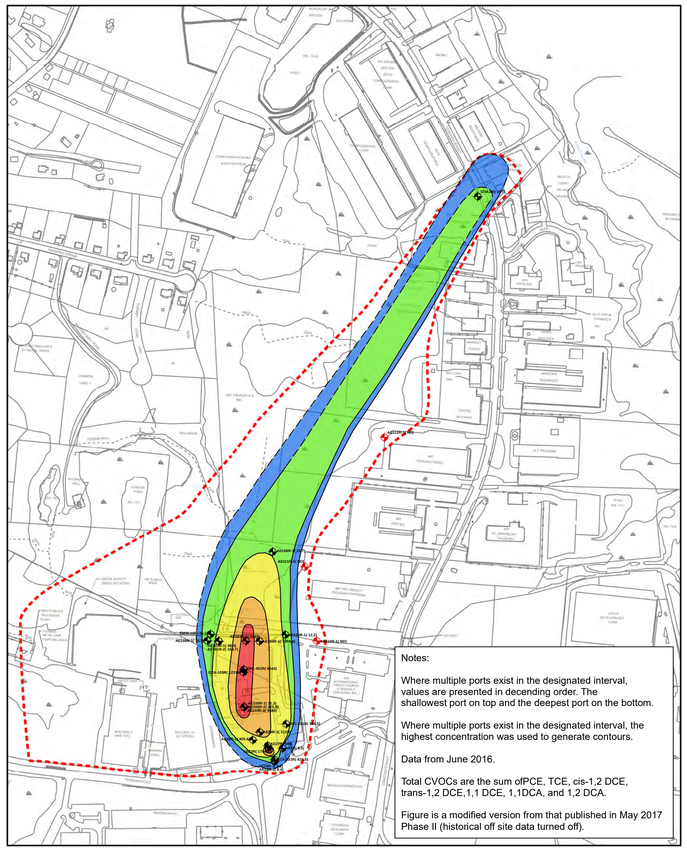
0 100 200 400 600 800 Feet

AECOM

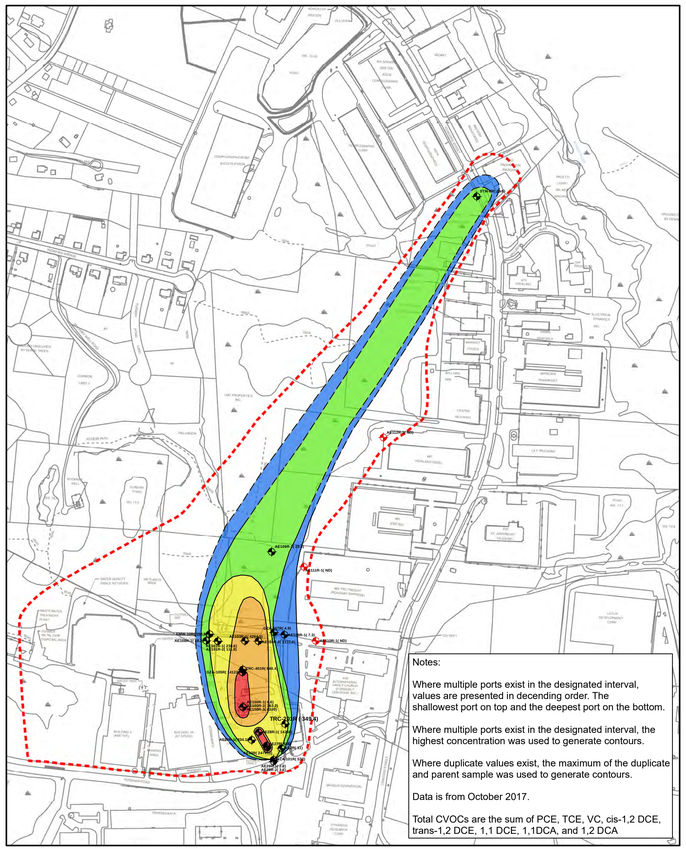
Total CVOCs in Groundwater
Overburden (0 - 78 ft bgs)

Figure 5-21

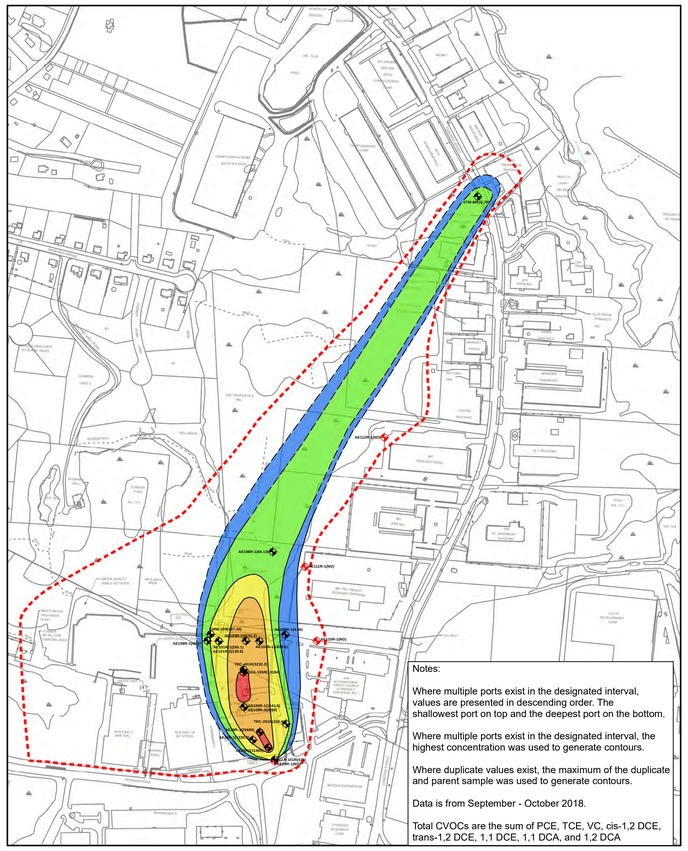
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_21_TCVOCS_OB_2016_2019.mxd



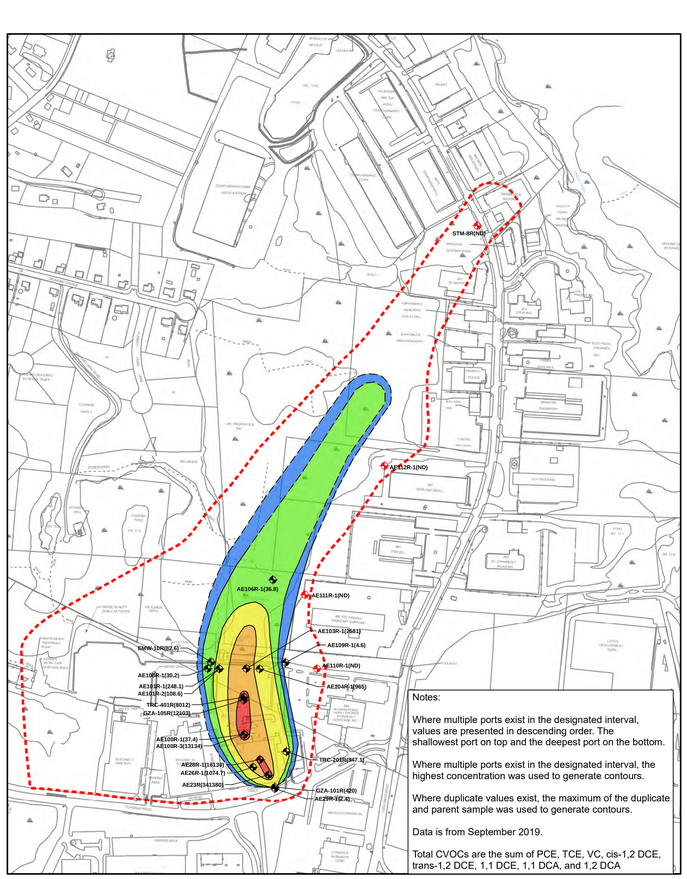
2016 Total CVOCs in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2017 Total CVOCs in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2018 Total CVOCs in Groundwater
Upper Bedrock (0 - 60 ft bgs)



2019 Total CVOCs in Groundwater
Upper Bedrock (0 - 60 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

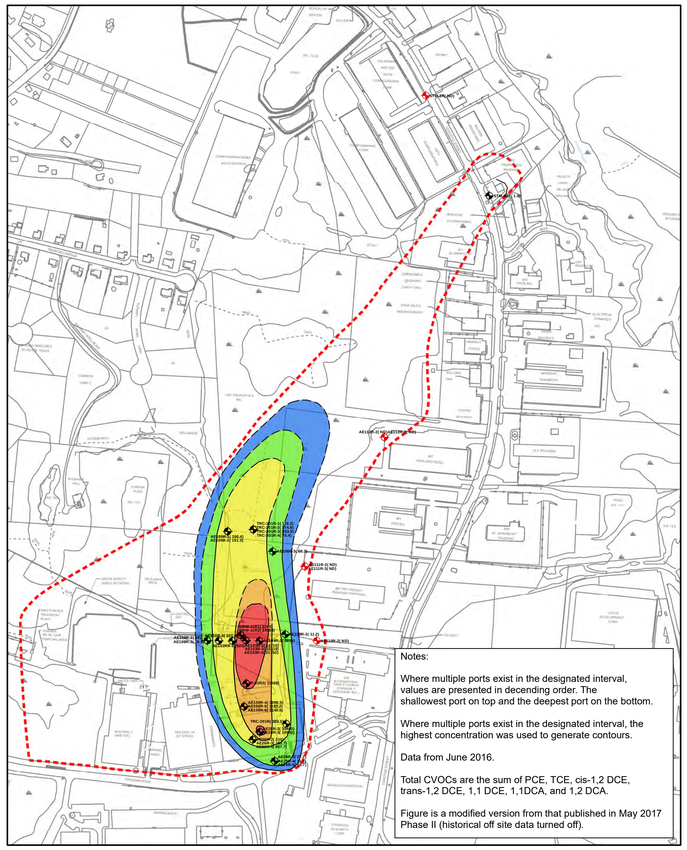
N

0 100 200 400 600 800 Feet

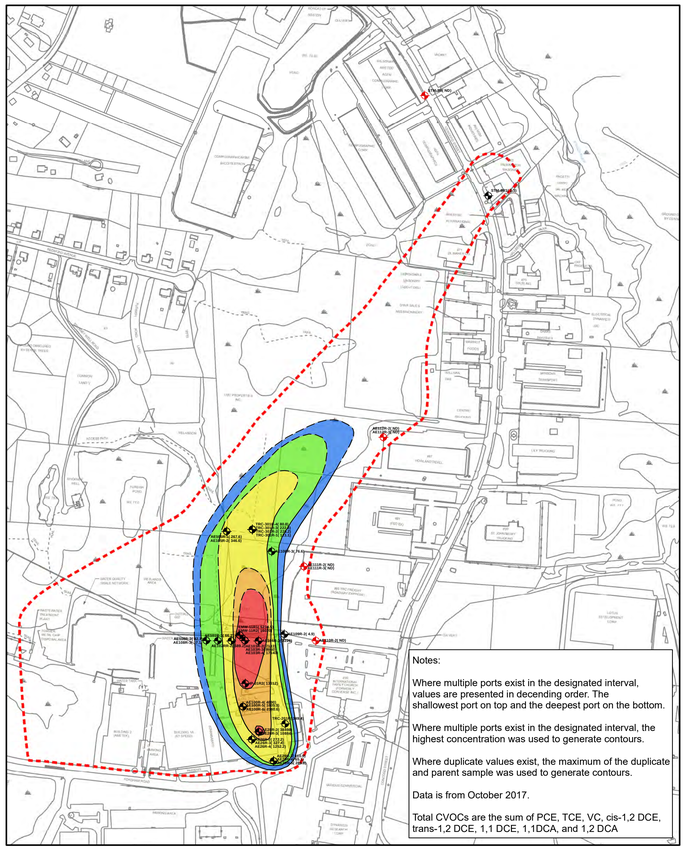
Total CVOCs in Groundwater
Upper Bedrock (0 - 60 ft bgs)

Figure 5-22

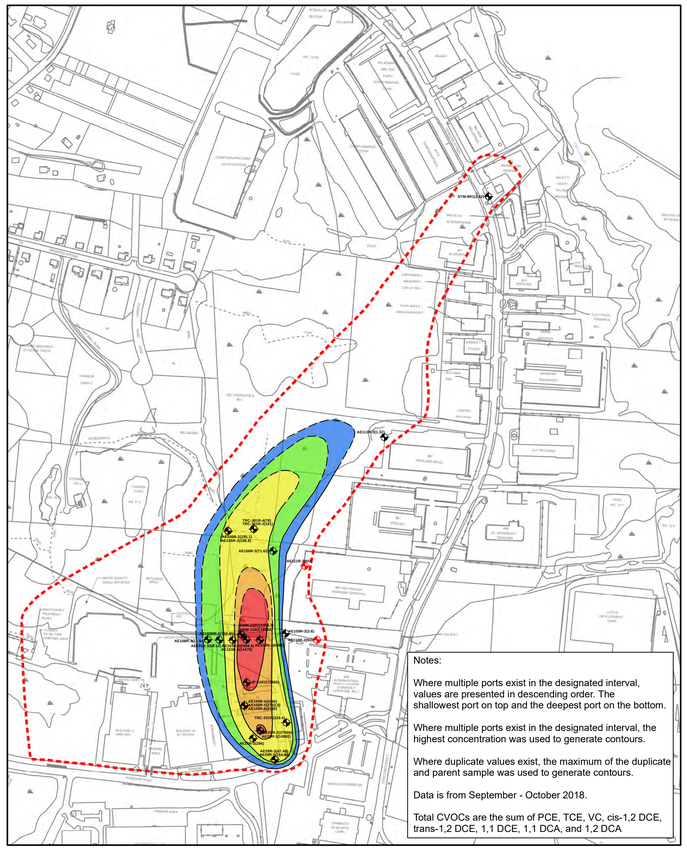
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_22_TCVOCS_Upper_BR_2016_2019.mxd



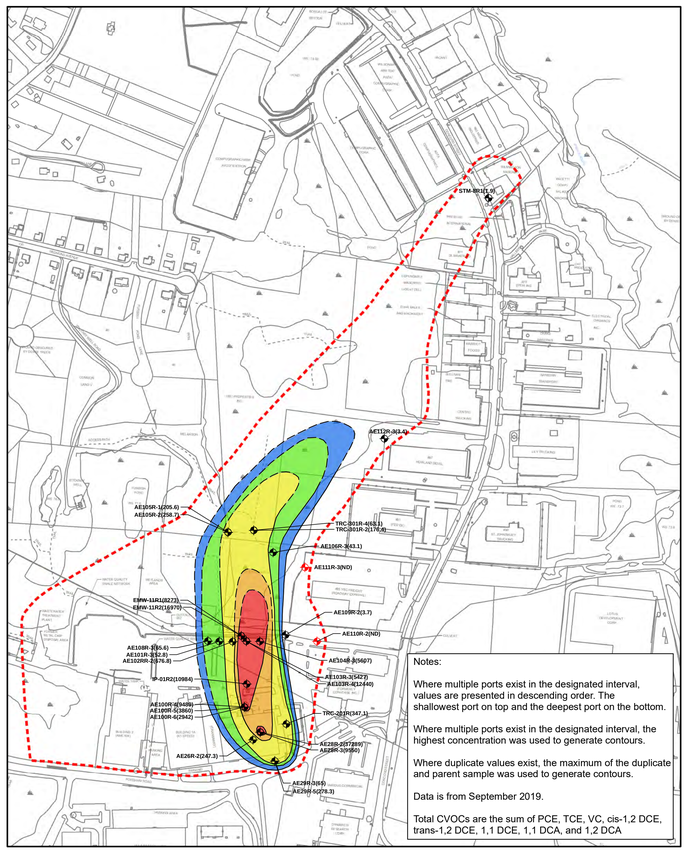
2016 Total CVOCs in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2017 Total CVOCs in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2018 Total CVOCs in Groundwater
Middle Bedrock (61 - 120 ft bgs)



2019 Total CVOCs in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

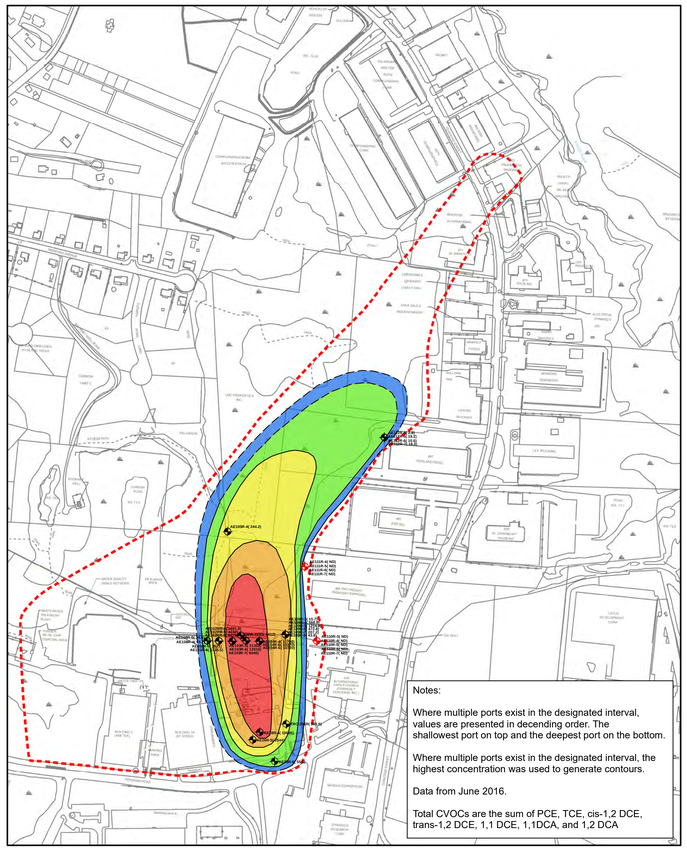
N

0 100 200 400 600 800 Feet

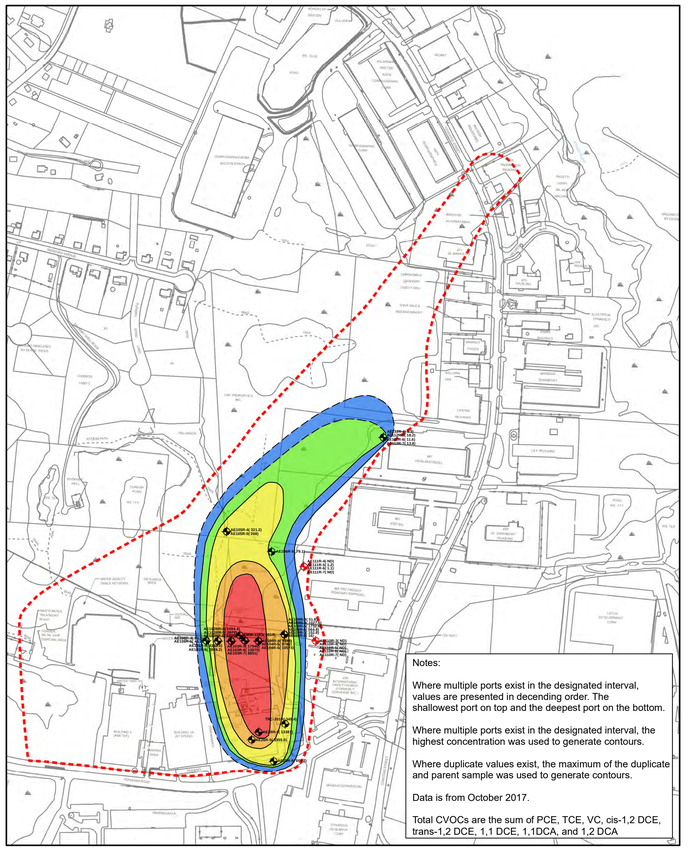
Total CVOCs in Groundwater
Middle Bedrock (61 - 120 ft bgs)

Figure 5-23

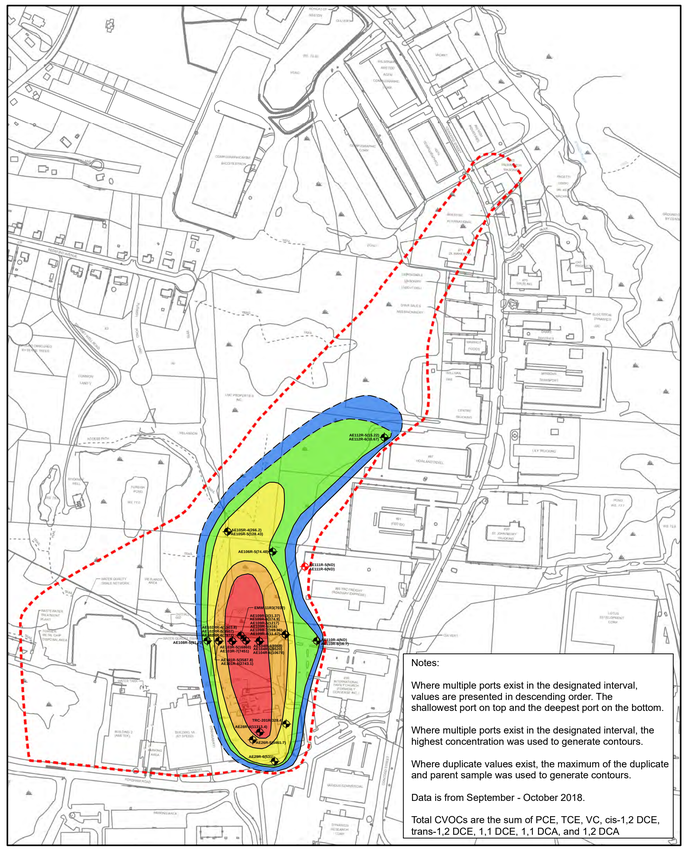
Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_23_TCVOCS_Middle_BR_2016_2019.mxd



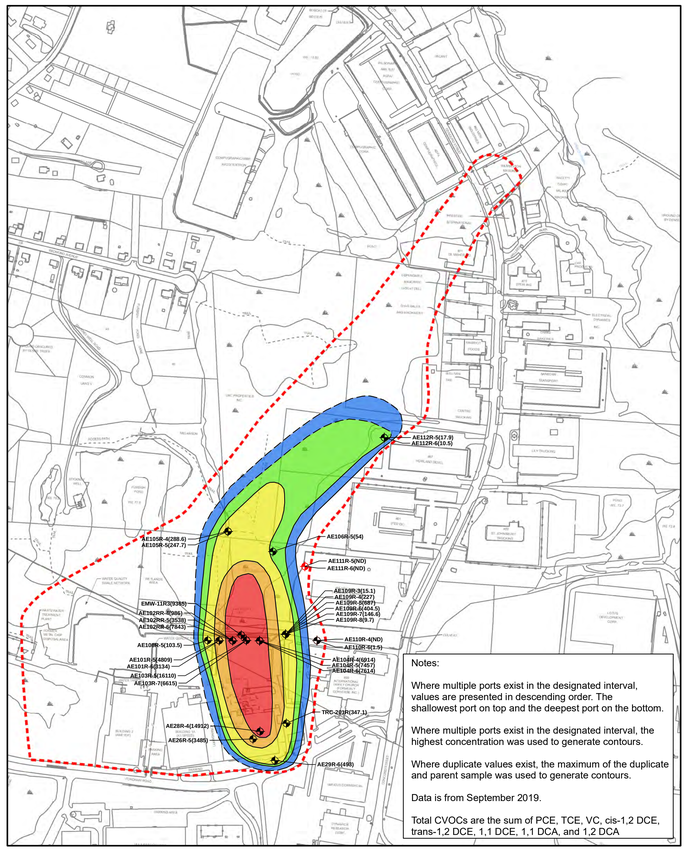
2016 Total CVOCs in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2017 Total CVOCs in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2018 Total CVOCs in Groundwater
Lower Bedrock (121 - 232 ft bgs)



2019 Total CVOCs in Groundwater
Lower Bedrock (121 - 232 ft bgs)

AECOM

Legend

- Monitoring Well
- Monitoring Well - Non Detect (ND)
- 5-10 ug/L
- 10-100 ug/L
- 100-1,000 ug/L
- 1,000-5,000 ug/L
- >5,000 ug/L
- MCP Site Boundary

N

0 100 200 400 600 800 Feet

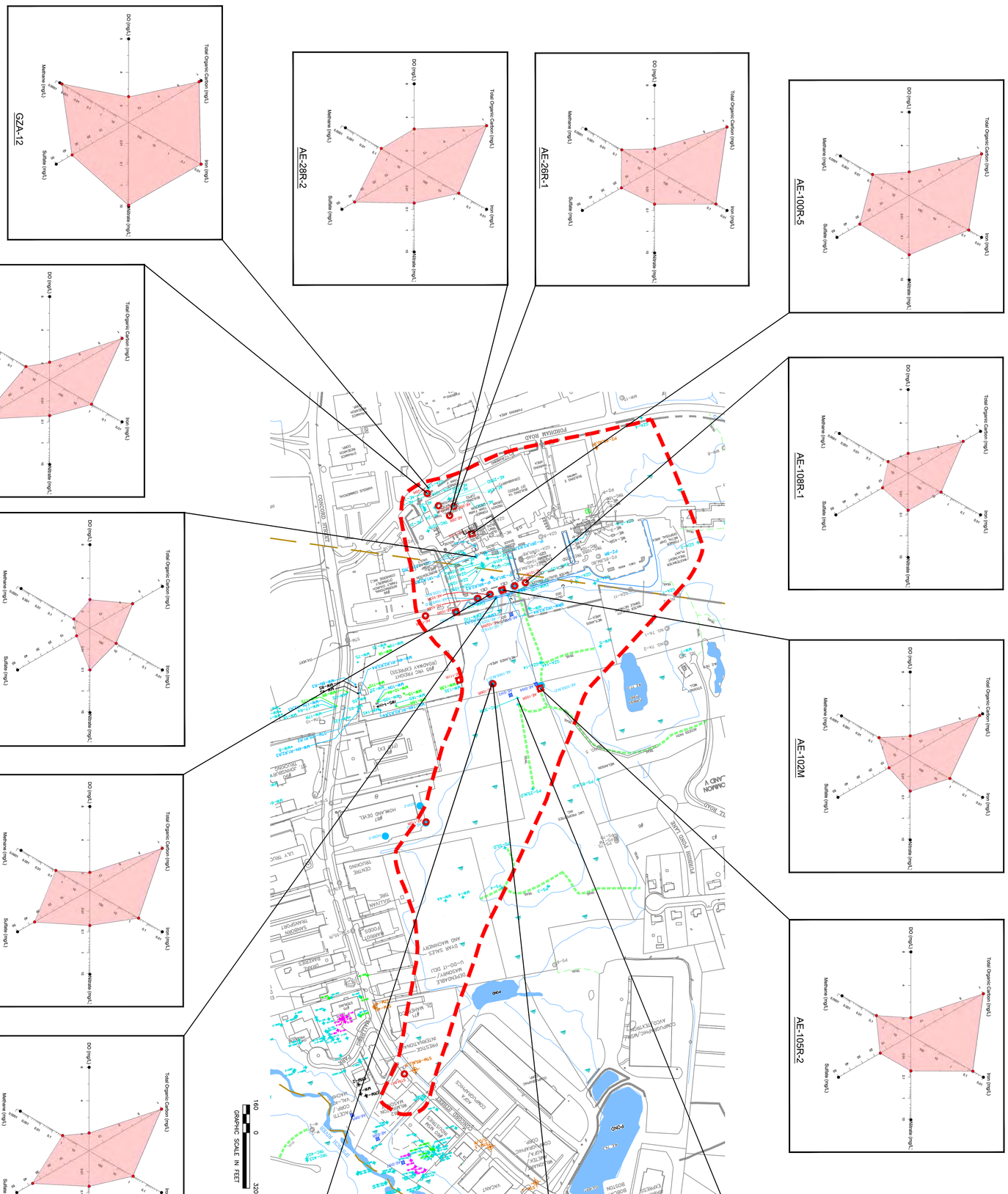
Total CVOCs in Groundwater
Lower Bedrock (121 - 232 ft bgs)

Figure 5-24

Path: \\uschl1fp001\data\Projects\Jobs\Rem_Eng\Project Files\Lockheed Martin\Wilmington 2017-2022\900-CAD-GIS\920 GIS-Graphics\2016-2019 Plume Maps\MXD\Fig_5_24_TCVOCS_Lower_BR_2016_2019.mxd

Last saved by: BARRYK(2020-03-04) Last Plotted: 2020-03-04
Filename: C:\USERS\BARRYK\DOCUMENTS\WILMINGTON\2019 RADAR PLOTS\FIG 5-25_GEOCHEM PARAMETER RADAR PLOTS.DWG

Project Management Initials: Designer: K.P.B. Checked: D.F. Approved: S.O. ANSI D 22" x 34"



NOTES:
1. FOR EMW-11R2 PLOT, THE 2017 CONCENTRATIONS FOR DO WAS USED.
2. FOR AE-03 PLOT, THE 2017 CONCENTRATIONS FOR NITRATE, SULFATE, METHANE AND TOC WERE USED.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

2019 GEOCHEMICAL
PARAMETER RADAR PLOTS

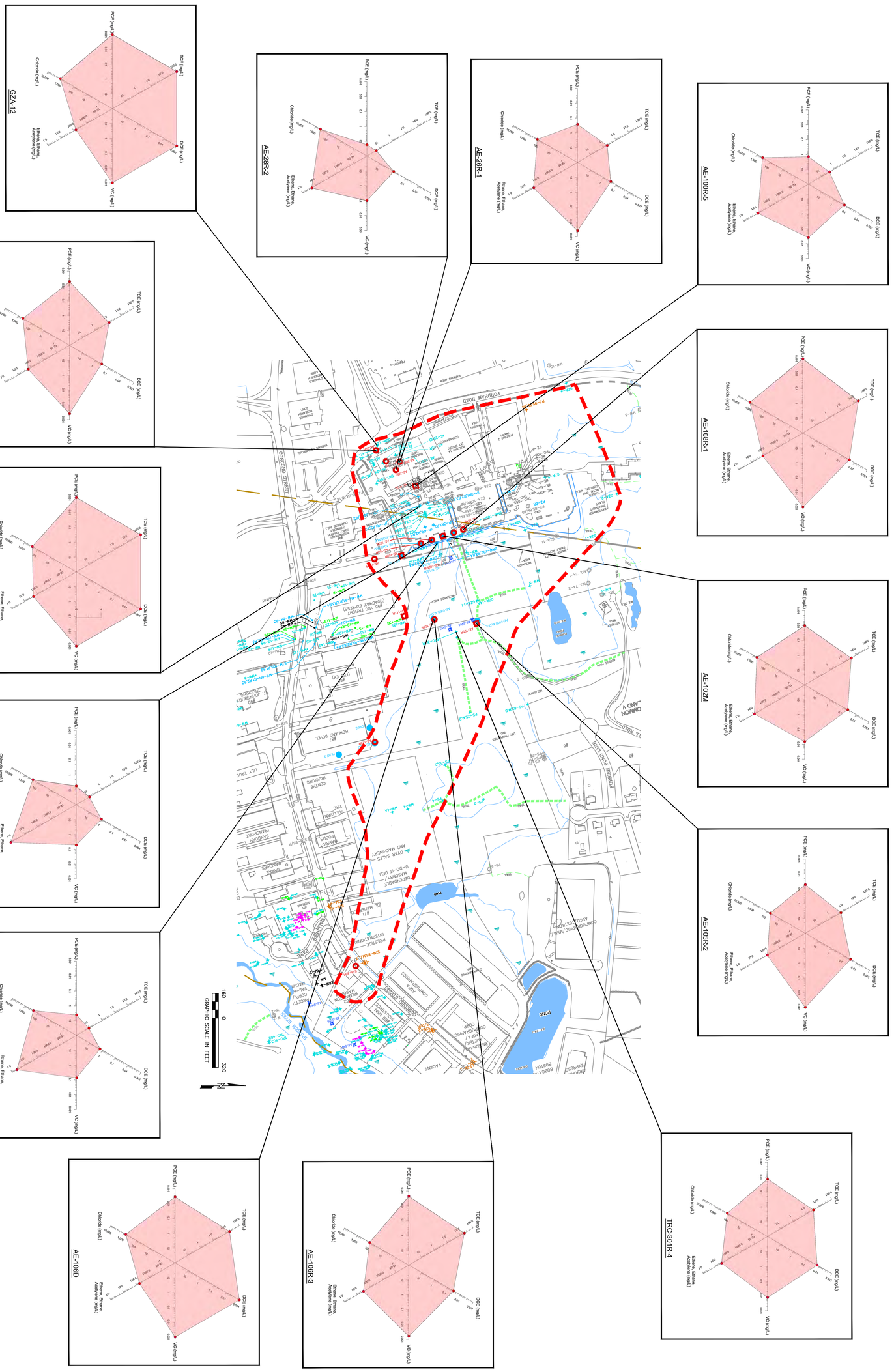
60552044 Date: 2020-03-04

AECOM

FIGURE: 5-25

Last saved by: BARRYK(2020-03-04) Last Plotted: 2020-03-04
Filename: C:\USERS\BARRYK\DOCUMENTS\WILMINGTON\2019 RADAR PLOTS\FIG 5-26_PCE_DAUGHTERS RADAR PLOTS.DWG

Project Management Initials: Designer: K.P.B. Checked:D.F. ApprovedS.O. ANSI D 22" x 34"



Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

2019 PCE AND DAUGHTERS
RADAR PLOTS

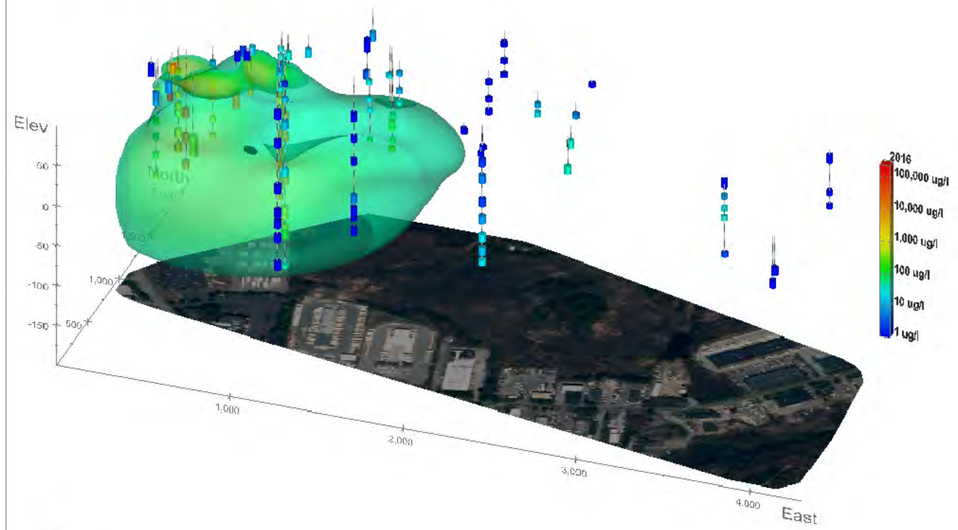
60552044 Date: 2020-03-04

AECOM

FIGURE: 5-26

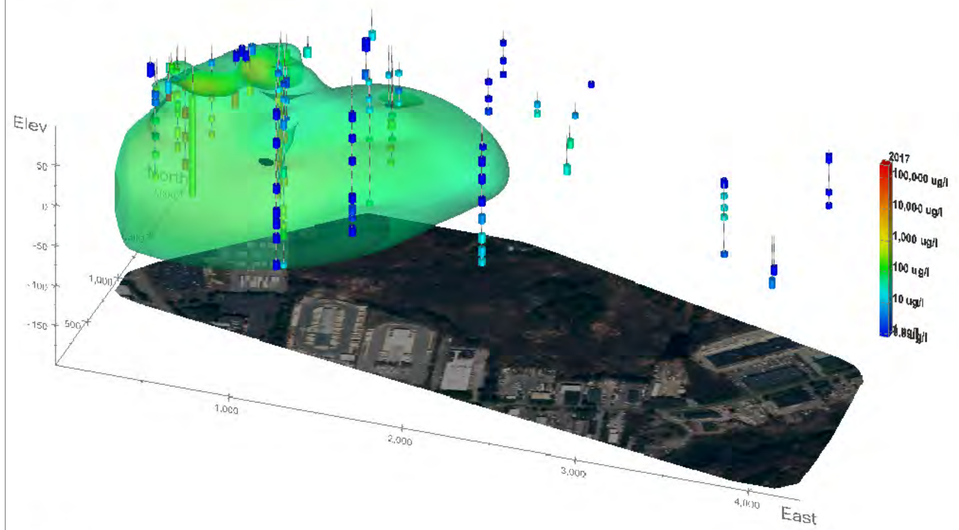
Project Management Initials: Designer:K.P.B. Checked:S.O. Approved:A.T. ANSI D 22" x 34"
Last saved by: BARRYK (2020-03-04) Last Plotted: 2020-03-04
Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\06_MAY 2018 TS STATUS RPT\FIG 5-27_CVOC PLUME MASS.DWG

2016
Mass Center at (754463, 3029557, -41)
151.61 kg
Displayed plume 2016 above 50 ug/l



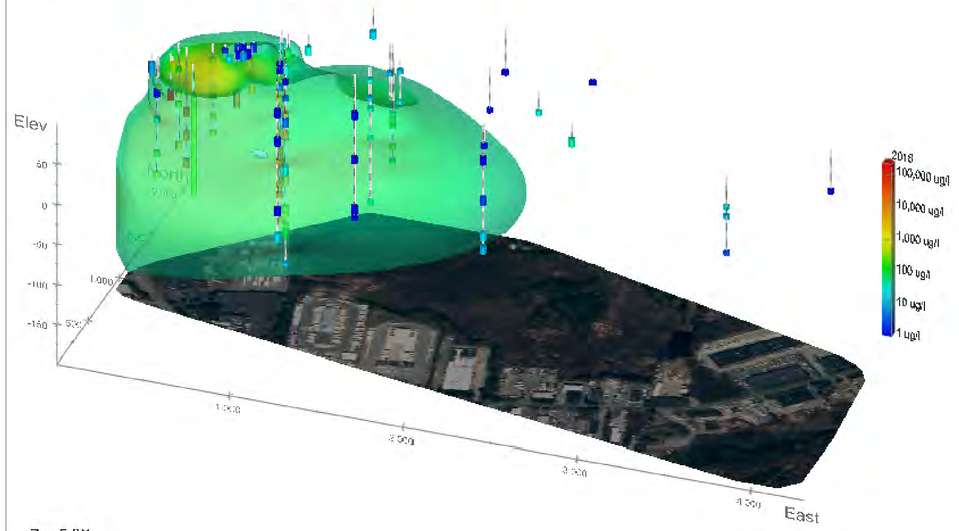
Z = 5.0X

2017
Mass Center at (754529, 3029632, -62)
136.86 kg
Displayed plume 2017 above 50 ug/l



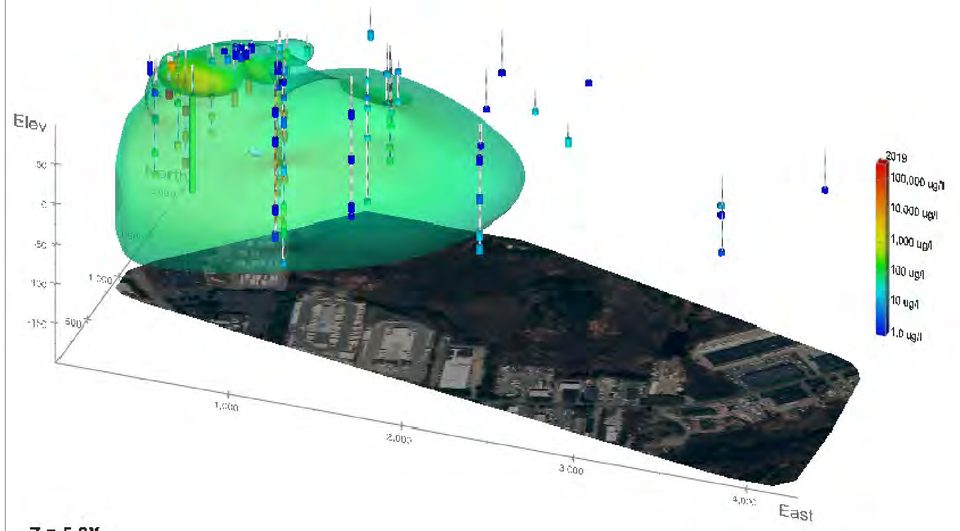
Z = 5.0X

2018
Mass Center at (754484, 3029636, -56)
162.15 kg
Displayed plume 2018 Above 50 ug/l



Z = 5.0X

2019
Mass Center at (754472, 3029647, -55)
172.77 kg
Displayed plume 2019 Above 50.00 ug/l



Z = 5.0X

AECOM

FIGURE: 5-27

CVOC PLUME MASS AND CENTER OF MASS OVER TIME

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

60552044

Date: 2020-03-04

TABLES

Table 2-1 Summary of October 2019 Groundwater Elevations

Table 2-2 Summary of September 2019 Groundwater Sampling

Table 2-3 Summary of September 2019 Groundwater Field Parameter Data

Table 2-4 Historical Summary of LNAPL Observations and Removal

Table 5-1 Summary of 2016 – 2019 Groundwater Analytical Results for Arsenic

Table 5-2 Summary of Mann Kendall Results for Arsenic in Groundwater

Table 5-3 Summary of 2016 – 2019 Groundwater Analytical Results for 1,4-Dioxane

Table 5-4 Summary of 2016 – 2019 Groundwater Analytical Results for Petroleum Compounds

Table 5-5 Summary of Mann Kendall Results for Petroleum Compounds in Groundwater

Table 5-6 Summary of 2016 – 2019 Groundwater Analytical Results for Volatile Organic Compounds

Table 5-7 Summary of Mann Kendall Results for Chlorinated Volatile Organic Compounds in Groundwater

Table 5-8 Summary of 2016 – 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters

Table 9-1 Post Temporary Solution Operations, Maintenance, and Monitoring Schedule

Table 9-2 Post Temporary Solution Operations, Maintenance, and Monitoring Groundwater Monitoring Plan

Table 2-1
Groundwater Field Parameter Data Summary September 2019
Former GE Facility, Wilmington, MA

Well ID	Date	Temperature (degrees C)	pH	Specific Conductivity (uS/cm)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Visual	Odor
On-Site									
AE-3	9/12/2019	21.83	6.37	1024	0.6	-72.3	2.63	clear	slight solvent
AE-4	9/12/2019	22.08	6.21	1226	0.46	-46.9	79.3	light silt	none
AE-23R	9/23/2019	14.81	7.26	1810	2.75	-66.9	3.1	clear	none
AE-24	9/23/2019	17.11	5.48	484	10.86	176.3	9.6	clear	none
AE-26R-1	9/23/2019	15.7	10.38	679	0.4	-75.4	0.24	clear	moderate solvent
AE-26R-2	9/23/2019	16.6	7.91	586.2	0.1	-208.8	0.02	clear	moderate solvent
AE-26R-5	9/23/2019	17.4	7.77	1307	0.1	-206.2	0.02	clear	strong solvent
AE-26S	9/23/2019	15.56	5.79	188	0.5	146.7	0	clear	none
AE-28R-1	9/23/2019	16.03	7.68	2236	2.97	-224	0.02	clear	sulfur
AE-28R-2	9/23/2019	16.52	7.82	1613	2.6	-288.7	0.02	clear	sulfur
AE-28R-3	9/23/2019	17.13	7.75	1540	0.58	-253.7	0.02	clear	sulfur
AE-28R-4	9/23/2019	16.86	7.67	1649	0.61	-264.9	1.04	clear	sulfur
AE-29R-1	9/24/2019	15	6.14	443.2	0.14	38.7	2.02	clear	none
AE-29R-3	9/24/2019	16.8	7.41	874	0.1	-120.7	1.05	clear	none
AE-29R-5	9/24/2019	16.1	6.51	3996	0.15	-46.6	1.82	clear	none
AE-29R-6	9/24/2019	18.1	7.6	1782	0.15	-262.1	1.71	clear	none
AE-100R-1	9/23/2019	15.34	7.47	2283	0.79	-52.5	0.02	clear	none
AE-100R-3	9/23/2019	15.47	7.27	2138	0.47	16.5	0.02	clear	none
AE-100R-4	9/23/2019	15.32	7.16	1841	1.25	37.5	0.02	clear	none
AE-100R-5	9/23/2019	15.42	7.92	1355	0.85	30	0.02	clear	none
AE-100R-6	9/23/2019	15.23	7.64	718	0.35	-58.9	0.02	clear	none
GZA-12	9/26/2019	15.38	5.54	4079	1.09	199.3	0.81	clear	none
GZA-101R	9/26/2019	15.37	6.89	4457	0.49	-104.3	3.14	clear	none
GZA-102S	9/13/2019	19.97	6.06	2697	1.93	35.4	1.59	clear	none
GZA-105D	9/18/2019	17.83	6.22	2038	0.69	11.4	6.55	clear	none
GZA-105R	9/18/2019	17.6	7.08	1225	0.36	-18.9	1.68	clear	none
GZA-105S	9/18/2019	20.45	6.54	1414	0.55	-91.8	4.75	light particles	slight solvent
IP-1R2	9/13/2019	20.05	8	1703	0.73	-84.6	8.31	clear	none
PZ-2S	9/30/2019	19.69	6.41	551	2.95	35.4	0.02	clear	petroleum
TRC-101	9/19/2019	22.9	6.21	2251	0.07	-40.8	7.55	light particles	none
TRC-102	9/20/2019	21.2	6.19	1084	0.07	-33.5	1.73	clear	solvent-like
TRC-103	9/19/2019	23.52	6.49	954	0.93	-72.6	9.11	clear	none
TRC-201R	9/25/2019	17.25	7.83	995	0.27	-161.2	3.05	clear	none
TRC-401R	9/30/2019	17.08	8.32	867	0.16	-273.3	46.8	clear/yellow	none
Transect A									
AE-101D	9/30/2019	16.6	5.95	1499	1.25	13.8	1.2	clear	none
AE-101R-1	9/25/2019	15.68	5.59	2348	0.97	105.2	0	clear	none
AE-101R-2	9/25/2019	15.15	6.9	1510	0.59	-101.2	0.4	clear	none
AE-101R-3	9/25/2019	15.2	6.89	2256	0.35	-91.5	2	clear	none
AE-101R-5	9/25/2019	16.7	7.23	503	0.67	-95	0	clear	none
AE-101R-6	9/25/2019	15.69	6.48	706	3.43	-65.9	0	clear	none
AE-101S	9/30/2019	17.62	6.02	1144	0.32	25.3	3.4	clear	none
AE-102D	9/25/2019	17.18	6.91	2040	0.29	-116	6.21	clear	none
AE-102M	9/25/2019	16.21	6.17	2069	0.36	41.4	0.02	clear	none
AE-102RR-2	9/24/2019	14.48	7.78	722	0.51	-154.1	0.02	clear	none
AE-102RR-4	9/24/2019	14.29	7.66	330	0.57	-73.3	0.02	clear	none
AE-102RR-5	9/24/2019	14.45	7.76	418	0.4	-99.5	0.02	clear	none
AE-102RR-6	9/24/2019	14.52	7.45	384	0.38	-78.5	0.02	clear	none
AE-103D	9/19/2019	15.66	5.76	2807	0.51	125.8	0	clear	none
AE-103R-1	9/18/2019	15.22	5.96	2241	0.36	59.2	0	clear	none
AE-103R-3	9/18/2019	14.99	6.51	1302	0.21	52.1	0	clear	none
AE-103R-4	9/18/2019	13.99	6.98	904	0.19	-26.8	0	clear	none
AE-103R-5	9/18/2019	15.32	7.31	924	0.11	-84.8	0	clear	none
AE-103R-7	9/18/2019	14.67	7.61	631	0.11	-117.2	0	clear	none

Table 2-1
Groundwater Field Parameter Data Summary September 2019
Former GE Facility, Wilmington, MA

Well ID	Date	Temperature (degrees C)	pH	Specific Conductivity (uS/cm)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Visual	Odor
Transect A (continued)									
AE-103S	9/19/2019	15.85	6.78	415	0.2	-94.1	7.3	clear	none
AE-104D	9/20/2019	14.71	5.67	2861	1.07	208.6	2.41	clear	none
AE-104R-1	9/18/2019	13.43	8.09	774	0.35	-167.9	0.02	clear	none
AE-104R-3	9/18/2019	13.43	7.93	874	0.22	-118	0.02	clear	none
AE-104R-4	9/18/2019	13.48	7.9	914	0.18	-137.7	0.02	clear	none
AE-104R-5	9/18/2019	13.49	7.84	759	0.17	-155.1	0.02	clear	none
AE-104R-6	9/18/2019	13.56	7.81	730	0.14	-161	0.02	clear	none
AE-104S	9/20/2019	14.37	6.35	296	0.31	6.6	28.1	clear	none
AE-108R-1	9/24/2019	14.44	6.32	4828	0.36	-49.9	4.5	clear	none
AE-108R-3	9/24/2019	14.45	5.77	3399	0.52	94.5	3.6	clear	none
AE-108R-5	9/24/2019	14.65	7.15	1207	1.02	-49.7	3.2	clear	none
AE-109D	9/20/2019	16.9	6.35	1387	1.04	96.6	0.02	clear	none
AE-109R-1	9/18/2019	13.3	7.39	1352	4.8	-41.2	0.97	clear	none
AE-109R-2	9/18/2019	13.2	7.5	1387	0.49	-71.6	1.95	clear	none
AE-109R-3	9/18/2019	13.2	7.52	565.2	4.45	-105.8	0.02	clear	none
AE-109R-4	9/18/2019	13.2	7.77	288.2	0.12	-149.8	0.49	clear	none
AE-109R-5	9/18/2019	13.1	7.8	280.9	1.01	-141.2	0.02	clear	none
AE-109R-6	9/18/2019	13.1	7.67	382.5	0.27	-106.4	0.3	clear	none
AE-109R-7	9/18/2019	13.1	7.66	317.2	2.42	-115.6	0.02	clear	none
AE-109R-8	9/18/2019	13	7.72	160.5	0.72	-141.4	362	clear	none
AE-110R-1	9/13/2019	14.24	7.72	602	0.24	-186.5	0.7	clear	none
AE-110R-2	9/13/2019	14.15	7.6	677	0.17	-160.3	0.6	clear	none
AE-110R-4	9/13/2019	14.16	7.81	434	0.25	-157.7	0.02	clear	none
AE-110R-6	9/13/2019	14.41	7.84	854	1.33	-129.3	0.02	clear	none
EMW-10D	9/30/2019	14.17	5.63	2089	0.53	164.2	0.4	clear	none
EMW-10R	9/30/2019	14.94	9.48	942	0.44	99.5	7.9	clear	none
EMW-11D	9/19/2019	14.22	6.61	1071	0.39	-107.2	11.2	clear	none
EMW-11R1	9/17/2019	14.07	7.24	745	0.41	-122	3.2	clear	none
EMW-11R2	9/17/2019	14.74	7.28	922	0.13	-111.9	0	clear	none
EMW-11R3	9/17/2019	14.33	7.68	719	0.21	-127.6	2.6	clear	none
Transect B									
AE-105D	9/16/2019	12.4	6.7	978	0.13	-73.1	0.1	clear	none
AE-105R-1	9/16/2019	11	7.25	390	0.15	-25.1	0	clear	none
AE-105R-2	9/16/2019	10.9	7.31	351	0.13	-18.1	0	clear	none
AE-105R-4	9/16/2019	10.8	7.37	335	0.07	-22.7	0	clear	none
AE-105R-5	9/16/2019	10.9	7.43	332	0.06	-32.9	0	clear	none
AE-105S	9/16/2019	11.4	6.36	935	0.23	-46.9	0.09	clear	none
AE-106D	9/17/2019	11.31	5.91	2453	1.48	198	0.02	clear	none
AE-106R-1	9/16/2019	11.13	7.35	805	0.45	1.3	0.91	clear	none
AE-106R-3	9/16/2019	10.87	7.36	504	0.42	-17.9	0.02	clear	none
AE-106R-5	9/16/2019	10.93	7.78	204	0.4	-45	0.02	clear	none
AE-106S	9/16/2019	12.01	5.94	1711	0.96	177.9	1.86	clear	none
AE-111R-1	9/25/2019	13.06	7.04	1204	1.56	145.2	1.4	clear	sulfur
AE-111R-3	9/25/2019	13.32	6.98	1028	0.88	130.6	1.28	clear	sulfur
AE-111R-5	9/25/2019	13.36	6.88	420	2.88	98.4	1.66	clear	sulfur
AE-111R-6	9/25/2019	13.42	7.23	414	0.34	71.3	1.52	clear	sulfur
TRC-301R-2	9/17/2019	11.51	7.67	619	0.42	-145.8	0.02	clear	none
TRC-301R-4	9/17/2019	13.94	6.95	670	1.57	-122.5	0.02	clear	none

Table 2-1
Groundwater Field Parameter Data Summary September 2019
Former GE Facility, Wilmington, MA

Well ID	Date	Temperature (degrees C)	pH	Specific Conductivity (uS/cm)	Dissolved Oxygen (mg/l)	Oxidation Reduction Potential (mV)	Turbidity (NTU)	Visual	Odor
Transect B 1/2									
AE-112D	9/13/2019	13.49	5.36	1286	2.45	260.8	0.02	clear	none
AE-112R-1	9/13/2019	13.26	5.48	1278	0.64	28.3	0.97	clear	sulfur
AE-112R-3	9/13/2019	13.14	5.34	845	0.39	-35.9	0.02	clear	sulfur
AE-112R-5	9/13/2019	13.2	6.01	976	0.26	-61.2	0.02	clear	sulfur
AE-112R-6	9/13/2019	13.2	5.8	1070	0.21	-81.1	0.02	clear	sulfur
Transect C									
STM-3D	9/26/2019	21.56	6.48	508	0.85	-65.8	55.2	clear	none
STM-8D	9/26/2019	13.18	5.99	1002	0.15	69.2	0	clear	none
STM-8R	9/26/2019	18	5.81	1103	0.84	23	0	clear	none
STM-8R1	9/26/2019	16.53	8.52	491	0.79	-38.3	0	clear	none
Wetlands/Wooded Area									
GZA-10	9/26/2019	15.77	6.61	639	0.19	-53.9	4.53	clear	none
GZA-14A	9/30/2019	11.76	5.98	379	0.29	53.7	0.02	yellow/clear	none
GZA-6	9/20/2019	17.2	5.76	148.9	0.3	62.4	0.12	yellow tint	none
MW-4	9/19/2019	9.54	6.72	546	0.27	-59.7	0.02	clear	none
MW-4A	9/19/2019	9.92	6.61	902	0.37	-53.6	3.39	clear	none
MW-5	9/30/2019	10.1	6.48	836	0.33	-56.8	0.42	clear	none
MW-7	9/26/2019	14.47	5.49	2061	1.01	97.6	5.19	clear	none
PS-1D	9/17/2019	11.7	7.7	724	0.27	-110.9	8.44	clear	none
PS-1S	9/17/2019	10.6	6.43	428.8	0.06	-66.2	0.02	clear	none
PS-2D	9/17/2019	15.4	8.39	647	2.02	-29.4	70.8	clear	none
PS-3	9/19/2019	13.2	5.99	404.6	0.17	-51.8	2.67	clear	none
PS-5D	9/19/2019	12.9	6.62	310.4	1.18	-75.7	41.8	clear	none
PS-8D	9/17/2019	11.01	6.35	319	0.71	-25.6	0.37	clear	none

Notes:

Summary presents the final stabilized reading at each well just prior to sampling.

C - Celsius

uS/cm - microsiemens per centimeter

mg/l - milligrams per liter

mV - millivolts

NTU - nephelometric turbidity units

NM - not measured

Table 2-2
September 2019 Groundwater Sample Summary
Former GE Facility, 50 Fordham Road, Wilmington, MA

Date Sampled	Area	Location ID	FLUTe port	Interval	Well Diameter (inch)	Screen Interval (Ft bgs)	Water Level Measurements (1)	VOCs (SW846 -USEPA Method 8260C)	1,4 dioxane (SW846/USEPA Method 8270D SIM) DL <0.3 ug/l	VPH (MassDEP VPH Method)	EPH and polycyclic aromatic hydrocarbons (PAH) (MassDEP EPH 04 1.1 Revision 1)	Total As, Fe, Mn (SW846 - U SEPA Method 6010C)	Dissolved As, Fe, Mn (field filtered) (SW846 - USEPA Method 6010C)	Chloride (USEPA 300.0)	Nitrite	Nitrate (USEPA 300.0)	Sulfate (USEPA 300.0)	Sulfide	Total organic carbon (SW 846-9060A)	Methane, Ethane, Ethene, Acetylene, Propane (Pace-Microseeps AM20Gax)	Dissolved hydrogen (Pace - Microseeps - Bubble Strip)	Comments
9/23/2019	Building 1, inside	AE-26R	R1	Upper Bedrock	Shallow FLUTE	50 - 56	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/23/2019	Building 1, inside	AE-26R	R2	Middle Bedrock	Shallow FLUTE	72 - 78	1	1														
9/23/2019	Building 1, inside	AE-26R	R5	Lower Bedrock	Shallow FLUTE	123 - 132	1	1	1													
9/23/2019	Building 1, inside	AE-28R	R1	Upper Bedrock	Shallow FLUTE	45 - 51	1	1														
9/23/2019	Building 1, inside	AE-28R	R2	Middle Bedrock	Shallow FLUTE	75 - 85	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/23/2019	Building 1, inside	AE-28R	R3	Middle Bedrock	Shallow FLUTE	98 - 108	1	1	1													
9/23/2019	Building 1, inside	AE-28R	R4	Lower Bedrock	Shallow FLUTE	132 - 142	1	1														
9/23/2019	Building 1, inside	AE-26S	--	Overburden	2	25 - 30	1	1				1	1									
9/23/2019	Building 1, inside	AE-23R	--	Upper Bedrock	1.5	44.75 - 54.75	1	1	1	1	1											
9/23/2019	Building 1, inside	AE-24	--	Overburden	2	7.25 - 17.2.5	1	1	1													
9/24/2019	Tank F	AE-29R	R1	Upper Bedrock	Shallow FLUTE	37 - 44	1	1														
9/24/2019	Tank F	AE-29R	R3	Middle Bedrock	Shallow FLUTE	70 -76	1	1														
9/24/2019	Tank F	AE-29R	R5	Middle Bedrock	Shallow FLUTE	113 - 119	1	1														
9/24/2019	Tank F	AE-29R	R6	Lower Bedrock	Shallow FLUTE	140 -146	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/26/2019	Tank F	GZA-101R	--	Upper Bedrock	PVC	36 - 38	1	1				1	1	1	1	1	1	1		1	1	
9/23/2019	Former Tank Farm	AE-100R	R1	Upper Bedrock	FLUTE	18 - 24	1	1	0	1	1											
9/23/2019	Former Tank Farm	AE-100R	R3	Upper Bedrock	FLUTE	50 - 56	1	1	1													
9/23/2019	Former Tank Farm	AE-100R	R4	Middle Bedrock	FLUTE	63 - 68	1	1	1													
9/23/2019	Former Tank Farm	AE-100R	R5	Middle Bedrock	FLUTE	88 - 93	1	1	0			1	1	1	1	1	1	1		1	1	
9/23/2019	Former Tank Farm	AE-100R	R6	Middle Bedrock	FLUTE	108.5 - 113.5	1	1	1													
9/30/2019	Transect A	AE-101D	--	Overburden	2	20 - 25	1	1	1													Matrix Spike/Matrix Spike Duplicate (MS/MSD)
9/25/2019	Transect A	AE-101R	R1	Upper Bedrock	CMT	30.5 - 35.5	1	1	0													Duplicate for VOCs
9/25/2019	Transect A	AE-101R	R2	Upper Bedrock	CMT	55-60	1	1	1													
9/25/2019	Transect A	AE-101R	R3	Middle Bedrock	CMT	80 - 85	1	1	1													MS/MSD
9/25/2019	Transect A	AE-101R	R5	Lower Bedrock	CMT	175 - 180	1	1	1													
9/30/2019	Transect A	AE-101R	R6	Lower Bedrock	CMT	227-232	1	1	1													
9/30/2019	Transect A	AE-101S	--	Overburden	2	10 - 15	1	1	1													
9/25/2019	Transect A	AE-102D	--	Overburden	2	33 - 38	1	1	1													
9/25/2019	Transect A	AE-102M	--	Overburden	2	23 - 28	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	Duplicate for all but metals
9/24/2019	Transect A	AE-102RR	R2	Middle Bedrock	FLUTE	75 - 80	1	1	1													
9/24/2019	Transect A	AE-102RR	R4	Lower Bedrock	FLUTE	125 - 130	1	1	1													MS/MSD
9/24/2019	Transect A	AE-102RR	R5	Lower Bedrock	FLUTE	141-146	1	1	0													
9/24/2019	Transect A	AE-102RR	R6	Lower Bedrock	FLUTE	153-158	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/19/2019	Transect A	AE-103D	--	Overburden	2	35 - 40	1	1	1	0	0	1	1	1	1	1	1	1	1	1	1	
9/18/2019	Transect A	AE-103R	R1	Upper Bedrock	FLUTE	48 - 53	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/18/2019	Transect A	AE-103R	R3	Middle Bedrock	FLUTE	70 -76	1	1	0													
9/18/2019	Transect A	AE-103R	R4	Middle Bedrock	FLUTE	98-105	1	1	1													
9/18/2019	Transect A	AE-103R	R5	Lower Bedrock	FLUTE	122 - 128	1	1	1			1	1	1	1	1	1	1	1	1	1	
9/18/2019	Transect A	AE-103R	R7	Lower Bedrock	FLUTE	162.5-168	1	1	0													
9/19/2019	Transect A	AE-103S	--	Overburden	2	15 - 20	1	1	0			1	1									
9/20/2019	Transect A	AE-104D	--	Overburden	2	35 - 40	1	1	1													
9/18/2019	Transect A	AE-104R	R1	Upper Bedrock	FLUTE	48 - 54	1	1	1													
9/18/2019	Transect A	AE-104R	R3	Middle Bedrock	FLUTE	97-102	1	1	1													
9/18/2019	Transect A	AE-104R	R4	Lower Bedrock	FLUTE	128-133	1	1	1	1	1											
9/18/2019	Transect A	AE-104R	R5	Lower Bedrock	FLUTE	156 - 162	1	1	0													
9/18/2019	Transect A	AE-104R	R6	Lower Bedrock	FLUTE	168-174	1	1	1													

Table 2-2
September 2019 Groundwater Sample Summary
Former GE Facility, 50 Fordham Road, Wilmington, MA

Date Sampled	Area	Location ID	FLUTe port	Interval	Well Diameter (inch)	Screen Interval (Ft bgs)	Water Level Measurements (1)	VOCs (SW846 -USEPA Method 8260C)	1,4 dioxane (SW846/USEPA Method 8270D SIM) DL <0.3 ug/l	VPH (MassDEP VPH Method)	EPH and polycyclic aromatic hydrocarbons (PAH) (MassDEP EPH 04 1.1 Revision 1)	Total As, Fe, Mn (SW846 - U SEPA Method 6010C)	Dissolved As, Fe, Mn (field filtered) (SW846 - USEPA Method 6010C)	Chloride (USEPA 300.0)	Nitrite	Nitrate (USEPA 300.0)	Sulfate (USEPA 300.0)	Sulfide	Total organic carbon (SW 846-9060A)	Methane, Ethane, Ethene, Acetylene, Propane (Pace-Microseeps AM20Gax)	Dissolved hydrogen (Pace - Microseeps - Bubble Strip)	Comments
9/20/2019	Transect A	AE-104S	--	Overburden	2	15 - 20	1	1	0													
9/24/2019	Transect A	AE-108R	R1	Upper Bedrock	FLUTE	36.5 - 43.5	1	1				1	1	1	1	1	1	1	1	1	1	MS/MSD (not for dissolved gases or hydrogen)
9/24/2019	Transect A	AE-108R	R3	Middle Bedrock	FLUTE	84 - 89	1	1														
9/24/2019	Transect A	AE-108R	R5	Lower Bedrock	FLUTE	163 - 168	1	1														
9/18/2019	Transect A	AE-109R	R1	Upper Bedrock	FLUTE	38 - 43	1	1														
9/18/2019	Transect A	AE-109R	R2	Middle Bedrock	FLUTE	66 - 76	1	1	1													
9/18/2019	Transect A	AE-109R	R3	Lower Bedrock	FLUTE	126 - 136	1	1														
9/18/2019	Transect A	AE-109R	R4	Lower Bedrock	FLUTE	174 - 180.5	1	1														
9/18/2019	Transect A	AE-109R	R5	Lower Bedrock	FLUTE	183 - 189	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/18/2019	Transect A	AE-109R	R6	Lower Bedrock	FLUTE	196-201	1	1	0													
9/18/2019	Transect A	AE-109R	R7	Lower Bedrock	FLUTE	204 - 214	1	1	1													Duplicate for VOCs, 1,4-D
9/18/2019	Transect A	AE-109R	R8	Lower Bedrock	FLUTE	245 - 250	1	1														
9/20/2019	Transect A	AE-109D	--	Overburden	2	18 - 23	1	1	1			1	1									
9/13/2019	Transect A	AE-110R	R1	Upper Bedrock	FLUTE	34 - 44	1	1														
9/13/2019	Transect A	AE-110R	R2	Middle Bedrock	FLUTE	70 - 80	1	1														
9/13/2019	Transect A	AE-110R	R4	Lower Bedrock	FLUTE	158 - 168	1	1														
9/13/2019	Transect A	AE-110R	R6	Lower Bedrock	FLUTE	190 - 200	1	1	1													
9/16/2019	Transect B	AE-105D	--	Overburden	2	73 - 78	1	1	1													
9/16/2019	Transect B	AE-105R	R1	Middle Bedrock	FLUTE	90.5 - 95.5	1	1														
9/16/2019	Transect B	AE-105R	R2	Middle Bedrock	FLUTE	98 - 103	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/16/2019	Transect B	AE-105R	R4	Lower Bedrock	FLUTE	125 - 130	1	1	1	1	1											
9/16/2019	Transect B	AE-105R	R5	Lower Bedrock	FLUTE	143 - 148	1	1														
9/16/2019	Transect B	AE-105S	--	Overburden	2	35 - 40	1	1	0	0	0	1	1	1	1	1	1	1	1	1	1	
9/17/2019	Transect B	AE-106D	--	Overburden	2	34 - 39	1	1		0	0	1	1	1	1	1	1	1	1	1	1	
9/16/2019	Transect B	AE-106R	R1	Upper Bedrock	FLUTE	47 - 52	1	1														
9/16/2019	Transect B	AE-106R	R3	Middle Bedrock	FLUTE	84 - 88	1	1		1	1	1	1	1	1	1	1	1	1	1	1	
9/16/2019	Transect B	AE-106R	R5	Lower Bedrock	FLUTE	164 - 169	1	1	1	1	1											
9/16/2019	Transect B	AE-106S	--	Overburden	2	12 - 17	1	1														
9/17/2019	Transect B	TRC-301R	R4	Middle Bedrock	CMT	65.5 - 69.5	1	1				1	1	1	1	1	1	1	1	1	1	
9/17/2019	Transect B	TRC-301R	R2	Middle Bedrock	CMT	81.5 - 85.5	1	1				1	1									
9/25/2019	Transect B	AE-111R	R1	Upper Bedrock	FLUTE	44 - 54	1	1														
9/25/2019	Transect B	AE-111R	R3	Middle Bedrock	FLUTE	95 - 103	1	1														
9/25/2019	Transect B	AE-111R	R5	Lower Bedrock	FLUTE	155 - 165	1	1														
9/25/2019	Transect B	AE-111R	R6	Lower Bedrock	FLUTE	168 -173	1	1														
9/13/2019	Transect B 1/2	AE-112R	R1	Upper Bedrock	FLUTE	41 - 51	1	1				1	1									
9/13/2019	Transect B 1/2	AE-112R	R3	Middle Bedrock	FLUTE	91 - 101	1	1														
9/13/2019	Transect B 1/2	AE-112R	R5	Lower Bedrock	FLUTE	136 - 146	1	1														
9/13/2019	Transect B 1/2	AE-112R	R6	Lower Bedrock	FLUTE	153 - 163	1	1		1	1	1	1	0	0	0	0	0	0	0	0	
9/13/2019	Transect B 1/2	AE-112D	--	Overburden	2	24.5 - 29.5	1	1				1	1									
9/26/2019	Transect C - Concord Street	STM-8D	--	Overburden	0.75	34.7 - 39.7	1	1	1													
9/26/2019	Transect C - Concord Street	STM-8R	--	Upper Bedrock	0.75	46.5 - 51.5	1	1	1													
9/26/2019	Transect C - Concord Street	STM-8R1	--	Middle Bedrock	2	85 - 90	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
9/26/2019	Transect C - Concord Street	STM-3D	--	Overburden	0.75	49.8 - 54.8	1	1														
9/26/2019	Upgradient	GZA-12	--	Overburden	1.5	9.5 - 24.5	1	1	1			1	1	1	1	1	1	1	1	1	1	
9/12/2019	EPL Area	AE-03	--	Overburden	2	3 - 13	1	1		1	1	1	1	0	0	0	0	0	0	0	0	Duplicate for VOCs, VPH, EPH, metals
9/12/2019	EPL Area	AE-04	--	Overburden	2	3 - 13	1	1		1	1	0	0									Duplicate for VOCs, VPH, EPH

Table 2-2
September 2019 Groundwater Sample Summary
Former GE Facility, 50 Fordham Road, Wilmington, MA

Date Sampled	Area	Location ID	FLUTe port	Interval	Well Diameter (inch)	Screen Interval (Ft bgs)	Water Level Measurements (1)	VOCs (SW846 -USEPA Method 8260C)	1,4 dioxane (SW846/USEPA Method 8270D SIM) DL <0.3 ug/l	VPH (MassDEP VPH Method)	EPH and polycyclic aromatic hydrocarbons (PAH) (MassDEP EPH 04 1.1 Revision 1)	Total As, Fe, Mn (SW846 - U SEPA Method 6010C)	Dissolved As, Fe, Mn (field filtered) (SW846 - USEPA Method 6010C)	Chloride (USEPA 300.0)	Nitrite	Nitrate (USEPA 300.0)	Sulfate (USEPA 300.0)	Sulfide	Total organic carbon (SW 846-9060A)	Methane, Ethane, Ethene, Acetylene, Propane (Pace-Microseeps AM20Gax)	Dissolved hydrogen (Pace - Microseeps - Bubble Strip)	Comments
9/13/2019	EPL Area	GZA-102S	--	Overburden	1.5	1.7 - 10.7	1	1		1	1											
9/30/2019	EPL Area	PZ-2S	--	Overburden	4	3.55 - 8.55	1	1		1	1											MS/MSD; well was going dry at ~ 120 ml/min
9/18/2019	EPL Area	GZA-105D	--	Overburden	1.5	16 - 26	1	1	1	1	1	0	0									
9/18/2019	EPL Area	GZA-105R	--	Upper Bedrock	0.5	34.5 - 36.5	1	1														
9/18/2019	EPL Area	GZA-105S	--	Overburden	1.5	4 - 14	1	1		1	1	1	1	0	0	0	0	0	0	0	0	
9/19/2019	EPL Area	TRC-101	--	Overburden	1.25	1.5 - 10.5	1	1		1	1											
9/20/2019	EPL Area	TRC-102	--	Overburden	1.25	2.25 - 12.25	1	1		1	1	1	1									MS/ MSD
9/19/2019	EPL Area	TRC-103	--	Overburden	1.25	1.25 - 11.25	1	1		1	1											
9/30/2019	LTGMP	EMW-10D	--	Overburden	2	19 - 29	1	1														
9/30/2019	LTGMP	EMW-10R	--	Upper Bedrock	2	42 - 52	1	1														MS/MSD
9/19/2019	LTGMP	EMW-11D	--	Overburden	2	22 - 32	1	1														
9/17/2019	LTGMP	EMW-11R1	--	Middle Bedrock	0.75	79 - 89	1	1														
9/17/2019	LTGMP	EMW-11R2	--	Middle Bedrock	0.75	104 - 114	1	1		1	1	1	1	1	1	1	1	1	1	1	1	
9/17/2019	LTGMP	EMW-11R3	--	Lower Bedrock	0.75	158 - 168	1	1														
9/20/2019	LTGMP	GZA-6	--	Overburden	2	8 - 18	1	0				1	1									
9/26/2019	LTGMP	GZA-10	--	Overburden	1.5	13 - 38	1	0				1	1									
9/30/2019	Source Control - Downgradient	GZA-14A	--	Overburden	1.5	0 - 15	1	0				1	1									
9/19/2019	Source Control - Downgradient	MW-4	--	Overburden	1.5	18 - 28	1	1	1			1	1									Duplicate for VOCs, 1,4-D, metals
9/19/2019	Source Control - Downgradient	MW-4A	--	Overburden	1.5	38 - 48	1	0	0			1	1									
9/30/2019	Source Control - Downgradient	MW-5	--	Overburden	1.5	28 - 38	1	1														
9/26/2019	Source Control - Downgradient	MW-7	--	Overburden	1.5	15 - 25	1	1														
9/17/2019	Source Control - Downgradient	PS-1D	--	Overburden	0.62	49.25 - 54.25	1	1														
9/17/2019	Source Control - Downgradient	PS-1S	--	Overburden	0.62	12 - 17	1	1														
9/17/2019	Source Control - Downgradient	PS-2D	--	Overburden	0.62	49.1 - 54.1	1	1														
9/19/2019	Source Control - Downgradient	PS-3	--	Overburden	0.62	2.7 - 7.7	1	1														
9/19/2019	Source Control - Downgradient	PS-5D	--	Overburden	0.62	24.1 - 29.1	1	1														
9/17/2019	Source Control - Downgradient	PS-8D	--	Overburden	0.62	51.8 - 56.8	1	1				1	1									
9/25/2019	Source Control - Onsite	TRC-201R	--	Upper-Middle-Lower Bedrock	6"	38 - 161	1	1														
9/13/2019	Source Control - Onsite	IP-1R2	--	Middle Bedrock	2	54 - 74	1	1														
9/30/2019	Source Control - Onsite	TRC-401R	--	Upper Bedrock	0.5	38 - 58	1	1														

Notes:

(1) All wells to be measured during site-wide water level event

(2) 1 per 20 for wells with non-dedicated sampling equipment

1 = Well was analyzed for these parameters

0 = Analyses removed from these wells under Post Temp Solution O&M

2019 Totals															
Total number of samples	118	45	25	25	36	36	20	20	20	20	20	18	20	20
Duplicates (1 per 20)	6	3	2	2	2	2	1	1	1	1	1	1	1	0
Equipment blanks (1 per 20 [(2)])	4	0	0	0	0	0	0	0	0	0	0	0	0	0
Trip blanks (1 per shipment)	12	0	0	0	0	0	0	0	0	0	0	0	2	0
Total	**140**	**48**	**27**	**27**	**38**	**38**	**21**	**21**	**21**	**21**	**21**	**19**	**23**	**20**

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-100R-1 (18-24)	10/2/2019	11:01	7.27	83.59	76.32	R= 7.27
AE-100R-2 (43-48)		11:02	7.37	83.60	76.23	
AE-100R-3 (50-56)		11:02	7.29	83.55	76.26	
AE-100R-4 (63-68)		11:03	7.31	83.52	76.21	
AE-100R-5 (88-93)		11:03	7.33	83.51	76.18	
AE-100R-6 (108.5-113.5)		11:04	7.29	83.51	76.22	
AE-101R-1 (30.5-35.5)		10:38	3.27	79.07	75.80	R= 3.27
AE-101R-2 (55-60)		10:38	3.28	79.07	75.79	
AE-101R-3 (80-85)		10:39	3.22	79.07	75.85	
AE-101R-4 (153-158)		10:39	3.23	79.07	75.84	
AE-101R-5 (175-180)		10:40	3.21	79.07	75.86	
AE-101R-6 (227-232)		10:40	3.22	79.07	75.85	
AE-101S		10:36	3.41	79.34	75.93	
AE-101D		10:36	3.45	79.37	75.92	
AE-102RR-1 (43-48)		10:13	3.98	79.83	75.85	
AE-102RR-2 (75-80)		10:13	3.90	79.84	75.94	R= 3.90
AE-102RR-3 (111-116)		10:14	3.90	79.89	75.99	
AE-102RR-4 (125-130)		10:14	3.84	79.84	76.00	
AE-102RR-5 (141-146)		10:15	3.85	79.82	75.97	
AE-102RR-6 (153-158)		10:15	3.87	79.83	75.96	
AE-102S		10:16	4.23	80.12	75.89	
AE-102M		10:16	4.24	80.17	75.93	
AE-102D		10:16	4.30	80.16	75.86	
AE-103R-1 (48-53)		9:30	3.04	78.99	75.95	R= 3.04
AE-103R-2 (62-67)		9:30	3.13	78.99	75.86	
AE-103R-3 (70-76)		9:31	3.02	79.01	75.99	
AE-103R-4 (98-105)		9:31	2.96	79.00	76.04	
AE-103R-5 (122-128)		9:32	3.00	79.08	76.08	
AE-103R-6 (138-144)		9:32	3.04	79.00	75.96	
AE-103R-7 (162.5-168)		9:33	3.02	78.99	75.97	
AE-103S		9:36	3.49	79.43	75.94	
AE-103M		9:37	3.48	79.42	75.94	
AE-103D		9:37	3.47	79.42	75.95	
AE-104R-1 (48-54)		9:14	2.98	78.90	75.92	R= 2.98
AE-104R-2 (62-68)		9:14	3.12	78.85	75.73	
AE-104R-3 (97-102)		9:13	2.90	78.86	75.96	
AE-104R-4 (128-133)		9:13	2.92	78.86	75.94	
AE-104R-5 (156-162)		9:12	2.98	78.86	75.88	
AE-104R-6 (168-174)		9:11	3.06	78.85	75.79	

Notes: R = replicate field measurement

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-104S	10/2/2019	9:17	3.35	79.30	75.95	
AE-104M		9:17	3.32	79.28	75.96	
AE-104D		9:17	3.34	79.30	75.96	
AE-108R-1 (36.5-43.5)		10:49	2.91	78.81	75.90	R= 2.91
AE-108R-2 (68-73)		10:49	2.91	78.85	75.94	
AE-108R-3 (84-89)		10:50	2.93	78.82	75.89	
AE-108R-4 (145-150)		10:50	2.97	78.79	75.82	
AE-108R-5 (163-168)		10:51	3.03	78.80	75.77	
AE-105R-1 (90.5-95.5)		10:57	3.97	79.81	75.84	
AE-105R-2 (98-103)		10:58	3.92	79.89	75.97	
AE-105R-3 (107.5-112.5)		10:59	3.93	79.87	75.94	
AE-105R-4 (125-130)		11:00	3.95	79.83	75.88	
AE-105R-5 (143-148)		11:01	3.94	79.81	75.87	R = 3.94
AE-105R-6 (156-161)		11:02	3.91	79.87	-	Port not functional (since install)
AE-105S		10:51	3.72	79.39	75.67	
AE-105M		10:52	3.66	79.35	75.69	
AE-105D		10:53	3.74	79.42	75.68	
AE-106R-1 (47-52)		11:14	3.59	79.15	75.56	SW = 3.50
AE-106R-2 (69.5-74.5)		11:15	3.72	79.12	75.40	
AE-106R-3 (84-88)		11:16	3.69	79.13	75.44	
AE-106R-4 (144.5-150.5)		11:17	3.60	79.15	75.55	
AE-106R-5 (164-169)		11:18	3.40	79.14	75.74	
AE-106S		11:10	2.95	78.42	75.47	SW = 3.02
AE-106M		11:11	2.95	78.44	75.49	
AE-106D		11:12	2.93	78.41	75.48	
TRC-301R-1 (96.5-100.5)		11:18	2.96	78.57	75.61	SW = 2.90
TRC-301R- 2 (81.5-85.5)		11:19	2.91	78.57	75.66	
TRC-301R-3 (75.5-79.5)		11:20	2.92	78.57	75.65	
TRC-301R-4 (65.5-69.5)		11:21	2.90	78.57	75.67	
PZ-9S		9:11	6.40	82.28	75.88	
PZ-9D		9:12	5.99	82.25	76.26	
PZ-9R		9:13	6.10	82.37	76.27	
GZA-12		11:15	10.82	87.62	76.80	
GZA-101R		14:00	13.60	87.41	73.81	
AE-1S		11:25	9.49	86.26	76.77	
AE-1I		11:19	9.90	86.68	76.78	
AE-2R		12:14	8.53	85.23	76.70	
AE-2I		12:16	8.71	85.39	76.68	R= 8.71

Notes:
R = replicate field measurement
SW = surface water

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
TRC-101	10/2/2019	14:10	6.21	82.18	75.97	
TRC-102		14:04	7.40	81.21	73.81	R= 7.40
TRC-103		14:15	10.63	82.02	71.39	
TRC-201R		14:28	8.47	85.02	76.55	
TRC-202R		-	-	78.53	-	Borehole sealed with blank FLUTe liner
GZA-102S		14:20	6.80	82.82	76.02	
GZA-102R1		14:21	5.36	83.09	77.73	
GZA-102R2		14:22	9.05	83.08	74.03	
PZ-2S		14:24	7.22	82.81	75.59	R= 7.22
TRC-401R		13:50	5.67	82.00	76.33	
GZA-105S		13:47	5.91	81.89	75.98	R= 5.91
GZA-105D		13:48	5.87	81.82	75.95	
GZA-105R		13:48	5.52	81.80	76.28	
WE-105R2		13:57	4.96	82.05	77.09	
BRW-1R2		10:27	4.87	80.76	75.89	R= 4.87
BRW-1R3		10:27	4.60	80.57	75.97	
BRW-1R4		10:28	4.69	80.60	75.91	
EMW-10S		10:42	5.01	80.88	75.87	
EMW-10D		10:43	4.89	80.78	75.89	
EMD-10R		10:43	8.08	80.93	72.85	R= 8.08
EMW-11S		9:44	4.29	80.32	76.03	R= 4.29
EMW-11D		9:44	4.35	80.41	76.06	
EMW-11R1		9:42	4.89	80.84	75.95	
EMW-11R2		9:43	4.77	80.83	76.06	
EMW-11R3		9:43	4.79	80.80	76.01	
IP-1R1		13:53	5.95	82.12	76.17	
IP-1R2		13:56	5.79	82.07	76.28	
IP-1R3		13:59	4.70	82.04	77.34	
IP-2R1		14:05	6.15	82.17	76.02	R= 6.15
IP-2R2		14:07	5.90	82.14	76.24	
IP-2R3		14:10	5.93	82.12	76.19	
IP-2R4		14:12	6.02	82.08	76.06	
IP-3R1		14:18	4.91	81.02	76.11	
IP-3R2		14:20	4.24	80.98	76.74	
IP-4R1		14:30	4.79	80.84	76.05	
IP-4R2		14:35	4.84	80.79	75.95	
IP-4R3		14:38	4.78	80.77	75.99	

Notes: R = replicate field measurement NA = Not Applicable

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-23S	10/2/2019	10:35	8.92	85.62	76.70	No DNAPL
AE-23R		10:53	15.57	85.54	69.97	No DNAPL
AE-24		10:57	8.92	85.63	76.71	No DNAPL
AE-25S		10:47	8.89	85.49	76.60	No DNAPL
AE-25D		10:49	8.81	85.38	76.57	No DNAPL
AE-25R		10:43	8.75	85.35	76.60	R= 8.75; No DNAPL
AE-26S		9:56	8.99	85.49	76.50	No DNAPL
AE-26D		10:01	8.78	85.25	76.47	No DNAPL
AE-27R		10:28	8.84	85.48	76.64	Well is on 25° angle; No DNAPL
AE-3		12:33	6.45	82.41	75.96	No DNAPL
AE-4		14:10	3.94	82.03	78.09	
IP-12		-	-	-	-	Abandoned June 2017
IP-13		-	-	-	-	Abandoned June 2017
IP-14		-	-	-	-	Abandoned June 2017
IP-15		-	-	-	-	Abandoned June 2017
DP-1		13:35	3.97	80.01	76.04	
DP-2		13:30	3.61	79.75	76.14	
CW-1		13:25	4.86	80.94	76.08	
CW-2		13:26	5.30	80.73	75.43	
PZ-8R		-	-	-	-	Abandoned
GZA-5		14:41	4.09	80.03	75.94	
GZA-6		14:31	4.61	80.46	75.85	
GZA-10		14:50	4.53	80.39	75.86	
STM-3S		12:04	10.85	82.97	72.12	
STM-3D		12:06	8.76	82.93	74.17	
STM-3R		12:12	NM	82.94	NM (blocked)	Blockage at 0.84 (dirt)
STM-8S		12:15	5.94	78.91	72.97	
STM-8M		12:18	5.91	78.87	72.96	Plug to big cap
STM-8D		12:20	5.99	78.86	72.87	
STM-8R		12:28	5.97	78.78	72.81	
STM-8R1		12:38	6.88	79.08	72.20	
STM-10S		12:48	20.60	95.70	75.10	
STM-10R1		12:50	20.72	95.79	75.07	R= 20.72
STM-10R2		12:55	20.74	95.79	75.05	
TRC-402 (Reading)		13:40	26.85	97.47	70.62	
TRC-403 (Reading)		13:41	27.06	97.73	70.67	

Notes: R = replicate field measurement NR = Not recorded

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
MW-1	10/2/2019	10:34	3.10	78.81	75.71	
MW-4		9:53	2.29	77.23	74.94	SW= 2.01
MW-4A		9:47	1.59	76.46	74.87	SW= 1.19
MW-5		15:43	3.31	78.99	75.68	SW= 2.99
MW-7		16:30	4.59	80.33	75.74	
GZA-14		15:10	6.64	82.64	76.00	
GZA-14A		15:20	6.94	82.31	75.37	
PS-1S		11:30	NM	79.21	NM (reduced diameter)	SW= 3.7
PS-1M		11:31	1.69	77.30	75.61	SW= 1.9
PS-1D		11:32	0.70	76.51	75.81	SW= 0.9
PS-2S		11:50	1.76	77.71	75.95	SW= 2.22
PS-2M		11:51	1.58	77.61	76.03	SW= 2.20
PS-2D		11:52	1.42	76.91	75.49	SW= 1.50
PS-3		10:07	0.67	76.64	75.97	
PS-4		9:38	2.63	78.66	76.03	R= 2.63
PS-5S		10:00	4.42	80.49	76.07	
PS-5D		10:03	3.76	79.68	75.92	
PS-8S		10:32	7.08	83.37	76.29	
PS-8M		10:33	6.69	82.53	75.84	
PS-8D		10:34	6.31	82.77	76.46	
GZA-1		15:06	4.69	79.05	74.36	SW= Dry and firm
GZA-2		14:52	3.28	79.12	75.84	SW= Dry and firm
GZA-3		14:49	4.07	79.93	75.86	SW = Dry and firm
GZA-4		14:57	7.16	83.37	76.21	R= 7.16
STM-?		17:15	4.56	75.57	71.01	
AE-112R-1 (41-51)		11:35	6.53	81.76	75.23	
AE-112R-2 (62-72)		11:37	6.50	81.78	75.28	
AE-112R-3 (91-101)		11:38	6.49	81.78	75.29	R= 6.49
AE-112R-4 (113-123)		11:40	6.54	81.80	75.26	
AE-112R-5 (136-146)		11:41	6.55	81.75	75.20	
AE-112R-6 (153-163)		11:43	6.47	81.73	75.26	
AE-112R-7 (168-175)		11:45	6.46	81.74	75.28	
AE-112D		11:48	7.05	82.66	75.61	
HOW-2 (MW-2)		11:56	9.12	84.35	75.23	
HOW-3 (MW-3)		11:21	6.85	81.83	74.98	
# 3 Furbish Pond Ln (Residential Irrigation)		16:27	47.73	103.21	55.48	Resident Pumping 2x/day for 2 weeks
#3 Furbish Pond Ln (Residential Irrigation)	11/11/2019	--	13.91	103.21	89.30	Confirmed GW Rebound
GZA-107D	10/2/2019	-	-	81.08	NM	Inadvertently did not measure water levels within wells GZA-107 D-M-R
GZA-107M		-	-	80.87	NM	
GZA-107R		-	-	80.58	NM	

Notes:
R = replicate field measurement
SW = surface water
NM = not measured

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-26R-1 (50-56)	10/2/2019	9:55	7.34	85.84	78.51	GW elevations calculated from measurements taken with vacuum water level gauge at shallow water FLUTes (AE-26R, AE-28R, AE-29R) TOC reference elevation for these calculations is the Rim elevation.
AE-26R-2 (72-78)		10:00	7.09	85.84	78.75	
AE-26R-3 (81-88)		10:07	7.08	85.84	78.76	
AE-26R-4 (104-114)		10:14	7.08	85.84	78.76	
AE-26R-5 (123-132)		10:22	7.13	85.84	78.71	
AE-28R-1 (45-51)		9:13	8.24	85.88	77.64	
AE-28R-2 (75-85)		9:25	8.11	85.88	77.77	
AE-28R-3 (98-108)		9:40	8.09	85.88	77.79	
AE-28R-4 (132-142)		9:34	8.13	85.88	77.76	
AE-29R-1 (37-44)		11:38	8.26	86.97	78.71	
AE-29R-2 (47-54)		11:42	8.24	86.97	78.74	
AE-29R-3 (70-76)		11:45	8.32	86.97	78.65	
AE-29R-4 (90-96)		11:51	6.00	86.97	80.98	
AE-29R-5 (113-119)		11:56	8.22	86.97	78.75	
AE-29R-6 (140-146)		12:01	8.24	86.97	78.73	
AE-109R-1 (38-43)		9:29	4.33	80.20	75.87	
AE-109R-2 (66-76)		9:31	4.32	80.17	75.85	
AE-109R-3 (126-136)		9:32	4.34	80.19	75.85	
AE-109R-4 (174-180.5)		9:34	4.35	80.17	75.82	
AE-109R-5 (183-189)		9:36	4.32	80.18	75.86	R= 4.33
AE-109R-6 (196-201)		9:38	4.35	80.15	75.80	
AE-109R-7 (204-214)		9:39	4.33	80.17	75.84	
AE-109R-8 (245-250)		9:41	4.34	80.20	75.86	
AE-109D		9:23	4.59	80.79	76.20	
AE-110R-1 (34-44)		9:47	4.32	80.67	76.35	
AE-110R-2 (70-80)		9:49	4.42	80.68	76.26	
AE-110R-3 (128-138)		9:50	4.46	80.64	76.18	
AE-110R-4 (158-168)		9:52	4.43	80.62	76.19	R= 4.43
AE-110R-5 (171-182)		9:54	4.44	80.62	76.18	
AE-110R-6 (190-200)		9:56	4.45	80.62	76.17	
AE-110R-7 (224-234)		9:58	4.43	80.64	76.21	
AE-111R-1 (44-54)		10:12	13.47	89.03	75.56	
AE-111R-2 (66-74)		10:14	13.42	89.01	75.59	R= 13.42
AE-111R-3 (95-103)		10:16	13.46	89.02	75.56	
AE-111R-4 (140-150)		10:17	13.35	89.02	75.67	
AE-111R-5 (155-165)		10:19	13.33	89.05	75.72	
AE-111R-6 (168-173)		10:21	13.33	89.04	75.71	
AE-111R-7 (181-191)		10:24	13.37	89.06	75.69	

Notes: R = replicate field measurement

Table 2-3
Former GE Facility Site - Wilmington, MA
October 2, 2019 Water Level Measurements, Groundwater and Surface Water Elevations

Weather: Cloudy, 70s, rain at 13:15 Recorders: D.Potter, F. Burton, A. Grossman, B. Hoch, B. MacDonald, D. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
YRC Property Wells						
MW-1R	10/2/2019	10:53	14.07	89.48	75.41	AECOM WL
MW-4N-R1		7:59	12.89	88.05	75.16	YRC WLs
MW-4N-R2		8:00	12.84	88.02	75.18	
MW-4N-R3		NM	NM	88.07	--	
MW-4N-R4		8:03	12.70	88.06	75.36	
MW-6N-R1		12:32	14.55	90.61	76.06	YRC WLs
MW-6N-R2		12:33	15.17	90.40	75.23	
MW-6N-R3		12:35	15.17	90.73	75.56	
MW-6N-R4		12:37	14.96	90.51	75.55	
MW-6N-R5		12:38	14.89	90.51	75.62	
MW-12S		11:07	16.85	92.43	75.58	AECOM WL
MW-13R		11:00	14.59	90.19	75.60	AECOM WL
MW-14N-R1		6:31	14.53	91.09	76.56	YRC WLs
MW-14N-R2		6:32	14.51	91.14	76.63	
MW-14N-R3		6:33	12.39	91.26	78.87	
MW-14N-R4		6:35	15.54	91.39	75.85	
MW-16R		12:44	14.63	91.41	76.78	YRC WL
Surface Water Elevations						
AE-106S	10/2/2019	11:10	3.02	78.42	75.40	
AE-106R-1 (47-52)		11:14	3.50	79.15	75.65	
TRC-301R-1 (96.5-100.5)		11:18	2.90	78.57	75.67	
MW-4		9:53	2.01	77.23	75.22	
MW-4A		9:47	1.19	76.46	75.27	
MW-5		15:43	2.99	78.99	76.00	
PS-1S		11:30	3.70	79.21	75.51	
PS-1M		11:31	1.90	77.30	75.40	
PS-1D		11:32	0.90	76.51	75.61	
PS-2S		11:50	2.22	77.71	75.49	
PS-2M		11:51	2.20	77.61	75.41	
PS-2D		11:52	1.50	76.91	75.41	
GZA-1 (wwtp)		15:06	DRY	79.05	DRY	
GZA-2 (wwtp)		14:52	DRY	79.12	DRY	
SG-1		16:20	0.09	75.78	75.87	ft above the 0.00 ref. mark
SG-2		17:00	-0.03	70.82	70.79	ft above the 0.00 ref. mark
Concord Street Pond		16:00	0.99	75.91	74.92	Ref Elev is top of 2nd outfall pipe into Pond, west of Fordham Rd

Notes: R = replicate field measurement

Table 2-4
Summary of LNAPL Observations and Removal
Former GE Facility, 50 Fordham Road, Wilmington, MA

	PZ-2S				CW-1				CW-2				TRC-101				AE-3				AE-4			
Date	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)
4/15/1994	(1)	(1)	0.85	(2)	(3)				(3)				(3)				(3)				(3)			
6/20/1994	(1)	(1)	0.22	(2)	(3)				(3)				(3)				(3)				(3)			
12/14/1994	(1)	(1)	0.39	(2)	(3)				(3)				(3)				(3)				(3)			
6/14/1995	(1)	(1)	0	(2)	(3)				(3)				(3)				(3)				(3)			
12/19/1995	(1)	(1)	0.25	(2)	(3)				(3)				(3)				(3)				(3)			
6/10/1996	(1)	(1)	0.21	(2)	(3)				(3)				(3)				(3)				(3)			
12/9/1996	(1)	(1)	0.83	(2)	(3)				(3)				(3)				(3)				(3)			
6/30/1997	(1)	(1)	0.17	(2)	(3)				(3)				(3)				(3)				(3)			
12/29/1997	(1)	(1)	0	(2)	(3)				(3)				(3)				(3)				(3)			
9/11/1998	(1)	(1)	0.15	(2)	(3)				(3)				(3)				(3)				(3)			
12/23/1998	6.8	5.81	0.99	(2)	(3)				(3)				(3)				(3)				(3)			
6/23/1999	6.95	6.84	0.11	(2)	(3)				(3)				(3)				(3)				(3)			
12/6/1999	7.5	6.2	1.3	0.2	(3)				(3)				(3)				(3)				(3)			
12/20/1999	7.65	6.15	1.5	0.26	(3)				(3)				(3)				(3)				(3)			
12/29/1999	6.72	6.12	0.6	0.13	(3)				(3)				(3)				(3)				(3)			
1/4/2000	6.75	6.22	0.53	0.13	(3)				(3)				(3)				(3)				(3)			
1/10/2000	6.61	5.98	0.63	0.13	(3)				(3)				(3)				(3)				(3)			
1/18/00(4)	6.01	5.95	0.06	0.13	(3)				(3)				(3)				(3)				(3)			
1/25/2000	6.74	6.14	0.6	0.13	(3)				(3)				(3)				(3)				(3)			
5/8/00*	5.5	5.31	0.19	0.01	(3)				(3)				(3)				(3)				(3)			
6/9/2000	5.65	5.45	0.2	0.01	(3)				(3)				(3)				(3)				(3)			
7/7/2000	6.95	6.45	0.5	0.02	(3)				(3)				(3)				(3)				(3)			
8/2/2000	6.72	5.82	0.9	0.04	(3)				(3)				(3)				(3)				(3)			
9/12/2000	6.05	5.95	0.1	0.01	(3)				(3)				(3)				(3)				(3)			
10/9/2000	7.1	6.6	0.5	0.03	(3)				(3)				(3)				(3)				(3)			
11/8/2000	6.7	6.5	0.2	0.01	NM				NM				(3)				(3)				(3)			
12/5/00(5)	5.29	NA	0	0	NM				NM				NM				(3)				(3)			
12/7/2000	6.08(6)	NA	0	0	4.50(6)	NA	0	0.00	4.29(6)	NA	0	0.00	NM				(3)				(3)			
1/16/2001	6.53(6)	NA	0	0	NM				NM				NM				(3)				(3)			
1/19/2001	6.33(6)	NA	0	0	4.62	NA	0	0.00	4.4	NA	0	0.00	NM				(3)				(3)			
2/15/2001	5.5	NA	0	0	3.99(6)	NA	0	0.00	3.79(6)	NA	0	0.00	NM				(3)				(3)			
3/9/2001	5.65(6)	NA	0	0	4.15(6)	NA	0	0.00	3.93(6)	NA	0	0.00	NM				(3)				(3)			
4/01	5.45	NA	0	0	3.98(6)	NA	0	0.00	3.79(6)	NA	0	0.00	NM				(3)				(3)			
5/24/2001	6.25	NA	0	0	4.53(6)	NA	0	0.00	4.2(6)	NA	0	0.00	NM				(3)				(3)			
8/6/2001	6.1	NA	0	0	3.36	3.35	0.01	0.00	4.56	4.55	0.01	0.00	NM				(3)				(3)			
10/4/2001	6.85	NA	0	0	5.15(6)	NA	0	0.00	4.94	4.93	0.01	0.00	NM				(3)				(3)			
11/1/2001	7.05	7.04	0.01	0	5.2	NA	0	0.00	5.2	NA	0	0.00	NM				(3)				(3)			
11/29/2001	7.22	NA	0	0	6.4	NA	0	0.00	6.32	NA	0	0.00	NM				(3)				(3)			
12/19/2001	5.59	5.14	0.45	0	4.69	NA	0	0.00	4.48	NA	0	0.00	NM				(3)				(3)			
1/9/2002	NA	NA	NA	0.26	NA	NA	0	0.00	NA	NA	0	0.00	NM				(3)				(3)			
1/29/2002	6.25	6.1	0.15	0	4.6	NA	0	0.00	4.46	NA	0	0.00	NM				(3)				(3)			
2/18/2002	LNAPL removed via vacuum extraction at PZ-2S, CW-1, and CW-2.												NM				(3)				(3)			
2/21/2002	Tank Farm System is turned off. Booms are removed from CW-1 and CW-2.												NM				(3)				(3)			
2/21/2002	6.1	NA	0	0	4.44	NA	0	0.00	4.2	NA	0	0.00	NM				(3)				(3)			
3/21/2002	5.93	NA	0	0	4.26	NA	0	0.00	4.08	NA	0	0.00	NM				(3)				(3)			
4/30/2002	5.67	NA	0	0	4.15	NA	0	0.00	3.91	NA	0	0.00	NM				(3)				(3)			
5/24/2002	5.4	NA	0	0	4.07	NA	0	0.00	3.82	NA	0	0.00	NM				(3)				(3)			
6/27/2002		NA	0	0	4.61	NA	0	0.00	4.38	NA	0	0.00	NM				(3)				(3)			

Notes:

LNAPL gauging results above from 1994 through 2011 collected by TRC or others. Data collection by AECOM started in 2012.
Bgs – Below ground surface.
NA – Not Applicable.
NM – Not Measured.
* LNAPL gauging at monitoring well PZ-2S was conducted on a semi-annual basis from April 1994 through May 2000. TRC then increased gauging frequency to monthly. MA DEP then requested that monthly LNAPL gauging continue at PZ-2S, CW-1, and CW-2 as part of the requirements of the Phase V O&M program, beginning December 2000.

(1) Not documented by Emcon.
(2) No recoverable LNAPL present.
(3) Well not installed.
(4) Water level meter may have been unreliable due to low temperature.
(5) Four-inch diameter well installed on November 30, 2000 to replace existing PZ-2S 0.5-inch diameter well.
(6) Noted a sheen on water surface.
(7) Product was detected with interface probe but not a measurable amount (product thickness < 0.01 ft)
(8) It is not understood why in November and December of 2011 that 3 gallons were indicated as removed from wells PZ-2S and TRC-101R when no LNAPL was detected. These 3 gallons are not included in approximate total LNAPL volume removed from these wells.

Table 2-4
Summary of LNAPL Observations and Removal
Former GE Facility, 50 Fordham Road, Wilmington, MA

	PZ-2S				CW-1				CW-2				TRC-101				AE-3				AE-4			
Date	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)
Monitoring Frequency Increased to Weekly																	[3]				[3]			
7/30/2002	6.60	NA	0	0	4.97[6]	4.91	0.06	0	4.74[6]	4.68	0.06	0	NM	NM	NA	0	[3]				[3]			
8/6/2002	6.76	NA	0	0	5.13[6]	5.06	0.07	0	4.93[6]	4.84	0.09	0	6.58	6.42	0.16	0	[3]				[3]			
8/9/2002	LNAPL removed via vacuum extraction at PZ-2S, CW-1, CW-2, and TRC-101.																[3]				[3]			
8/23/2002	NA	NA	0	0	NA	NA	0.003	0.05	NA	NA	0.003	0.025	NA	NA	0.001	0	[3]				[3]			
8/29/2002	7.57	7.18	0.39	0.13	5.65[6]	5.56	0.09	0.13	5.44	5.34	0.10	0.13	6.97	6.96	0.01	0	[3]				[3]			
9/4/2002	LNAPL removed via vacuum extraction at PZ-2S, CW-1, CW-2, and TRC-101.																[3]				[3]			
9/4/2002	6.95	6.71	0.24	0	5.15[6]	5.10	0.05	0.00	4.92	4.88	0.04	0	6.49	NA	0	0	[3]				[3]			
9/12/2002	7.20	NA	0	0	5.52[6]	NA	0	0	5.31	NA	0	0	6.92	NA	0	0	[3]				[3]			
9/18/2002	7.31	7.18	0.13	0.11	6.54[6]	6.45	0.09	0.04	6.37	6.25	0.12	0.05	6.87	NA	0	0	[3]				[3]			
9/25/2002	6.85[6]	6.85	0	0	5.28[6]	5.19	0.09	1.50	5.03	4.98	0.05	0.13	6.60	NA	0	0	[3]				[3]			
10/4/2002	6.88	6.85	0.03	0	5.28[6]	5.20	0.08	0.00	5.04	4.98	0.06	0.00	6.60	NA	0	0	[3]				[3]			
10/11/2002	7.07	7.04	0.03	0	5.44[6]	5.34	0.10	0.00	5.21	5.12	0.09	0.00	6.75	NA	0	0	[3]				[3]			
10/18/2002	6.28	6.23	0.05	0	4.82[6]	4.77	0.05	0.00	4.57	4.56	0.01	0.00	6.17	NA	0	0	[3]				[3]			
10/24/2002	6.48	NA	0	0	4.88[6]	NA	0	0	4.65[6]	NA	0	0	6.27	NA	0	0	[3]				[3]			
11/8/2002	6.13	6.10	0.03	0	4.59[6]	4.56	0.03	0	4.33	4.32	0.01	0	5.95	NA	0	0	[3]				[3]			
11/15/2002	5.88	NA	0	0	4.39[6]	NA	0	0	4.17	NA	0	0	5.80	NA	0	0	[3]				[3]			
11/20/2002	5.09	5.07	0.02	0.01	4.00[6]	NA	0	0	3.78[6]	NA	0	0	5.41	NA	0	0	[3]				[3]			
11/27/2002	5.45	NA	0	0	4.11[6]	NA	0	0	3.95(6)	NA	0	0	5.68	NA	0	0	[3]				[3]			
12/6/2002	5.91	NA	0	0	4.42[6]	4.42[7]	0	0	4.22(6)	NA	0	0	5.87	NA	0	0	[3]				[3]			
12/13/2002	5.66	NA	0	0	4.25[6]	NA	0	0	4.02[6]	4.02[7]	0	0	5.65	NA	0	0	[3]				[3]			
12/20/2002	5.19	NA	0	0	4.00[6]	NA	0	0	3.79[6]	NA	0	0	5.41	NA	0	0	[3]				[3]			
12/27/2002	5.12	NA	0	0	NM	NM	NM	0	NM	NM	NM	0	NM	NM	NM	0	[3]				[3]			
12/30/2002	5.30	NA	0	0	4.09[6]	NA	0	0	3.98[6]	NA	0	0	5.51	NA	0	0	[3]				[3]			
1/10/2003	5.35	NA	0	0	4.13[6]	NA	0	0	3.90[6]	NA	0	0	5.57	NA	0	0	[3]				[3]			
1/17/2003	5.67	NA	0	0	4.31[6]	NA	0	0	4.09[6]	4.09[7]	0	0	5.74	NA	0	0	[3]				[3]			
1/21/2003	5.86	NA	0	0	4.42[6]	NA	0	0	4.20[6]	4.20[7]	0	0	NA	NA	NA	NA	[3]				[3]			
1/30/2003	6.25	NA	0	0	4.65[6]	NA	0	0	4.43[6]	4.44	0.01	0	6.05	NA	0	0	[3]				[3]			
2/7/2003	4.94	NA	0	0	4.42	NA	0	0	NM	NM	NM	0	5.81	NA	0	0	[3]				[3]			
Monitoring Frequency Decreased to Monthly																	[3]				[3]			
3/18/2003	5.04	NA	0	0	3.73[6]	NA	0	0	3.51[6]	NA	0	0	5.20	NA	0	0	[3]				[3]			
4/21/2003	5.28	NA	0	0	3.92	NA	0	0	3.80	3.66	0.14	0	5.35	NA	0	0	[3]				[3]			
4/25/2003	NM	NM	0	0	4.01	NA	0	0	3.90	3.76	0.14	0.5	NM	NM	0	0	[3]				[3]			
4/30/2003	NM	NM	0	0	3.95	NA	0	0	3.85	3.72	0.13	0	NM	NM	0	0	[3]				[3]			
4/30/2003	LNAPL removed via vacuum extraction at CW-1, and CW-2.																[3]				[3]			
5/7/2003	NM	NM	0	0	4.25	NA	0	0	4.07	4.01	0.06	0	NM	NM	0	0	[3]				[3]			
5/16/2003	NM	NM	0	0	4.36	NA	0	0	4.20	4.14	0.06	0	NM	NM	0	0	[3]				[3]			
5/22/2003	6.14	NA	0	0	4.52	NA	0	0	4.37	4.30	0.07	0	5.95	NA	0	0	[3]				[3]			
6/30/2003	5.95	NA	0	0	4.45	4.43	0.02	0	4.25	4.18	0.07	0	5.85	NA	0	0	[3]				[3]			
7/31/2003	6.01	NA	0	0	4.53	4.52	0.01	0	4.25	NA	sheen	0	5.9	NA	0	0	[3]				[3]			
8/29/2003	6.76	6.75	0.01	0	4.89	4.88	0.01	0	5.41	5.40	0.01	0	6.5	NA	0	0	[3]				[3]			
9/29/2003	6.03	NA	sheen	0	4.61	4.6	0.01	0	5.38	5.37	0.01	0	6.35	NA	0	0	[3]				[3]			
10/24/2003	6.11	NA	sheen	0	4.75	4.74	0.01	0	5.7	NA	sheen	0	6.48	NA	0	0	[3]				[3]			
11/18/2003	5.98	NA	sheen	0	4.46	4.44	0.02	0	4.62	4.61	0.01	0	6.28	NA	0	0	[3]				[3]			
12/23/2003	5.63	NA	sheen	0	4.31	4.30	0.01	0	4.55	4.54	0.01	0	6.11	NA	0	0	[3]				[3]			
1/26/2004	5.72	NA	sheen	0	4.47	4.46	0.01	0	4.61	4.6	0.01	0	6.23	NA	0	0	[3]				[3]			
2/25/2004	5.41	NA	sheen	0	3.98	3.99	0.01	0	4.13	4.13	sheen	0	6.01	NA	0	0	[3]				[3]			
3/24/2004	5.48	NA	sheen	0	4.06	4.04	0.02	0	4.25	4.24	0.01	0	5.98	NA	0	0	[3]				[3]			
4/26/2004	4.71	NA	sheen	0	3.21	NA	sheen	0	3.98	NA	sheen	0	4.01	NA	0	0	[3]				[3]			
5/27/2004	5.11	NA	sheen	0	3.45	3.44	0.01	0	4.11	NA	sheen	0	4.35	NA	0	0	[3]				[3]			

Notes:

LNAPL gauging results above from 1994 through 2011 collected by TRC or others. Data collection by AECOM started in 2012.

Bgs – Below ground surface.

NA – Not Applicable.

NM – Not Measured.

* LNAPL gauging at monitoring well PZ-2S was conducted on a semi-annual basis from April 1994 through May 2000. TRC then increased gauging frequency to monthly. MA DEP then requested that monthly LNAPL gauging continue at PZ-2S, CW-1, and CW-2 as part of the requirements of the Phase V O&M program, beginning December 2000.

(1) Not documented by Emcon.

(2) No recoverable LNAPL present.

(3) Well not installed.

(4) Water level meter may have been unreliable due to low temperature.

(5) Four-inch diameter well installed on November 30, 2000 to replace existing PZ-2S 0.5-inch diameter well.

(6) Noted a sheen on water surface.

(7) Product was detected with interface probe but not a measurable amount (product thickness < 0.01 ft)

(8) It is not understood why in November and December of 2011 that 3 gallons were indicated as removed from wells PZ-2S and TRC-101R when no LNAPL was detected. These 3 gallons are not included in approximate total LNAPL volume removed from these wells.

Table 2-4
Summary of LNAPL Observations and Removal
Former GE Facility, 50 Fordham Road, Wilmington, MA

	PZ-2S				CW-1				CW-2				TRC-101				AE-3				AE-4			
Date	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)
6/24/2004	5.89	NA	sheen	0	4.37	NA	sheen	0	4.21	4.2	0.01	0	5.79	NA	0	0	(3)				(3)			
7/23/2004	5.91	NA	sheen	0	4.41	4.40	0.01	0	4.25	4.24	0.01	0	5.83	NA	0	0	(3)				(3)			
8/27/2004	5.78	NA	sheen	0	4.37	4.36	0.01	0	4.19	4.18	0.01	0	5.75	NA	0	0	(3)				(3)			
9/23/2004	5.61	NA	sheen	0	4.15	4.13	0.02	0	4.25	4.22	0.03	0	5.71	NA	0	0	(3)				(3)			
10/27/2004	5.67	NA	sheen	0	4.35	4.28	0.07	0	4.51	4.47	0.04	0	5.68	NA	0	0	(3)				(3)			
11/24/2004	5.56	NA	sheen	0	4.31	4.27	0.04	0	4.48	4.45	0.03	0	5.60	NA	0	0	(3)				(3)			
12/22/2004	5.62	NA	sheen	0	4.34	4.29	0.05	0	4.42	NA	sheen	0	5.63	NA	0	0	(3)				(3)			
1/27/2005	5.65	NA	sheen	0	4.40	4.37	0.03	0	4.44	4.43	0.01	0	6.15	NA	0	0	(3)				(3)			
2/28/2005	5.34	NA	sheen	0	4.21	4.20	0.01	0	4.23	4.23	sheen	0	5.89	NA	0	0	(3)				(3)			
3/25/2005	5.51	NA	sheen	0	4.36	4.31	0.05	0	4.38	4.35	0.01	0	6.05	NA	0	0	(3)				(3)			
4/26/2005	5.02	NA		0	3.96	3.90	0.06	3	3.93	3.85	0.08	6	5.41	NA	0	0	(3)				(3)			
4/26/2005	LNAPL removed via peristaltic pump at CW-1, and CW-2.																(3)				(3)			
4/26/2005	Gauging after LNAPL removal:				3.95	3.92	0.03		3.84	3.86	0.02						(3)				(3)			
5/1/2005	Installed 3 TB-400 Soakease Absorbent booms into both CW-1 and CW-2																(3)				(3)			
5/10/2005	5.15	NA		0	4.16	4.05	0.11	2.25	4.10	3.97	0.13	2.25	5.62	NA	0	0	(3)				(3)			
5/10/2005	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
5/24/2005	5.27	NA		0	4.27	4.17	0.10	2.25	4.17	4.05	0.12	2.25	5.75	NA	0	0	(3)				(3)			
5/24/2005	Removed and replaced 3 Soakease Absorbent booms in both CW-1 and CW-2																(3)				(3)			
6/10/2005	5.33	NA		0	4.32	4.21	0.11	2.25	4.26	4.13	0.13	2.25	5.79	NA	0	0	(3)				(3)			
6/10/2005	Removed 3 Soakease Absorbent booms in both CW-1 and CW-2																(3)				(3)			
6/17/2005	5.37	NA		0	4.35	4.25	0.10	0	4.31	4.20	0.11	0	5.82	NA	0	0	(3)				(3)			
7/5/2005	LNAPL removed via peristaltic pump at CW-1 and CW-2																(3)				(3)			
7/5/2005							0.01	10			0.04	3					(3)				(3)			
7/6/2005							0.05	0			0.07	0					(3)				(3)			
7/28/2005	5.81	NA		0	4.41	4.30	0.11	0	4.35	4.23	0.12	0	6.01	NA	0	0	(3)				(3)			
8/24/2005	5.92	NA		0	4.29	4.41	0.12	0	4.39	4.26	0.13	0	5.98	NA	0	0	(3)				(3)			
9/27/2005	5.95	NA		0	4.29	4.39	0.1	0	4.41	4.30	0.11	0	6.04	NA	0	0	(3)				(3)			
10/17/2005	NA	NA		0	3.87	3.94	0.07	10	3.65	3.65	sheen	0	NA	NA	0	0	(3)				(3)			
10/17/2005	LNAPL removed via peristaltic pump at CW-1																(3)				(3)			
1/9/2006	5.36	5.35	0.01	0	4.2	4.15	0.05	2.25	3.96	3.95	0.01	2.25	5.60	NA	NA	0	(3)				(3)			
1/9/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
1/9/2006	Gauging after LNAPL removal:				4.17	4.15	0.02		3.98	3.95	0.03						(3)				(3)			
1/25/2006	5.01	5.01	sheen	0	3.8	3.75	0.05	2.5	3.7	3.55	0.15	2.5	5.24	NA	NA	0	(3)				(3)			
1/25/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
1/25/2006	Gauging after LNAPL removal:				3.81	3.80	0.01		3.6	NA	sheen						(3)				(3)			
2/7/2006	3.35	NA	sheen	0	3.30	NA	sheen	1.5	3.52	3.45	0.07	1.5	4.98	NA	NA	0	(3)				(3)			
2/7/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
2/7/2006	Gauging after LNAPL removal:				3.52	3.5	0.02		3.3	NA	sheen						(3)				(3)			
2/21/2006	5.21	NA	sheen	0	4.15	4.12	0.03	0	3.93	3.9	0.03	0	5.53	NA	NA	0	(3)				(3)			
3/8/2006	5.9	NA	sheen	0	4.42	4.4	0.02	0	4.45	4.42	0.03	0	5.85	NA	NA	0	(3)				(3)			
3/21/2006	6	NA	sheen	0	4.53	4.5	0.03	0	4.31	4.3	0.01	0	5.92	NA	NA	0	(3)				(3)			
4/4/2006	6.05	NA	sheen	0	4.90	4.15	0.75	2.25	4.9	4.37	0.53	2.25	5.75	NA	NA	0	(3)				(3)			
4/4/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
4/4/2006	Gauging after LNAPL removal:				4.25	4.15	0.1		4.6	4.37	0.23						(3)				(3)			
4/17/2006	6.15	NA	sheen	0	4.44	4.42	0.02	0	4.47	4.46	0.01	0	6.10	NA	NA	0	(3)				(3)			
5/2/2006	8.15	NA	sheen	0	4.48	4.38	0.1	2.25	4.5	4.3	0.2	2.25	5.92	NA	NA	0	(3)				(3)			
5/2/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
5/2/2006	Gauging after LNAPL removal:				4.49	4.49	sheen		4.5	4.49	0.01						(3)				(3)			
5/23/2006	4.15	4.14	0.01	0	2.95	NA	NA	2.25	3.15	NA	NA	2.25	4.66	NA	NA	0	(3)				(3)			
5/23/2006	Removed and replaced 3 Soakease Absorbent booms in CW-1 and CW-2																(3)				(3)			
5/23/2006	Gauging after LNAPL removal:				2.95		sheen		3.15		sheen						(3)				(3)			

Notes:

LNAPL gauging results above from 1994 through 2011 collected by TRC or others. Data collection by AECOM started in 2012.
Bgs – Below ground surface.
NA – Not Applicable.
NM – Not Measured.
* LNAPL gauging at monitoring well PZ-2S was conducted on a semi-annual basis from April 1994 through May 2000. TRC then increased gauging frequency to monthly. MA DEP then requested that monthly LNAPL gauging continue at PZ-2S, CW-1, and CW-2 as part of the requirements of the Phase V O&M program, beginning December 2000.

(1) Not documented by Emcon.
(2) No recoverable LNAPL present.
(3) Well not installed.
(4) Water level meter may have been unreliable due to low temperature.
(5) Four-inch diameter well installed on November 30, 2000 to replace existing PZ-2S 0.5-inch diameter well.
(6) Noted a sheen on water surface.
(7) Product was detected with interface probe but not a measurable amount (product thickness < 0.01 ft)
(8) It is not understood why in November and December of 2011 that 3 gallons were indicated as removed from wells PZ-2S and TRC-101R when no LNAPL was detected. These 3 gallons are not included in approximate total LNAPL volume removed from these wells.

Table 2-4
Summary of LNAPL Observations and Removal
Former GE Facility, 50 Fordham Road, Wilmington, MA

	PZ-2S				CW-1				CW-2				TRC-101				AE-3				AE-4			
Date	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)
6/16/2006	4.23	NA	sheen	0	3.17	NA	NA	0	3.33	NA	sheen	0	4.81	NA	NA	0	(3)				(3)			
6/29/2006	4.75	NA	sheen	0	3.52	NA	sheen	0	3.6	NA	NA	0	5.23	NA	NA	0	(3)				(3)			
7/13/2006	4.92	NA	sheen	0	3.6	NA	sheen	0	3.72	NA	sheen	0	5.22	NA	NA	0	(3)				(3)			
7/31/2006	5.75	NA	sheen	0	4.56	NA	sheen	0	4.45	NA	sheen	0	5.88	NA	NA	0	(3)				(3)			
8/25/2006	6.2	NA	sheen	0	4.4	NA	sheen	0	4.6	NA	sheen	0	5.8	NA	NA	0	(3)				(3)			
9/7/2006	5.77	NA	sheen	0	4.35	NA	sheen	0	4.55	NA	sheen	0	5.95	NA	NA	0	(3)				(3)			
9/20/2006	5.95	NA	sheen	0	4.36	NA	sheen	0	4.48	NA	sheen	0	6.8	NA	NA	0	(3)				(3)			
10/5/2006	6.12	NA	sheen	0	6	NA	sheen	0	5.9	NA	sheen	0	6.11	NA	NA	0	(3)				(3)			
10/18/2006	5.47	NA	sheen	0	4.7	NA	sheen	0	4.6	NA	sheen	0	5.7	NA	NA	0	(3)				(3)			
11/3/2006	5.46	NA	sheen	0	4.43	NA	sheen	0	4.35	NA	sheen	0	5.7	NA	NA	0	(3)				(3)			
11/14/2006	4.5	NA	NA	0	4.85	NA	sheen	0	4.73	NA	sheen	0	5.05	NA	NA	0	(3)				(3)			
11/28/2006	4.92	NA	NA	0	5.42	NA	sheen	0	5.51	NA	sheen	0	5.32	NA	NA	0	(3)				(3)			
12/14/2006	5.65	NA	NA	0	4.10	NA	sheen	0	4.28	NA	sheen	0	5.71	NA	NA	0	(3)				(3)			
12/29/2006	5.46	NA	NA	0	4.32	NA	sheen	0	4.22	NA	NA	0	5.70	NA	NA	0	(3)				(3)			
1/9/2007	5.15	NA	NA	0	3.70	NA	NA	0	3.91	NA	sheen	0	5.37	NA	NA	0	(3)				(3)			
1/25/2007	5.64	NA	NA	0	4.14	NA	sheen	0	4.32	NA	sheen	0	5.75	NA	NA	0	(3)				(3)			
2/13/2007	5.62	NA	NA	0	4.20	NA	sheen	0	4.35	NA	NA	0	NM	NM	NM	0	(3)				(3)			
2/28/2007	6.08	NA	NA	0	4.48	NA	sheen	1	4.65	NA	sheen	1	NM	NM	NM	0	(3)				(3)			
3/27/2007	4.65	NA	NA	0	3.23	NA	sheen	0	3.52	NA	sheen	0	5.00	NA	NA	0	(3)				(3)			
4/11/2007	5.8	NA	NA	0	4.43	NA	NA	0	4.71	NA	sheen	0	5.87	NA	NA	0	(3)				(3)			
4/24/2007	5.50	NA	NA	0	4.98	NA	sheen	0	4.80	NA	NA	0	5.62	NA	NA	0	(3)				(3)			
5/8/2007	5.20	NA	NA	0	3.75	NA	sheen	0	4.00	NA	NA	0	5.41	NA	NA	0	(3)				(3)			
5/21/2007	3.95	NA	NA	0	3.05	NA	sheen	0	3.30	NA	NA	0	4.78	NA	sheen	0	(3)				(3)			
11/19/2007	6.26	5.85	0.41	0	4.72	4.69	0.03	0	4.47	NA	sheen	0	6.12	NA	NA	0	(3)				(3)			
12/5/2007	6.53	6.14	0.39	0	4.78	4.72	0.06	0	5.52	NA	sheen	0	NM	NM	NM	0	(3)				(3)			
12/19/2007	6.61	NA	NA	0	4.72	4.71	0.01	0	4.46	NA	NA	0	NM	NM	NM	0	(3)				(3)			
1/7/2008	6.00	5.99	0.01	0	4.32	NA	sheen	0	4.11	4.08	0.03	0	5.71	NA	NA	0	(3)				(3)			
1/17/2008	5.68	NA	NA	0	3.99	NA	NA	0	3.88	NA	NA	0	5.43	NA	NA	0	(3)				(3)			
1/31/2008	6.17	NA	sheen	0.35	4.38	NA	sheen	0.35	4.15	4.20	0.05	1.3	5.81	NA	NA	0	(3)				(3)			
2/14/2008	4.32	NA	sheen	0	3.31	NA	sheen	0	3.10	NA	sheen	0	4.79	NA	NA	0	(3)				(3)			
2/27/2008	4.74	NA	sheen	0	3.51	NA	sheen	0	3.32	NA	sheen	1.1	4.95	NA	NA	0	(3)				(3)			
3/11/2008	4.14	NA	sheen	0	3.16	NA	sheen	0	2.95	NA	sheen	0	4.66	NA	NA	0	(3)				(3)			
4/9/2008	5.01	NA	sheen	0	3.87	NA	sheen	0	3.65	NA	sheen[7]	0	5.31	NA	NA	0	(3)				(3)			
5/13/2008	5.63	NA	NA	0	4.30	4.28	0.02	0	4.10	4.04	0.06	0	5.70	NA	NA	0	(3)				(3)			
6/11/2008	6.10	NA	NA	0	4.60	4.59	0.01	0	4.40	4.37	0.03	1.1	6.01	NA	NA	0	(3)				(3)			
7/16/2008	5.89	NA	NA	0	4.63	4.61	0.02	0	4.43	4.38	0.05	1.2	6.03	NA	NA	0	(3)				(3)			
8/28/2008	5.94	NA	NA	0	4.61	4.58	0.03	0	4.40	4.36	0.04	1.4	6.01	NA	NA	0	(3)				(3)			
9/25/2008	5.97	NA	NA	0	4.60	4.58	0.02	1.5	4.39	4.36	0.03	1.1	6.09	NA	NA	0	(3)				(3)			
10/16/2008	5.81	NA	NA	0	4.40	NA	sheen	0.75	4.22	NA	sheen	0.75	5.89	NA	NA	0	(3)				(3)			
11/11/2008	5.58	NA	NA	0	4.44	4.43	0.01	0	4.22	4.20	0.02	0	5.85	NA	NA	0	(3)				(3)			
12/4/2008	5.01	NA	NA	0	4.03	NA	sheen	1	3.82	NA	sheen	0.5	5.47	NA	NA	0	(3)				(3)			
1/13/2009	5.21	NA	NA	0	4.04	NA	sheen	0	3.83	NA	sheen	0	5.49	NA	NA	0	(3)				(3)			
2/12/2009	5.23	NA	NA	0	3.98	NA	sheen	0	3.75	NA	sheen	0	5.41	NA	NA	0	(3)				(3)			
3/19/2009	4.96	NA	NA	0	3.74	NA	sheen	0	3.55	NA	sheen	0	5.21	NA	NA	0	(3)				(3)			
4/16/2009	5.03	NA	NA	0	3.89	3.87	0.02	0	3.66	NA	NA	0	5.32	NA	NA	0	(3)				(3)			
5/4/2009	5.46	5.46[(7)]	0	0	4.12	4.10	0.02	0	3.91	3.90	0.01	0	5.54	NA	NA	0	(3)				(3)			
6/25/2009	4.92	NA	sheen	0	3.93	3.92	0.01	0	3.74	3.72	0.02	0	5.36	NA	NA	0	(3)				(3)			
7/14/2009	5.16	NA	NA	0	4.14	4.12	0.02	0	3.93	3.91	0.02	0	5.56	NA	NA	0	(3)				(3)			
8/20/2009	6.03	NA	NA	0	4.70	4.65	0.05	0	4.46	4.42	0.04	0	6.05	NA	NA	0	(3)				(3)			
9/25/2009	6.24	NA	NA	0	4.89	4.84	0.05	1.5	4.68	4.63	0.05	1.1	6.27	NA	NA	0	(3)				(3)			
10/30/2009	5.02	NA	NA	0	4.09	4.08	0.01	1.5	3.88	3.87	0.01	1.5	5.51	NA	NA	0	(3)				(3)			

Notes:

LNAPL gauging results above from 1994 through 2011 collected by TRC or others. Data collection by AECOM started in 2012.
Bgs – Below ground surface.
NA – Not Applicable.
NM – Not Measured.
* LNAPL gauging at monitoring well PZ-2S was conducted on a semi-annual basis from April 1994 through May 2000. TRC then increased gauging frequency to monthly. MA DEP then requested that monthly LNAPL gauging continue at PZ-2S, CW-1, and CW-2 as part of the requirements of the Phase V O&M program, beginning December 2000.

(1) Not documented by Emcon.
(2) No recoverable LNAPL present.
(3) Well not installed.
(4) Water level meter may have been unreliable due to low temperature.
(5) Four-inch diameter well installed on November 30, 2000 to replace existing PZ-2S 0.5-inch diameter well.
(6) Noted a sheen on water surface.
(7) Product was detected with interface probe but not a measurable amount (product thickness < 0.01 ft)
(8) It is not understood why in November and December of 2011 that 3 gallons were indicated as removed from wells PZ-2S and TRC-101R when no LNAPL was detected. These 3 gallons are not included in approximate total LNAPL volume removed from these wells.

Table 2-4
Summary of LNAPL Observations and Removal
Former GE Facility, 50 Fordham Road, Wilmington, MA

	PZ-2S				CW-1				CW-2				TRC-101				AE-3				AE-4			
Date	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)	DTW (ft.)	DTP (ft.)	Thickness (ft.)	Volume Removed (gal.)
11/13/2009	5.85	NA	NA	0	4.49	4.48	0.01	0	4.28	4.27	<0.01	0	5.91	NA	NA	0	(3)				(3)			
12/2/2009	5.18	NA	NA	0	4.11	NA	sheen	0	3.90	NA	sheen	0	5.53	NA	NA	0	(3)				(3)			
1/29/2010	4.67	NA	NA	0	3.68	3.68(7)	0	0	3.47	NA	sheen	0	5.13	NA	NA	0	(3)				(3)			
2/22/2010	5.53	NA	NA	0	4.17	NA	sheen	0	3.98	NA	sheen	0	5.58	NA	NA	0	(3)				(3)			
3/24/2010	3.24	NA	sheen	0	2.54	2.53	0.01	0	2.33	2.32	0.01	0	3.90	NA	NA	0	(3)				(3)			
4/5/2010	3.72	NA	NA	0	2.82	2.82(7)	0	0	2.63	2.62	0.01	0	4.27	NA	NA	0	(3)				(3)			
5/12/2010	5.50	NA	NA	0	4.17	4.16	0.01	0	3.96	NA	sheen	0	5.57	NA	NA	0	(3)				(3)			
6/4/2010	5.93	NA	NA	0	4.49	4.48	0.01	0	4.23	NA	sheen	0	5.90	NA	NA	0	(3)				(3)			
7/8/2010	6.53	NA	NA	0	5.09	5.05	0.04	0	4.85	4.84	0.01	0	6.47	NA	NA	0	(3)				(3)			
8/30/2010	6.47	6.46	0.01	0	5.10	5.02	0.08	0	4.84	4.82	0.02	0	6.48	NA	NA	0	(3)				(3)			
9/27/2010	7.20	7.19	0.01	0	5.82	5.69	0.13	1.1	5.55	5.49	0.06	0.75	7.15	NA	NA	0	(3)				(3)			
10/21/2010	5.88	5.87	0.01	0	5.70	5.67	0.03	1.5	5.50	NA	sheen	1.1	6.08	NA	NA	0	(3)				(3)			
11/11/2010	5.18	NA	sheen	0	4.28	NA	NA	1.5	4.10	NA	NA	0	5.70	NA	NA	0	(3)				(3)			
12/18/2010	5.70	NA	NA	0	4.60	4.60(7)	0	0	4.39	4.38	0.01	0	6.05	NA	NA	0	(3)				(3)			
1/26/2011	NA	NA	NA	0	NA	NA	NA	0	NA	NA	NA	0	NA	NA	NA	0	(3)				(3)			
2/7/2011	5.45	NA	NA	0	4.3	NA	NA	0	4.11	NA	NA	0	5.75	NA	NA	0	(3)				(3)			
3/17/2011	4.05	NA	NA	0	3.06	NA	NA	0	2.87	NA	film	0	4.49	NA	NA	0	(3)				(3)			
4/23/2011	4.53	NA	NA	0	3.7	NA	NA	0	3.5	NA	NA	0	5.14	NA	NA	0	(3)				(3)			
5/24/2011	5.27	NA	NA	0	4.08	NA	NA	0	3.87	NA	NA	0	5.38	NA	NA	0	(3)				(3)			
6/28/2011	4.81	NA	NA	0	3.98	NA	NA	0.00	3.77	NA	sheen	0.00	5.41	NA	NA	0	(3)				(3)			
7/21/2011	5.92	NA	NA	0	4.69	4.67	0.02	0.00	4.49	4.47	0.02	0.00	6.11	NA	NA	0	(3)				(3)			
8/15/2011	5.18	NA	NA	0	3.90	NA	sheen	0.00	3.70	NA	NA	0.00	5.14	NA	NA	0	(3)				(3)			
11/28/2011	4.46	NA	NA	1 (8)	3.65	NA	NA	0	3.45	NA	NA	0.00	5.08	NA	NA	1 (8)	(3)				(3)			
12/22/2011	4.63	NA	NA	2 (8)	3.62	NA	NA	0	3.43	NA	sheen	0.00	5.03	NA	NA	2 (8)	(3)				(3)			
5/31/2012	5.30	NA	NA	0	4.10	NA	NA	0	3.91	NA	sheen	0.00	5.46	NA	NA	0	(3)				(3)			
11/5/2012	4.90	NA	NA	0	4.10	NA	NA	0	3.82	3.81	0.01	0.00	5.46	NA	NA	0	5.44	NA	NA	0	5.08	NA	NA	0
5/21/2013	5.76	NA	NA	0	4.41	4.40	0.01	0.00	4.19	4.18	0.01	0.00	5.77	NA	NA	0	5.80	NA	NA	0	5.42	NA	NA	0
12/27/2013	5.15	NA	NA	0	4.26	NA	NA	0	4.03	NA	NA	0.00	5.61	NA	NA	0	5.66	NA	NA	0	5.31	NA	NA	0
3/17/2014	4.65	NA	NA	0	3.68	NA	NA	0	3.43	NA	NA	0.00	4.92	NA	NA	0	5.10	NA	NA	0	4.75	NA	NA	0
6/16/2014	5.60	NA	NA	0	4.31	NA	NA	0	4.08	NA	NA	0.00	5.70	NA	NA	0	5.72	NA	NA	0	5.28	NA	NA	0
9/12/2014	6.13	NA	NA	0	4.78	NA	NA	0	4.57	NA	NA	0.00	6.02	NA	NA	0	6.22	NA	NA	0	5.80	NA	NA	0
12/12/2014	3.70	NA	NA	0	2.92	NA	NA	0	2.70	NA	NA	0.00	4.17	NA	NA	0	4.38	NA	NA	0	4.05	NA	NA	0
3/20/2015	4.34	NA	NA	0	3.43	NA	NA	0	3.23	NA	NA	0.00	4.67	NA	NA	0	4.96	NA	NA	0	4.51	NA	NA	0
5/29/2015	6.01	NA	NA	0	4.60	NA	NA	0	4.38	NA	NA	0.00	4.84	NA	NA	0	6.07	NA	NA	0	4.55	NA	NA	0
9/28/2015	6.92	NA	NA	0	5.50	5.47	0.03	0.00	5.30	5.22	0.08	0.75	6.69	NA	NA	0	6.92	NA	NA	0	6.50	NA	NA	0
12/17/2015	5.90	NA	NA	0	4.50	NA	NA	0.00	4.35	4.34	0.01	0.00	5.76	NA	NA	0	6.01	NA	NA	0	5.55	NA	NA	0
3/25/2016	5.21	NA	NA	0	4.02	NA	NA	0.00	3.79	NA	NA	0.00	5.24	NA	NA	0	5.45	NA	NA	0	4.89	NA	NA	0
6/10/2016	5.11	NA	NA	0	4.70	NA	NA	0.00	4.51	4.49	0.02	0.00	5.93	NA	NA	0	6.15	NA	NA	0	4.61	NA	NA	0
9/13/2016	7.81	NA	NA	0	6.45	6.33	0.12	0.75	5.98	NA	NA	0.00	7.62	NA	NA	0	7.79	NA	NA	0	7.39	NA	NA	0
12/30/2016	5.28	NA	NA	0	4.17	4.14	0.03	0.75	3.89	NA	NA	0.00	5.30	NA	NA	0	5.51	NA	NA	0	5.12	NA	NA	0
3/28/2017	4.85	NA	NA	0	3.87	NA	NA	0.00	3.64	NA	NA	0.00	5.10	NA	NA	0	5.30	NA	NA	0	4.78	NA	NA	0
6/13/2017	5.22	NA	NA	0	4.01	NA	NA	0.00	3.79	3.78	0.01	0.00	5.26	NA	NA	0	5.44	NA	NA	0	4.89	NA	NA	0
9/1/2017	6.50	NA	NA	0	5.48	5.45	0.03	0.00	5.25	5.24	0.01	0.00	6.68	NA	NA	0	6.89	NA	NA	0	6.30	NA	NA	0
11/30/2017	5.87	NA	NA	0	4.51	NA	NA	0.56	4.27	NA	NA	0.00	5.73	NA	NA	0	5.96	NA	NA	0	5.55	NA	NA	0
3/7/2018	4.89	NA	NA	0	3.66	NA	NA	0.00	3.42	NA	NA	0.00	4.89	NA	NA	0	4.12	NA	NA	0	4.63	NA	NA	0
6/14/2018	5.89	NA	NA	0	4.56	4.55	0.01 (sheen)	0.00	4.32	4.31	0.01 (sheen)	0.00	5.72	NA	NA	0	6.99	NA	NA	0	5.49	NA	NA	0
9/17/2018	5.66	NA	NA	0	4.33	NA	NA	0.00	4.09	NA	NA	0.00	5.56	NA	NA	0	5.79	NA	NA	0	5.31	NA	NA	0
12/3/2018	4.13	NA	NA	0	2.93	NA	NA	0.00	2.69	NA	NA	0.00	4.23	NA	NA	0	4.36	NA	NA	0	4.02	NA	NA	0
2/25/2019	4.75	NA	NA	0	3.47	NA	NA	0.00	3.23	NA	NA	0.00	4.44	NA	NA	0	4.86	NA	NA	0	4.46	NA	NA	0
6/5/2019	5.54	NA	NA	0	4.12	NA	NA	0.00	3.88	NA	NA	0.00	5.40	NA	NA	0	5.58	NA	NA	0	5.02	NA	NA	0
9/13/2019	6.17	NA	NA	0	4.74	NA	NA	0.00	4.51	NA	NA	0.00	5.98	NA	NA	0	6.19	NA	NA	0	5.71	NA	NA	0
12/4/2019	5.37	NA	NA	0	4.12	NA	NA	0.00	3.89	NA	NA	0.00	5.06	NA	NA	0	5.50	NA	NA	0	5.09	NA	NA	0
2/11/2020	5.24	NA	NA	0	3.83	NA	NA	0.00	3.59	NA	NA	0.00	5.12	NA	NA	0	5.26	NA	NA	0	4.74	NA	NA	0
gals removed (approx.):				2.1				58.23				44.24				0				0				0

Notes:

LNAPL gauging results above from 1994 through 2011 collected by TRC or others. Data collection by AECOM started in 2012.
Bgs – Below ground surface.
NA – Not Applicable.
NM – Not Measured.
NR – Not Recorded.
* LNAPL gauging at monitoring well PZ-2S was conducted on a semi-annual basis from April 1994 through May 2000. TRC then increased gauging frequency to monthly. MA DEP then requested that monthly LNAPL gauging continue at PZ-2S, CW-1, and CW-2 as part of the requirements of the Phase V O&M program, beginning December 2000.

(1) Not documented by Emcon.
(2) No recoverable LNAPL present.
(3) Well not installed.
(4) Water level meter may have been unreliable due to low temperature.
(5) Four-inch diameter well installed on November 30, 2000 to replace existing PZ-2S 0.5-inch diameter well.
(6) Noted a sheen on water surface.
(7) Product was detected with interface probe but not a measurable amount (product thickness < 0.01 ft)
(8) It is not understood why in November and December of 2011 that 3 gallons were indicated as removed from wells PZ-2S and TRC-101R when no LNAPL was detected. These 3 gallons are not included in approximate total LNAPL volume removed from these wells.
(9) Well not measured, or data has not been located in historical TRC reports.

Table 5-1
Summary of 2016 - 2019 Groundwater Analytical Results for Arsenic
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Type	Sample Date	Depth Interval (ft)	Dissolved Arsenic (ug/L)	Total Arsenic (ug/L)
					MCP Method 1 GW-1 Standard:	10	10
					MCP Method 1 GW-2 Standard:	NE	NE
					MCP Method 1 GW-3 Standard:	900	900
					MCP Upper Concentration Limit (UCL):	9,000	9,000
Building 1_TankF	AE26R-1	16B-AE26R1-062316-1	Normal	6/23/2016	50 - 56	4.0 U	4.0 U
		17A-AE26R1-100417-1	Normal	10/4/2017		4.0 U	4.0 U
		18A-AE26R1-091818-1	Normal	9/18/2018		4.0 U	4.0 U
		19A-AE26R1-092319-1	Normal	9/23/2019		4.0 U	4.0 U
	AE26S	18A-AE26S-092518-1	Normal	9/25/2018	25 - 30	4.0 U	4.0 U
		19A-AE26S-092319-1	Normal	9/23/2019		4.0 U	4.0 U
	AE28R-2	16B-AE28R2-062316-1	Normal	6/23/2016	75 - 85	4.0 U	4.0 U
		17A-AE28R2-100417-1	Normal	10/4/2017		4.0 U	4.0 U
		18A-AE28R2-091818-1	Normal	9/18/2018		4.0 U	4.0 U
		19A-AE28R2-092319-1	Normal	9/23/2019		4.0 U	4.0 U
	AE29R-6	16B-AE29R6-062816-1	Normal	6/28/2016	140 - 146	4.0 U	4.0 U
		17A-AE29R6-101717-1	Normal	10/17/2017		4.0 U	4.0 U
		18A-AE29R6-091818-1	Normal	9/18/2018		4.0 U	4.0 U
		19A-AE29R6-092419-1	Normal	9/24/2019		**4**	4.0 U
	GZA-101R	16A-GZA101R-061416-1	Normal	6/14/2016	36.5 - 38	4.0 U	4.0 U
		17A-GZA101R-101017-1	Normal	10/10/2017		4.0 U	**10.6**
		18A-GZA101R-091818-1	Normal	9/18/2018		4.0 U	4.0 U
		19A-GZA101R-092619-1	Normal	9/26/2019		4.0 U	4.0 U
Downgradient Wetland	GZA-14A	16A-GZA14A-061716-1	Normal	6/17/2016	0 - 15	**35.8**	**35.4**
		16A-GZA14A-061716-2	Duplicate	6/17/2016		**35.8**	**34.7**
		17A-GZA14A-102017-1	Normal	10/20/2017		**22.8**	**24.8**
		18A-GZA14A-092818-1	Normal	9/28/2018		**8.6**	**12.3**
		19A-GZA14A-093019-1	Normal	9/30/2019		**32**	**43**
	MW-4	16A-MW4-062416-1	Normal	6/24/2016	18 - 28	4.0 U	**8.1**
		17A-MW4-101817-1	Normal	10/18/2017		4.0 U	4.0 U
		18A-MW4-100418-1	Normal	10/4/2018		4.0 U	4.0 U
		19A-MW4-091919-1	Normal	9/19/2019		4.0 U	4.0 U
		19A-MW4-091919-2	Duplicate	9/19/2019		4.0 U	4.0 U
	MW-4A	16A-MW4A-062416-1	Normal	6/24/2016	38 - 48	**7**	4.0 U
		17A-MW4A-101817-1	Normal	10/18/2017		**6.8**	**6.8**
		18A-MW4A-100418-1	Normal	10/4/2018		**7.2**	**7.95**
		19A-MW4A-091919-1	Normal	9/19/2019		4.0 U	**11**
	PS-8D	18A-PS8D-100218-1	Normal	10/2/2018	51.8 - 56.8	4.0 U	4.0 U
		19A-PS8D-091719-1	Normal	9/17/2019		4.0 U	4.0 U
EPL	AE03	16A-AE03-062816-1	Normal	6/28/2016	3 - 13	**39.5**	**40.4**
		17A-AE03-100917-1	Normal	10/9/2017		**39.3**	**38.8**
		18A-AE03-092418-1	Normal	9/24/2018		**58**	**57.15**
		18A-AE03-092418-2	Duplicate	9/24/2018		**57.2**	**59.0**
		19A-AE03-091219-1	Normal	9/12/2019		**57**	**58**
		19A-AE03-091219-2	Duplicate	9/12/2019		**58**	**56**
	GZA-105S	16A-GZA105S-061516-1	Normal	6/15/2016	4 - 14	**169**	**152**
		17A-GZA105S-100917-1	Normal	10/9/2017		**242**	**242**
		17A-GZA105S-100917-2	Duplicate	10/9/2017		**239**	**234**
		18A-GZA105S-092518-1	Normal	9/25/2018		**238**	**228.05**
		19A-GZA105S-091819-1	Normal	9/18/2019		**168**	**182**
	TRC-102	16A-TRC102-062716-1	Normal	6/27/2016	2.25 - 12.25	**30.4**	**33.8**
		17A-TRC102-100217-1	Normal	10/2/2017		**27.4**	**27.3**
		18A-TRC102-092418-1	Normal	9/24/2018		**39.6**	**41.75**
		19A-TRC102-092019-1	Normal	9/20/2019		**50**	**60**
	GZA-06	18A-GZA6-100118-1	Normal	10/1/2018	8 - 18	**9.1**	**9.1**
		19A-GZA6-092019-1	Normal	9/20/2019		**9**	**11**
	GZA-10	18A-GZA10-100118-1	Normal	10/1/2018	13 - 38	**109**	**122.05**
		19A-GZA10-092619-1	Normal	9/26/2019		**138**	**130**

Table 5-1
Summary of 2016 - 2019 Groundwater Analytical Results for Arsenic
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Type	Sample Date	Depth Interval (ft)	Dissolved Arsenic (ug/L)	Total Arsenic (ug/L)
					MCP Method 1 GW-1 Standard:	10	10
					MCP Method 1 GW-2 Standard:	NE	NE
					MCP Method 1 GW-3 Standard:	900	900
					MCP Upper Concentration Limit (UCL):	9,000	9,000
Tank Farm	AE100R-5	16A-AE100R5-061516-1	Normal	6/15/2016	88 -93	4.0 U	4.0 U
		17A-AE100R5-100417-1	Normal	10/4/2017		4.0 U	4.0 U
		18A-AE100R5-091918-1	Normal	9/19/2018		4.0 U	4.0 U
		19A-AE100R5-092319-1	Normal	9/23/2019		4.0 U	4.0 U
Transect A	AE102M	16A-AE102M-061316-1	Normal	6/13/2016	23 - 28	**12**	**14.1**
		17A-AE102M-100217-1	Normal	10/2/2017		**9.8**	**9.8**
		18A-AE102M-100118-1	Normal	10/1/2018		**4.6**	**4.35**
		19A-AE102M-092519-1	Normal	9/25/2019		**8**	**9**
	AE102RR-6	16A-AE102RR6-061416-1	Normal	6/14/2016	153 - 158	**4.1**	**4.5**
		17A-AE102RR6-100317-1	Normal	10/3/2017		**5.2**	**5.3**
		18A-AE102RR6-091918-1	Normal	9/19/2018		4.0 U	4.0 U
		19A-AE102RR6-092419-1	Normal	9/24/2019		**5**	4.0 U
	AE103D	16A-AE103D-061316-1	Normal	6/13/2016	35 - 40	4.0 U	4.0 U
		17A-AE103D-100317-1	Normal	10/3/2017		4.0 U	4.0 U
		18A-AE103D-092418-1	Normal	9/24/2018		4.0 U	4.0 U
		18A-AE103D-092418-2	Duplicate	9/24/2018		4.0 U	4.0 U
		19A-AE103D-091919-1	Normal	9/19/2019		4.0 U	4.0 U
	AE103R-1	16A-AE103R1-061516-1	Normal	6/15/2016	48 - 53	4.0 U	4.0 U
		17A-AE103R1-100217-1	Normal	10/2/2017		4.0 U	4.0 U
		18A-AE103R1-092518-1	Normal	9/25/2018		4.0 U	4.0 U
		19A-AE103R1-091819-1	Normal	9/18/2019		4.0 U	**5**
	AE103R-5	17A-AE103R5-100217-1	Normal	10/2/2017	122 - 128	4.0 U	4.0 U
		18A-AE103R5-092518-1	Normal	9/25/2018		4.0 U	4.0 U
		19A-AE103R5-091819-1	Normal	9/18/2019		4.0 U	**5**
	AE103S	16A-AE103S-061516-1	Normal	6/15/2016	15 - 20	**179**	**175**
		17A-AE103S-100317-1	Normal	10/3/2017		**159**	**143**
		18A-AE103S-092418-1	Normal	9/24/2018		**138**	**171.2**
		19A-AE103S-091919-1	Normal	9/19/2019		**138**	**162**
	AE108R-1	16A-AE108R1-061616-1	Normal	6/16/2016	36.5 - 43.5	4.0 U	4.0 U
		16A-AE108R1-061616-2	Duplicate	6/16/2016		4.0 U	4.0 U
		17A-AE108R1-100917-1	Normal	10/9/2017		4.0 U	4.0 U
		18A-AE108R1-091918-1	Normal	9/19/2018		4.0 U	4.0 U
		19A-AE108R1-092419-1	Normal	9/24/2019		4.0 U	4.0 U
	AE109D	18A-AE109D-092618-1	Normal	9/26/2018	18 - 23	4.0 U	4.0 U
		19A-AE109D-092019-1	Normal	9/20/2019		4.0 U	4.0 U
	AE109R-5	16A-AE109R5-061616-1	Normal	6/16/2016	183 - 189	4.0 U	4.0 U
		17A-AE109R5-101017-1	Normal	10/10/2017		4.0 U	4.0 U
		18A-AE109R5-100218-1	Normal	10/2/2018		4.0 U	4.00 U
		19A-AE109R5-091819-1	Normal	9/18/2019		4.0 U	4.0 U
	EMW-11R2	16A-EMW11R2-062116-1	Normal	6/21/2016	104 - 114	4.0 U	4.0 U
		17A-EMW11R2-101017-1	Normal	10/10/2017		4.0 U	4.0 U
		18A-EMW11R2-092418-1	Normal	9/24/2018		4.0 U	**4.05**
		19A-EMW11R2-091719-1	Normal	9/17/2019		**4**	4.0 U

Table 5-1
Summary of 2016 - 2019 Groundwater Analytical Results for Arsenic
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Type	Sample Date	Depth Interval (ft)	Dissolved Arsenic (ug/L)	Total Arsenic (ug/L)
					MCP Method 1 GW-1 Standard:	10	10
					MCP Method 1 GW-2 Standard:	NE	NE
					MCP Method 1 GW-3 Standard:	900	900
					MCP Upper Concentration Limit (UCL):	9,000	9,000
Transect B	AE105R-2	16A-AE105R2-062016-1	Normal	6/20/2016	98 - 103	4.0 U	4.0 U
		17A-AE105R2-101217-1	Normal	10/12/2017		4.0 U	4.0 U
		18A-AE105R2-100318-1	Normal	10/3/2018		4.0 U	4.0 U
		19A-AE105R2-091619-1	Normal	9/16/2019		4.0 U	4.0 U
	AE105S	16A-AE105S-062216-1	Normal	6/22/2016	35 - 40	**16.8**	**17.8**
		17A-AE105S-101217-1	Normal	10/12/2017		**15.7**	**16.8**
		18A-AE105S-100318-1	Normal	10/3/2018		**12.8**	**14.7**
		19A-AE105S-091619-1	Normal	9/16/2019		**12**	**13**
	AE106D	16A-AE106D-062016-1	Normal	6/20/2016	34 - 39	4.0 U	4.0 U
		17A-AE106D-101217-1	Normal	10/12/2017		4.0 U	4.0 U
		18A-AE106D-100318-1	Normal	10/3/2018		4.0 U	4.0 U
		19A-AE106D-091719-1	Normal	9/17/2019		4.0 U	4.0 U
	AE106R-3	16A-AE106R3-062016-1	Normal	6/20/2016	84 - 88	4.0 U	4.0 U
		17A-AE106R3-101217-1	Normal	10/12/2017		4.0 U	4.0 U
		18A-AE106R3-100318-1	Normal	10/3/2018		4.0 U	4.0 U
		19A-AE106R3-091619-1	Normal	9/16/2019		4.0 U	4.0 U
	TRC-301R2	18A-TRC301R2-092718-1	Normal	9/27/2018	81.5 - 85.5	4.0 U	4.0 U
		19A-TRC301R2-091719-1	Normal	9/17/2019		4.0 U	4.0 U
	TRC-301R4	16A-TRC301R4-062216-1	Normal	6/22/2016	65.5 - 69.5	**22.8**	**23.0**
		17A-TRC301R4-102317-1	Normal	10/23/2017		**22.4**	**21.6**
		18A-TRC301R4-092718-1	Normal	9/27/2018		**18.6**	**19.70**
		19A-TRC301R4-091719-1	Normal	9/17/2019		**21**	**19**
Transect B1/2	AE112D	17A-AE112D-101717-1	Normal	10/17/2017	24.5 - 29.5	4.0 U	4.0 U
		18A-AE112D-092618-1	Normal	9/26/2018		4.0 U	4.00 U
		19A-AE112D-091319-1	Normal	9/13/2019		4.0 U	4.00 U
	AE112R-1	18A-AE112R1-092618-1	Normal	9/26/2018	41 - 51	4.0 U	**4.15**
		19A-AE112R1-091319-1	Normal	9/13/2019		4.0 U	**5**
	AE112R-6	16B-AE112R6-062116-1	Normal	6/21/2016	153 - 163	4.0 U	4.0 U
		17A-AE112R6-101717-1	Normal	10/17/2017		4.0 U	4.0 U
		18A-AE112R6-092618-1	Normal	9/26/2018		4.0 U	4.0 U
		18A-AE112R6-092618-2	Duplicate	9/26/2018		4.0 U	4.0 U
		19A-AE112R6-091319-1	Normal	9/13/2019		4.0 U	4.0 U
Transect C	STM-8R1	16A-STM8R1-062816-1	Normal	6/28/2016	85 - 90	**11.6**	**12.6**
		17A-STM8R1-101717-1	Normal	10/17/2017		**15.4 J**	**11.9 J**
		17A-STM8R1-101717-2	Duplicate	10/17/2017		**15.2 J**	**10.3 J**
		18A-STM8R1-100218-1	Normal	10/2/2018		**14.8**	**14.45**
		19A-STM8R1-092619-1	Normal	9/26/2019		**14**	**17**
Upgradient	GZA-12	16A-GZA12-061416-1	Normal	6/14/2016	9.5 - 24.5	4.0 U	4.0 U
		17A-GZA12-101017-1	Normal	10/10/2017		4.0 U	4.0 U
		18A-GZA12-100118-1	Normal	10/1/2018		4.0 U	4.0 U
		19A-GZA12-092619-1	Normal	9/26/2019		4.0 U	4.0 U

Notes:
U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-2
Groundwater Mann Kendall Trend Tests for Arsenic
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE03	Arsenic (Diss)	7	7	-8	-8	7	Downward Trend	11	Not Significant
AE102M	Arsenic (Diss)	5	5	-8	-8	6	Downward Trend	8	Downward Trend
AE102RR-6	Arsenic (Diss)	5	4	-1	-1	6	Not Significant	8	Not Significant
AE103S	Arsenic (Diss)	5	5	-3	-3	6	Not Significant	8	Not Significant
AE105S	Arsenic (Diss)	5	5	-8	-8	6	Downward Trend	8	Downward Trend
GZA-06	Arsenic (Diss)	4	4	2	2	4	Not Significant	6	Not Significant
GZA-10	Arsenic (Diss)	5	5	2	2	6	Not Significant	8	Not Significant
GZA-101R	Arsenic (Diss)	8	3	7	7	8	Not Significant	12	Not Significant
GZA-105S	Arsenic (Diss)	6	6	3	3	7	Not Significant	9	Not Significant
GZA-14A	Arsenic (Diss)	6	6	5	5	7	Not Significant	9	Not Significant
MW-4A	Arsenic (Diss)	5	4	0	0		No Trend		No Trend
STM-8R1	Arsenic (Diss)	4	4	0	0		No Trend		No Trend
TRC-102	Arsenic (Diss)	7	7	1	1	7	Not Significant	11	Not Significant
TRC-301R-4	Arsenic (Diss)	5	5	-3	-3	6	Not Significant	8	Not Significant

Notes:
Datasets presented for wells that were included in the sampling program in September 2019.
Field duplicates assigned the maximum value for the purposes of the trend test.
The detection limit was used for non-detect concentrations for the purposes of the trend test.
Trend test results were interpreted using a confidence level of 80% and 90%. If the absolute value of the statistic is equal to or greater than the critical value, a significant trend is concluded. The direction of the trend is determined by the sign of the statistic with positive statistics indicating an upward trend and negative statistics indicating a downward trend.
* When sample size > 10, the normal approximation is used and calculated per box 4-9 in Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S. When the normal approximation is used, the critical value is the standard normal distribution.
When S is 0, no critical value is calculated and a conclusion of no trend is made.
NA = The Mann-Kendall trend test was not performed because there were less than 4 samples.
ND = The Mann-Kendall trend test was not performed because there were less than 3 detected concentrations.
- Analyte results not available for location.

Table 5-3
Summary of 2016 - 2019 Groundwater Analytical Results for 1,4-Dioxane
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Date	Sample Type	Depth Interval (ft)	1,4-Dioxane via 8270 SIM (µg/l)
				MCP Method 1 GW-1 Standard:		0.3
				MCP Method 1 GW-2 Standard:		6,000
				MCP Method 1 GW-3 Standard:		50,000
				MCP Upper Concentration Limit (UCL):		100,000
Upgradient	GZA-12	18A-GZA12-100118-1	10/1/2018	Normal	9.5 - 24.5	0.20 U
		19A-GZA12-092619-1	9/26/2019	Normal		0.20 U
Building 1 Tank F	AE23R	16B-AE23R-062716-1	6/27/2016	Normal	44.75 - 54.75	**16**
		17A-AE23R-101317-1	10/13/2017	Normal		**19**
		18A-AE23R-091918-1	9/19/2018	Normal		**19**
		19A-AE23R-092319-1	9/23/2019	Normal		**15**
	AE24	17A-AE24-101917-1	10/19/2017	Normal	7.25 - 17.25	0.20 U
		17A-AE24-101917-2	10/19/2017	Duplicate		0.20 U
		18A-AE24-092518-1	9/25/2018	Normal		**0.29**
		19A-AE24-092319-1	9/23/2019	Normal		**1.4**
	AE26R-1	16B-AE26R1-062316-1	6/23/2016	Normal	50 - 56	**9.2**
		17A-AE26R1-100417-1	10/4/2017	Normal		**32**
		18A-AE26R1-091818-1	9/18/2018	Normal		**22**
		19A-AE26R1-092319-1	9/23/2019	Normal		**25**
	AE26R-5	16B-AE26R5-062316-1	6/23/2016	Normal	123 - 132	**13**
		17A-AE26R5-100417-1	10/4/2017	Normal		**43**
		18A-AE26R5-091818-1	9/18/2018	Normal		**29**
		19A-AE26R5-092319-1	9/23/2019	Normal		**34**
	AE28R-2	16B-AE28R2-062316-1	6/23/2016	Normal	75 - 85	**34**
		17A-AE28R2-100417-1	10/4/2017	Normal		**66**
		18A-AE28R2-091818-1	9/18/2018	Normal		**50**
		19A-AE28R2-092319-1	9/23/2019	Normal		**60**
	AE28R-3	18A-AE28R3-091818-1	9/18/2018	Normal	98 - 108	**39**
		19A-AE28R3-092319-1	9/23/2019	Normal		**46**
	AE29R-6	16B-AE29R6-062816-1	6/28/2016	Normal	140 - 146	**2.5**
		17A-AE29R6-101717-1	10/17/2017	Normal		**42**
		18A-AE29R6-091818-1	9/18/2018	Normal		**43**
		19A-AE29R6-092419-1	9/24/2019	Normal		**50**
Downgradient Wetland	MW-4	16A-MW4-062416-1	6/24/2016	Normal	18 - 28	**0.68**
		17A-MW4-101817-1	10/18/2017	Normal		**1.2**
		18A-MW4-100418-1	10/4/2018	Normal		**1.4**
		19A-MW4-091919-1	9/19/2019	Normal		**0.84**
		19A-MW4-091919-2	9/19/2019	Duplicate		**0.86**
EPL	GZA-105D	16A-GZA105D-061516-1	6/15/2016	Normal	16 - 26	**1.3**
		17A-GZA-105D-101917-1	10/19/2017	Normal		**6.1**
		17A-GZA-105D-101917-2	10/19/2017	Duplicate		**5.8**
		18A-GZA105D-092518-1	9/25/2018	Normal		**2.3**
		19A-GZA105D-091819-1	9/18/2019	Normal		**1**
	AE100R-3	16A-AE100R3-061516-1	6/15/2016	Normal	50 - 56	**4**
		17A-AE100R3-100417-1	10/4/2017	Normal		**9.8**
		18A-AE100R3-091918-1	9/19/2018	Normal		**9.4**
		19A-AE100R3-092319-1	9/23/2019	Normal		**13**
	AE100R-4	16A-AE100R4-061516-1	6/15/2016	Normal	63 - 68	**3.6**
		17A-AE100R4-100417-1	10/4/2017	Normal		**8.6**
		18A-AE100R4-091918-1	9/19/2018	Normal		**11**
		19A-AE100R4-092319-1	9/23/2019	Normal		**13**
	AE100R-6	16A-AE100R6-061516-1	6/15/2016	Normal	108.5 - 113.5	**5.7**
		17A-AE100R6-100417-1	10/4/2017	Normal		**12**
		18A-AE100R6-091918-1	9/19/2018	Normal		**14**
		19A-AE100R6-092319-1	9/23/2019	Normal		**12**

Table 5-3
Summary of 2016 - 2019 Groundwater Analytical Results for 1,4-Dioxane
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Date	Sample Type	Depth Interval (ft)	1,4-Dioxane via 8270 SIM (µg/l)
				MCP Method 1 GW-1 Standard:		0.3
				MCP Method 1 GW-2 Standard:		6,000
				MCP Method 1 GW-3 Standard:		50,000
				MCP Upper Concentration Limit (UCL):		100,000
Transect A	AE101D	16A-AE101D-061516-1	6/15/2016	Normal	20 - 25	0.20 U
		16A-AE101D-061516-2	6/15/2016	Duplicate		0.20 U
		17A-AE101D-100217-1	10/2/2017	Normal		0.20 U
		18A-AE101D-092618-1	9/26/2018	Normal		**0.32**
		19A-AE101D-093019-1	9/30/2019	Normal		0.20 U
	AE101R-2	16A-AE101R2-061616-1	6/16/2016	Normal	55 - 60	**3.3**
		17A-AE101R2-101117-1	10/11/2017	Normal		**6.7**
		18A-AE101R2-092018-1	9/20/2018	Normal		**6.8**
		19A-AE101R2-092519-1	9/25/2019	Normal		**5.2**
	AE101R-3	16A-AE101R3-061616-1	6/16/2016	Normal	80 - 85	**2.6**
		17A-AE101R3-101117-1	10/11/2017	Normal		**5.4**
		18A-AE101R3-092018-1	9/20/2018	Normal		**4.6**
		18A-AE101R3-092018-2	9/20/2018	Duplicate		**4.5**
		19A-AE101R3-092519-1	9/25/2019	Normal		**3.5 J**
	AE101R-5	16A-AE101R5-061616-1	6/16/2016	Normal	175 - 180	**9**
		17A-AE101R5-101917-1	10/19/2017	Normal		**17**
		18A-AE101R5-092618-1	9/26/2018	Normal		**17**
		19A-AE101R5-092519-1	9/25/2019	Normal		**16**
	AE101R-6	16A-AE101R6-061716-1	6/17/2016	Normal	227 - 232	**2.8**
		17A-AE101R6-101917-1	10/19/2017	Normal		**6.8**
		18A-AE101R6-092618-1	9/26/2018	Normal		**8.5**
		19A-AE101R6-093019-1	9/30/2019	Normal		**11**
	AE101S	16A-AE101S-061716-1	6/17/2016	Normal	10 - 15	0.20 U
		17A-AE101S-100217-1	10/2/2017	Normal		0.20 U
		18A-AE101S-092618-1	9/26/2018	Normal		0.20 U
		19A-AE101S-093019-1	9/30/2019	Normal		0.20 U
	AE102D	16A-AE102D-061316-1	6/13/2016	Normal	33 - 38	**4.7**
		17A-AE102D-100217-1	10/2/2017	Normal		**6.2**
		18A-AE102D-100118-1	10/1/2018	Normal		**6.7**
		19A-AE102D-092519-1	9/25/2019	Normal		**5.4**
	AE102M	16A-AE102M-061316-1	6/13/2016	Normal	23 - 28	0.20 U
		17A-AE102M-100217-1	10/2/2017	Normal		**0.73**
		18A-AE102M-100118-1	10/1/2018	Normal		**0.76**
		19A-AE102M-092519-1	9/25/2019	Normal		**0.76**
		19A-AE102M-092519-2	9/25/2019	Duplicate		**0.78**
	AE102RR-2	16A-AE102RR2-061416-1	6/14/2016	Normal	75 - 80	**2.8**
		17A-AE102RR2-100317-1	10/3/2017	Normal		**6.1**
		18A-AE102RR2-091918-1	9/19/2018	Normal		**6.4**
		18A-AE102RR2-091918-2	9/19/2018	Duplicate		**6.3**
		19A-AE102RR2-092419-1	9/24/2019	Normal		**6**
	AE102RR-4	16A-AE102RR4-061416-1	6/14/2016	Normal	125 - 130	**4.4**
		17A-AE102RR4-100317-1	10/3/2017	Normal		**5.7**
		18A-AE102RR4-091918-1	9/19/2018	Normal		**6.8**
		19A-AE102RR4-092419-1	9/24/2019	Normal		**6**
	AE102RR-6	16A-AE102RR6-061416-1	6/14/2016	Normal	153 - 158	**10**
		17A-AE102RR6-100317-1	10/3/2017	Normal		**22**
		18A-AE102RR6-091918-1	9/19/2018	Normal		**23**
		19A-AE102RR6-092419-1	9/24/2019	Normal		**26**
	AE103D	16A-AE103D-061316-1	6/13/2016	Normal	35 - 40	0.20 U
		17A-AE103D-100317-1	10/3/2017	Normal		**0.84**
		18A-AE103D-092418-1	9/24/2018	Normal		**0.82**

Table 5-3
Summary of 2016 - 2019 Groundwater Analytical Results for 1,4-Dioxane
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Date	Sample Type	Depth Interval (ft)	1,4-Dioxane via 8270 SIM (µg/l)
				MCP Method 1 GW-1 Standard:		0.3
				MCP Method 1 GW-2 Standard:		6,000
				MCP Method 1 GW-3 Standard:		50,000
				MCP Upper Concentration Limit (UCL):		100,000
		18A-AE103D-092418-2	9/24/2018	Duplicate		**0.72**
		19A-AE103D-091919-1	9/19/2019	Normal		**0.82**
Transect A (cont)	AE103R-1	16A-AE103R1-061516-1	6/15/2016	Normal	48 - 53	**16**
		17A-AE103R1-100217-1	10/2/2017	Normal		**9**
		18A-AE103R1-092518-1	9/25/2018	Normal		**8.7**
		19A-AE103R1-091819-1	9/18/2019	Normal		**8**
	AE103R-4	16A-AE103R4-061516-1	6/15/2016	Normal	98 - 105	**34**
		17A-AE103R4-100217-1	10/2/2017	Normal		**46**
		18A-AE103R4-092518-1	9/25/2018	Normal		**45**
		19A-AE103R4-091819-1	9/18/2019	Normal		**43**
	AE103R-5	16A-AE103R5-061516-1	6/15/2016	Normal	122 - 128	**34**
		17A-AE103R5-100217-1	10/2/2017	Normal		**47**
		18A-AE103R5-092518-1	9/25/2018	Normal		**48**
		19A-AE103R5-091819-1	9/18/2019	Normal		**36**
	AE104D	16A-AE104D-061316-1	6/13/2016	Normal	35 - 40	0.20 U
		17A-AE104D-101017-1	10/10/2017	Normal		**0.31**
		18A-AE104D-092618-1	9/26/2018	Normal		**0.37**
		19A-AE104D-092019-1	9/20/2019	Normal		**0.42**
	AE104R-1	16A-AE104R1-061416-1	6/14/2016	Normal	48 - 54	**7.2**
		17A-AE104R1-100317-1	10/3/2017	Normal		**13**
		18A-AE104R1-092618-1	9/26/2018	Normal		**12**
		19A-AE104R1-091819-1	9/18/2019	Normal		**9**
	AE104R-3	16A-AE104R3-061416-1	6/14/2016	Normal	97 - 102	**17**
		17A-AE104R3-100317-1	10/3/2017	Normal		**17**
		18A-AE104R3-092618-1	9/26/2018	Normal		**16**
		19A-AE104R3-091819-1	9/18/2019	Normal		**14**
	AE104R-4	16A-AE104R4-061416-1	6/14/2016	Normal	128 - 133	**11**
		17A-AE104R4-100317-1	10/3/2017	Normal		**26**
		18A-AE104R4-092618-1	9/26/2018	Normal		**19**
		19A-AE104R4-091819-1	9/18/2019	Normal		**19**
	AE104R-6	16A-AE104R6-061416-1	6/14/2016	Normal	168 - 174	**10**
		17A-AE104R6-100317-1	10/3/2017	Normal		**24**
		18A-AE104R6-092618-1	9/26/2018	Normal		**24**
		19A-AE104R6-091819-1	9/18/2019	Normal		**20**
	AE109D	16A-AE109D-062116-1	6/21/2016	Normal	18 - 23	0.20 U
		16A-AE109D-062116-2	6/21/2016	Duplicate		0.20 U
		17A-AE109D-101317-1	10/13/2017	Normal		**0.31**
		18A-AE109D-092618-1	9/26/2018	Normal		**0.22**
		19A-AE109D-092019-1	9/20/2019	Normal		**0.37**
	AE109R-2	18A-AE109R2-100218-1	10/2/2018	Normal	66 - 76	**4.0**
		19A-AE109R2-091819-1	9/18/2019	Normal		**3.6**
	AE109R-5	16A-AE109R5-061616-1	6/16/2016	Normal	183 - 189	**4.8**
		17A-AE109R5-101017-1	10/10/2017	Normal		**3**
		18A-AE109R5-100218-1	10/2/2018	Normal		**2.1**
		19A-AE109R5-091819-1	9/18/2019	Normal		**1.4**
	AE109R-7	16A-AE109R7-061616-1	6/16/2016	Normal	204 - 214	**6.5**
		17A-AE109R7-101017-1	10/10/2017	Normal		**1.6**
		18A-AE109R7-100218-1	10/2/2018	Normal		**1.4**
		19A-AE109R7-091819-1	9/18/2019	Normal		**1.5**
		19A-AE109R7-091819-2	9/18/2019	Duplicate		**1.6**

Table 5-3
Summary of 2016 - 2019 Groundwater Analytical Results for 1,4-Dioxane
Former GE Facility, 50 Fordham Road, Wilmington, MA

Location Group	Location ID	Sample ID	Sample Date	Sample Type	Depth Interval (ft)	1,4-Dioxane via 8270 SIM (µg/l)
				MCP Method 1 GW-1 Standard:		0.3
				MCP Method 1 GW-2 Standard:		6,000
				MCP Method 1 GW-3 Standard:		50,000
				MCP Upper Concentration Limit (UCL):		100,000
	AE110R-6	16A-AE110R6-061716-1	6/17/2016	Normal	190 - 200	**8.0 J**
		17A-AE110R6-101117-1	10/11/2017	Normal		**1.4**
		18A-AE110R6-092518-1	9/25/2018	Normal		**1.4**
		19A-AE110R6-091319-1	9/13/2019	Normal		**1.3**
Transect B	AE105D	16A-AE105D-062216-1	6/22/2016	Normal	73 - 78	**1.4**
		17A-AE105D-101217-1	10/12/2017	Normal		**1.3**
		18A-AE105D-100318-1	10/3/2018	Normal		**2.0**
		19A-AE105D-091619-1	9/16/2019	Normal		**1.4**
	AE105R-2	16A-AE105R2-062016-1	6/20/2016	Normal	98 - 103	**3.6**
		17A-AE105R2-101217-1	10/12/2017	Normal		**6.1 J**
		18A-AE105R2-100318-1	10/3/2018	Normal		**5.8**
		19A-AE105R2-091619-1	9/16/2019	Normal		**5.9**
	AE105R-4	17A-AE105R4-101217-1	10/12/2017	Normal	125 - 130	**5.9**
		18A-AE105R4-100318-1	10/3/2018	Normal		**6.3**
		19A-AE105R4-091619-1	9/16/2019	Normal		**5.3**
	AE106R-5	17A-AE106R5-101217-1	10/12/2017	Normal	164 - 169	**0.4**
		18A-AE106R5-100318-1	10/3/2018	Normal		**0.37**
		19A-AE106R5-091619-1	9/16/2019	Normal		**0.27**
Transect C	STM-8D	16A-STM8D-063016-1	6/30/2016	Normal	34.7 - 39.7	**0.35**
		17A-STM8D-101117-1	10/11/2017	Normal		**0.78**
		18A-STM8D-092818-1	9/28/2018	Normal		**0.76**
		19A-STM8D-092619-1	9/26/2019	Normal		**0.44**
	STM-8R	16A-STM8R-063016-1	6/30/2016	Normal	46.5 - 51.5	**0.4**
		17A-STM8R-101117-1	10/11/2017	Normal		**0.82**
		18A-STM8R-092818-1	9/28/2018	Normal		**0.81**
		19A-STM8R-092619-1	9/26/2019	Normal		0.20 U
	STM-8R1	16A-STM8R1-062816-1	6/28/2016	Normal	85 - 90	0.20 U
		17A-STM8R1-101717-1	10/17/2017	Normal		**0.29**
		17A-STM8R1-101717-2	10/17/2017	Duplicate		**0.29**
		18A-STM8R1-100218-1	10/2/2018	Normal		**0.40**
		19A-STM8R1-092619-1	9/26/2019	Normal		**0.28**

Notes:
U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Building 1_TankF										
					Location ID:	AE23R	AE23R	AE23R	AE23R	AE26R-1	AE26R-1	AE26R-1	AE26R-1	AE28R-2	AE28R-2	AE28R-2
					Sample ID:	16B-AE23R-062716-1	17A-AE23R-101317-1	18A-AE23R-091918-1	19A-AE23R-092319-1	16B-AE26R1-062316-1	17A-AE26R1-100417-1	18A-AE26R1-091818-1	19A-AE26R1-092319-1	16B-AE28R2-062316-1	17A-AE28R2-100417-1	18A-AE28R2-091818-1	19A-AE28R2-092319-1
					Sample Date:	6/27/2016	10/13/2017	9/19/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	44.75 - 54.75 ft	44.75 - 54.75 ft	44.75 - 54.75 ft	44.75-54.75 ft	50 - 56 ft	50 - 56 ft	50 - 56 ft	50-56 ft	75 - 85 ft	75 - 85 ft	75 - 85 ft	75-85 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**													
EPH (ug/l)																	
2-Methylnaphthalene	10	2000	20000	100000	5.05 U	5.00 U	5.00 U	0.47 U	5.21 U	5.05 U	4.85 U	0.47 U	5.21 U	4.90 U	5.10 U	0.47 U
Acenaphthene	20		10000	100000	5.05 U	5.00 U	5.00 U	0.47 U	5.21 U	5.05 U	4.85 U	0.47 U	5.21 U	4.90 U	5.10 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Anthracene	60		30	600	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.05 U	5.00 U	5.00 U	0.19 U	5.21 U	5.05 U	4.85 U	0.19 U	5.21 U	4.90 U	5.10 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.05 U	5.00 U	5.00 U	0.02 U	5.21 U	5.05 U	4.85 U	0.02 U	5.21 U	4.90 U	5.10 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	101 U	100 U	100 U	190 U	104 U	101 U	97.1 U	190 U	104 U	98.0 U	102 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	101 U	100 U	100 U	190 U	104 U	101 U	97.1 U	190 U	104 U	98.0 U	102 U	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	101 U	100 U	100 UJ	190 UJ	104 U	101 U	97.1 UJ	190 UJ	104 U	98.0 U	102 UJ	190 UJ
Chrysene	**2**		70	700	5.05 U	5.00 U	5.00 U	0.05 U	5.21 U	5.05 U	4.85 U	0.05 U	5.21 U	4.90 U	5.10 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.05 U	5.00 U	5.00 U	0.02 U	5.21 U	5.05 U	4.85 U	0.02 U	5.21 U	4.90 U	5.10 U	0.02 U
Fluoranthene	90		200	2000	5.05 U	5.00 U	5.00 U	0.47 U	5.21 U	5.05 U	4.85 U	0.47 U	5.21 U	4.90 U	5.10 U	0.47 U
Fluorene	30		40	400	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.05 U	5.00 U	5.00 U	0.09 U	5.21 U	5.05 U	4.85 U	0.09 U	5.21 U	4.90 U	5.10 U	0.09 U
Naphthalene	140	700	20000	100000	5.05 U	5.00 U	5.00 U	**1.1**	5.21 UJ	5.05 U	4.85 U	0.47 U	5.21 U	4.90 U	5.10 U	**0.87**
Phenanthrene	40		10000	100000	5.05 U	5.00 U	5.00 U	0.47 U	5.21 U	5.05 U	4.85 U	0.47 U	5.21 U	4.90 U	5.10 U	0.47 U
Pyrene	60		20	600	5.05 U	5.00 U	5.00 U	0.07 U	5.21 U	5.05 U	4.85 U	0.07 U	5.21 U	4.90 U	5.10 U	0.07 U
VPH (ug/l)																	
Benzene	5	1000	10000	100000	2000 U	100 U	50.0 U	1.0 U	5.00 U	5.00 U	1.00 U	1.0 U	5.00 U	20.0 U	1.00 U	5 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	**107000 J+**	**65800 J+**	**51800 J+**	**70000**	**179 J+**	375 U	**339 J+**	**360**	**4950 J+**	**7920 J+**	**2690 J+**	**11000**
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	10000 U	2500 U	1250 U	100 U	25.0 U	125 U	25.0 U	100 U	**48.8**	500 U	**51.6**	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	10000 U	2500 U	1250 U	100 U	25.0 U	125 U	25.0 U	100 U	25.0 U	500 U	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	2000 U	100 U	50.0 U	1.0 U	5.00 U	5.00 U	1.00 U	1.0 U	5.00 U	20.0 U	**5.99**	5 U
M, P XYLENES	10000	3000	5000	100000	4000 U	200 U	100 U	**33**	10.0 U	10.0 U	2.00 U	2.0 U	10.0 U	40.0 U	**7.52**	10 U
Methyl Tert-Butyl Ether				100000	2000 U	100 U	50.0 U	1.0 U	5.00 U	5.00 UJ	1.00 U	1.0 U	5.00 UJ	20.0 UJ	1.00 U	5 U
Naphthalene	140	700	20000	100000	2000 U	100 U	50.0 U	5.0 U	5.00 UJ	5.00 U	1.00 U	5.0 U	5.00 U	20.0 U	**1.56**	5.0 U
o-Xylene	10000	3000	5000	100000	2000 U	100 U	50.0 U	**12**	5.00 U	5.00 U	1.00 U	1.0 U	5.00 UJ	20.0 U	1.00 U	5 U
Toluene	**1000**	50000	40000	100000	**3320**	**4540**	**4060**	**4000**	**17.3**	5.00 U	1.00 U	1.0 U	**14.4**	20.0 U	**13.4**	10 U
Xylenes (Total)	10000	3000	5000	100000	4000 U	NS	NS	**1000**	10 U	NS	NS	**5**	10 U	NS	NS	**100**
Total Petroleum					**110280**	**70460**	**51800**	**74000**	**199.7**	375 U	**339**	**360**	**4998.8**	**7920**	**2741.6**	**11000**
CALCULATED XYLENES					NS	NS	NS	NS	NS	NS	**2**	NS	NS	NS	**7.52**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Building 1_TankF (continued)				EPL						
Location Group:															
Location ID:					AE29R-6	AE29R-6	AE29R-6	AE29R-6	AE03	AE03	AE03	AE03	AE03	AE03	AE03
Sample ID:					16B-AE29R6-062816-1	17A-AE29R6-101717-1	18A-AE29R6-091818-1	19A-AE29R6-092419-1	16A-AE03-062816-1	16A-AE03-062816-2	17A-AE03-100917-1	18A-AE03-092418-1	18A-AE03-092418-2	19A-AE03-091219-1	19A-AE03-091219-2
Sample Date:					6/28/2016	10/17/2017	9/18/2018	9/24/2019	6/28/2016	6/28/2016	10/9/2017	9/24/2018	9/24/2018	9/12/2019	9/12/2019
Sample Type:					N	N	N	N	N	FD	N	N	FD	N	FD
Depth Interval:					140 - 146 ft	140 - 146 ft	140 - 146 ft	140-146 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3-13 ft	3-13 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**											
EPH (ug/l)															
2-Methylnaphthalene	10	2000	20000	100000	5.10 U	4.85 U	4.85 U	0.47 U	5.15 UJ	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	**3.3**	**3.2**
Acenaphthene	20		10000	100000	5.10 U	4.85 U	4.85 U	0.47 U	5.15 U	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	0.47 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Anthracene	60		30	600	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.10 U	4.85 U	4.85 U	0.19 U	5.15 U	5.10 U	4.85 UJ	**10.1 J-**	**11.0 J-**	0.19 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.10 U	4.85 U	4.85 U	0.02 U	5.15 U	5.10 U	4.85 UJ	**9.36 J-**	**11.3 J-**	0.02 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.09 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	102 U	97.1 U	97.1 U	190 U	103 U	102 U	97.1 U	97.1 U	97.1 U	190 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	102 U	97.1 U	97.1 U	190 U	103 U	102 U	97.1 U	97.1 U	97.1 U	190 U	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	102 U	97.1 U	97.1 UJ	190 U	**105**	**173**	97.1 U	97.1 UJ	97.1 UJ	190 U	190 U
Chrysene	**2**		70	700	5.10 U	4.85 U	4.85 U	0.05 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.05 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.10 U	4.85 U	4.85 U	0.02 U	5.15 U	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	0.02 U	0.02 U
Fluoranthene	90		200	2000	5.10 U	4.85 U	4.85 U	0.47 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.47 U	0.47 U
Fluorene	30		40	400	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.10 U	4.85 U	4.85 U	0.09 U	5.15 U	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	0.09 U	0.09 U
Naphthalene	140	700	20000	100000	5.10 U	4.85 U	4.85 U	0.47 U	5.15 UJ	5.10 U	4.85 UJ	4.85 UJ	4.85 UJ	**5.1**	**5.0**
Phenanthrene	40		10000	100000	5.10 U	4.85 U	4.85 U	0.47 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.47 U	0.47 U
Pyrene	60		20	600	5.10 U	4.85 U	4.85 U	0.07 U	5.15 U	5.10 U	4.85 U	4.85 UJ	4.85 UJ	0.07 U	0.07 U
VPH (ug/l)															
Benzene	5	1000	10000	100000	5.00 U	1.00 U	1.00 U	1.0 U	5.00 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	**233 J+**	**162 J+**	**190**	75.0 U	75.0 U	75.0 UJ	**83.2 J**	**82.3 J**	100 U	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	25.0 U	25.0 U	25.0 U	100 U	**212 J+**	**230**	**363 J+**	**398**	**379**	**240**	**240**
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	25.0 U	25.0 U	25.0 U	100 U	**186**	**164**	**332 J-**	**195**	**172**	**340**	**300**
Ethylbenzene	700	20000	5000	100000	5.00 U	1.00 U	1.00 U	1.0 U	5.00 U	5.00 U	**1.53**	**1.19**	**1.01**	1.0 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	2.00 U	2.00 U	2.0 U	10.0 U	10.0 U	**2.33**	2.00 U	2.00 U	2.0 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	1.00 U	1.00 U	1.0 U	5.00 U	5.00 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	1.00 U	1.00 U	5.0 U	**8.62**	**8.94**	**13.7**	**12.8**	**12.6**	**7.9**	**8.3**
o-Xylene	10000	3000	5000	100000	5.00 U	1.00 U	1.00 U	1.0 U	5.00 U	5.00 U	**3.98**	1.00 U	1.00 U	**1.4**	**1.3**
Toluene	**1000**	50000	40000	100000	**7.06**	**2.21**	1.00 U	1.0 U	5.00 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	NS	NS	**5**	10 U	10 U	NS	NS	NS	**1**	**1**
Total Petroleum					**7.8**	**234.8**	**162**	**190**	**408.2**	**404.8**	**696.82**	**677.58**	**634.48**	**580**	**540**
CALCULATED XYLENES					NS	NS	**2**	NS	NS	NS	NS	NS	**2**	NS	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

173
230
164
8.94

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					EPL (continued)											
Location Group:																
Location ID:					AE04	AE04	AE04	AE04	AE04	AE04	GZA-102S	GZA-102S	GZA-105D	GZA-105D	GZA-105D	GZA-105D
Sample ID:					16A-AE04-061316-1	17A-AE04-100917-1	18A-AE04-092518-1	18A-AE04-092518-2	19A-AE04-091219-1	19A-AE04-091219-2	18A-GZA102S-092418-1	19A-GZA102S-091319-1	16A-GZA105D-061516-1	17A-GZA-105D-101917-	18A-GZA105D-092518-1	19A-GZA105D-091819-1
Sample Date:					6/13/2016	10/9/2017	9/25/2018	9/25/2018	9/12/2019	9/12/2019	9/24/2018	9/13/2019	6/15/2016	10/19/2017	9/25/2018	9/18/2019
Sample Type:					N	N	N	FD	N	FD	N	N	N	N	N	N
Depth Interval:					3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3-13 ft	3-13 ft	2.5 - 11.5 ft	2.5 - 11.5 ft	16 - 26 ft	16 - 26 ft	16 - 26 ft	16-26 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**												
EPH (ug/l)																
2-Methylnaphthalene	10	2000	20000	100000	5.10 U	4.90 U	4.81 U	4.85 U	4.85 U	0.47 U	5.00 U	0.47 U	5.15 U	4.95 U	4.81 U	0.47 U
Acenaphthene	20		10000	100000	5.10 U	4.90 U	4.81 U	4.85 U	0.47 U	0.47 U	5.00 U	0.47 U	5.15 U	4.95 U	4.81 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.10 U	4.90 U	4.81 U	4.85 U	0.47 U	**0.12**	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
Anthracene	60		30	600	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.09 U	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.09 U	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.19 U	5.00 U	0.19 U	5.15 U	4.95 U	4.81 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.10 U	4.90 U	4.81 U	4.85 U	0.19 U	0.09 U	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.02 U	5.00 U	0.02 U	5.15 U	4.95 U	4.81 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.10 U	4.90 U	4.81 U	4.85 U	0.02 U	0.09 U	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	102 U	98.0 U	96.2 U	97.1 U	0.09 U	190 U	100 U	190 U	103 U	**1060**	96.2 U	200 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	102 U	98.0 U	96.2 U	97.1 U	190 U	190 U	100 U	190 U	103 U	99.0 U	96.2 U	200 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	102 U	98.0 U	96.2 U	97.1 U	190 U	190 U	100 U	190 U	103 U	99.0 U	96.2 U	200 U
Chrysene	**2**		70	700	5.10 U	4.90 U	4.81 U	4.85 U	190 U	0.05 U	5.00 U	0.05 U	5.15 U	4.95 U	4.81 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.10 U	4.90 U	4.81 U	4.85 U	0.05 U	0.02 U	5.00 U	0.02 U	5.15 U	**86.3**	4.81 U	0.02 U
Fluoranthene	90		200	2000	5.10 U	4.90 U	4.81 U	4.85 U	0.02 U	0.47 U	5.00 U	0.47 U	5.15 U	4.95 U	4.81 U	0.47 U
Fluorene	30		40	400	5.10 U	4.90 U	4.81 U	4.85 U	0.47 U	0.09 U	5.00 U	0.09 U	5.15 U	4.95 U	4.81 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.09 U	5.00 U	0.09 U	5.15 U	**43.8**	4.81 U	0.09 U
Naphthalene	140	700	20000	100000	5.10 U	4.90 U	4.81 U	4.85 U	0.09 U	0.47 U	5.00 U	0.47 U	5.15 U	4.95 U	4.81 U	0.47 U
Phenanthrene	40		10000	100000	5.10 U	4.90 U	4.81 U	4.85 U	0.47 U	0.47 U	5.00 U	0.47 U	5.15 U	4.95 U	4.81 U	0.47 U
Pyrene	60		20	600	5.10 U	4.90 U	4.81 U	4.85 U	0.47 U	0.07 U	5.00 U	0.07 U	5.15 U	4.95 U	4.81 U	0.07 U
VPH (ug/l)																
Benzene	5	1000	10000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	75.0 U	75.0 U	75.0 U	100 U	100 U	75.0 U	100 U	**402 J+**	**785 J+**	**224 J+**	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	**89.6**	**55.3**	**137**	**141**	100 U	100 U	25.0 U	100 U	**59.3**	**38.5**	**28.8**	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	**61.7**	**45.8**	**56.5**	**52.6**	100 U	100 U	25.0 U	100 U	**55.9**	**34.9**	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	5.00 U	1.00 U	1.00 U	**1.00**	1.0 U	**1.5**	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	2.00 U	2.00 U	2.00 U	2.0 U	2.0 U	2.00 U	2.0 U	10.0 U	2.00 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	1.00 U	**1.72**	1.00 U	5.0 U	5.0 U	1.00 U	5.0 U	5.00 U	1.00 U	1.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	5.00 U	**1.10**	1.00 U	1.00 U	1.0 U	**1.7**	1.00 U	**1.2**	5.00 U	**1.59**	1.00 U	**1.4**
Toluene	**1000**	50000	40000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	NS	NS	NS	**1**	**1**	NS	**1**	10 U	NS	NS	**1**
Total Petroleum					**151.3**	**101.1**	**197.5**	**193.6**	1.0 U	1.0 U	75.0 U	1.0 U	**517.2**	**1918.4**	**252.8**	1.0 U
CALCULATED XYLENES					NS	NS	**2**	**2**	NS	NS	**2**	NS	NS	NS	NS	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					EPL (continued)								
Location Group:													
Location ID:					GZA-105S	GZA-105S	GZA-105S	GZA-105S	GZA-105S	PZ-2S	PZ-2S	TRC-101	TRC-101
Sample ID:					16A-GZA105S-061516-1	17A-GZA105S-100917-1	17A-GZA105S-100917-2	18A-GZA105S-092518-1	19A-GZA105S-091819-1	18A-PZ2S-092418-1	19A-PZ2S-093019-1	18A-TRC101-092418-1	19A-TRC101-091919-1
Sample Date:					6/15/2016	10/9/2017	10/9/2017	9/25/2018	9/18/2019	9/24/2018	9/30/2019	9/24/2018	9/19/2019
Sample Type:					N	N	FD	N	N	N	N	N	N
Depth Interval:					4 - 14 ft	4 - 14 ft	4 - 14 ft	4 - 14 ft	4-14 ft	3.5 - 8.5 ft	3.5 to 8.5 ft	1.5 - 10.5 ft	1.5-10.5 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**									
EPH (ug/l)													
2-Methylnaphthalene	10	2000	20000	100000	5.10 UJ	4.81 U	4.85 U	4.85 U	0.47 U	4.85 UJ	0.49 U	4.85 UJ	**0.62**
Acenaphthene	20		10000	100000	5.10 UJ	4.81 U	4.85 U	4.85 U	0.47 U	4.85 UJ	0.49 U	4.85 UJ	0.47 U
Acenaphthylene	30	10000	40	100000	5.10 UJ	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 U
Anthracene	60		30	600	5.10 U	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.09 U	4.85 UJ	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.10 U	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.10 U	4.81 U	4.85 U	4.85 U	0.19 U	**11.0 J-**	0.19 U	**11.1 J-**	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.10 UJ	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.10 U	4.81 U	4.85 U	4.85 U	0.02 U	**10.9 J-**	0.02 UJ	**11.0 J-**	**0.03**
Benzo(k)Fluoranthene	1		100	1000	5.10 U	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	102 UJ	96.2 U	97.1 U	97.1 U	200 U	97.1 U	200 U	97.1 U	200 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	102 U	96.2 U	97.1 U	97.1 U	200 U	97.1 U	200 U	97.1 U	200 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	102 U	96.2 U	97.1 U	97.1 U	200 U	97.1 UJ	200 UJ	97.1 UJ	200 U
Chrysene	**2**		70	700	5.10 U	4.81 U	4.85 U	4.85 U	0.05 U	4.85 UJ	0.05 U	4.85 UJ	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.10 U	4.81 U	4.85 U	4.85 U	0.02 U	4.85 UJ	0.02 UJ	4.85 UJ	0.02 U
Fluoranthene	90		200	2000	5.10 U	4.81 U	4.85 U	4.85 U	0.47 U	4.85 UJ	0.49 U	4.85 UJ	0.47 U
Fluorene	30		40	400	5.10 U	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.10 U	4.81 U	4.85 U	4.85 U	0.09 U	4.85 UJ	0.10 U	4.85 UJ	0.09 UJ
Naphthalene	140	700	20000	100000	5.10 UJ	4.81 U	4.85 U	4.85 U	0.47 U	4.85 UJ	0.49 U	4.85 UJ	0.47 U
Phenanthrene	40		10000	100000	5.10 U	4.81 U	4.85 U	4.85 U	0.47 U	4.85 UJ	0.49 U	4.85 UJ	0.47 U
Pyrene	60		20	600	5.10 U	4.81 U	4.85 U	4.85 U	0.07 U	4.85 UJ	0.07 U	4.85 UJ	**0.09**
VPH (ug/l)													
Benzene	5	1000	10000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	75.0 U	75.0 U	75.0 U	100 U	75.0 U	100 U	75.0 U	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	**106 J+**	**127**	**124**	**161**	100 U	**159 J-**	**100**	**272**	**220**
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	**77.9**	**127**	**125**	**112**	**150**	**107**	**160**	**131**	**280**
Ethylbenzene	700	20000	5000	100000	5.00 U	1.00 U	1.00 U	1.00 U	**1.8**	1.00 U	1.0 U	**1.15**	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	2.00 U	2.00 U	2.00 U	2.0 U	2.00 U	2.0 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.00 UJ	1.0 U	1.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	**1.08**	**1.18**	1.00 U	5.0 U	**1.10**	5.0 U	**1.59**	5.0 U
o-Xylene	10000	3000	5000	100000	5.00 U	**3.00**	**2.88**	1.00 U	1.0 U	**4.40**	**2.0**	1.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	NS	NS	NS	**1**	NS	**1**	NS	**1**
Total Petroleum					**183.9**	**254**	**249**	**273**	**150**	**266**	**260**	**403**	**500**
CALCULATED XYLENES					NS	NS	NS	**2**	NS	**4.4**	NS	**2**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					EPL (continued)							Tank Farm		Transect A			
Location Group:																	
Location ID:					TRC-102	TRC-102	TRC-102	TRC-102	TRC-102	TRC-103	TRC-103	AE100R-1	AE100R-1	AE102RR-6	AE102RR-6	AE102RR-6	AE102RR-6
Sample ID:					16A-TRC102-062716-1	16A-TRC102-062716-2	17A-TRC102-100217-1	18A-TRC102-092418-1	19A-TRC102-092019-1	18A-TRC103-092418-1	19A-TRC103-091919-1	18A-AE100R1-091918-1	19A-AE100R1-092319-1	6A-AE102RR6-061416-	17A-AE102RR6-100317-	18A-AE102RR6-091918-	19A-AE102RR6-092419-
Sample Date:					6/27/2016	6/27/2016	10/2/2017	9/24/2018	9/20/2019	9/24/2018	9/19/2019	9/19/2018	9/23/2019	6/14/2016	10/3/2017	9/19/2018	9/24/2019
Sample Type:					N	FD	N	N	N	N	N	N	N	N	N	N	N
Depth Interval:					2.25 - 12.25 ft	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25-12.25 ft	1.25 - 11.25 ft	1.25-11.25 ft	18 - 24 ft	18-24 ft	153 - 158 ft	153 - 158 ft	153 - 158 ft	153-158 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**													
EPH (ug/l)																	
2-Methylnaphthalene	10	2000	20000	100000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.47 U	4.90 U	0.47 U	4.90 U	0.49 U	5.10 U	4.90 U	5.26 U	0.47 U
Acenaphthene	20		10000	100000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.47 U	4.90 U	0.47 U	4.90 U	0.49 U	5.10 U	4.90 U	5.26 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.15 U	5.15 U	5.00 U	4.90 UJ	**0.21**	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
Anthracene	60		30	600	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.09 U	5.10 U	4.90 U	5.26 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.15 U	5.15 U	5.00 U	**9.13 J-**	0.19 U	4.90 U	0.19 U	4.90 U	0.20 U	5.10 U	4.90 U	5.26 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.15 U	5.15 U	5.00 U	**8.90 J-**	0.02 U	4.90 U	0.02 U	4.90 U	0.02 U	5.10 U	4.90 U	5.26 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	103 U	103 U	100 U	98.0 U	200 U	98.0 U	200 U	98.0 U	190 U	102 U	98.0 U	105 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	103 U	103 U	100 U	98.0 U	200 U	98.0 U	200 U	98.0 U	190 U	102 U	98.0 U	105 U	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	103 U	103 U	100 U	98.0 UJ	200 U	98.0 U	200 U	98.0 UJ	190 UJ	102 U	98.0 U	105 UJ	190 U
Chrysene	**2**		70	700	5.15 U	5.15 U	5.00 U	4.90 UJ	0.05 U	4.90 U	0.05 U	4.90 U	0.05 U	5.10 U	4.90 U	5.26 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.15 U	5.15 U	5.00 U	4.90 UJ	0.02 UJ	4.90 U	0.02 UJ	4.90 U	0.02 U	5.10 U	4.90 U	5.26 U	0.02 U
Fluoranthene	90		200	2000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.47 U	4.90 U	0.47 U	4.90 U	0.49 U	5.10 U	4.90 U	5.26 U	0.47 U
Fluorene	30		40	400	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.09 U	4.90 U	0.09 U	4.90 U	0.10 U	5.10 U	4.90 U	5.26 U	0.09 U
Naphthalene	140	700	20000	100000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.47 U	4.90 U	0.47 U	4.90 U	**1.7**	5.10 U	4.90 U	5.26 U	0.47 U
Phenanthrene	40		10000	100000	5.15 U	5.15 U	5.00 U	4.90 UJ	0.47 U	4.90 U	0.47 U	4.90 U	0.49 U	5.10 U	4.90 U	5.26 U	0.47 U
Pyrene	60		20	600	5.15 U	5.15 U	5.00 U	4.90 UJ	0.07 U	4.90 U	0.07 U	4.90 U	0.07 U	5.10 U	4.90 U	5.26 U	0.07 U
VPH (ug/l)																	
Benzene	5	1000	10000	100000	5.00 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	1.00 U	1.0 U	5.00 U	1.00 U	5.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	75.0 U	75.0 U	75.0 U	100 U	75.0 U	100 U	**393 J+**	100 U	**1350**	**1860 J+**	**2250 J+**	**2400**
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	**33.7**	**31.6**	**43.0**	**47.6**	100 U	**65.7**	100 U	**123**	**100**	25.0 U	25.0 U	125 U	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	25.0 U	25.0 U	**41.5**	25.0 U	100 U	**36.0**	100 U	25.0 U	100 U	25.0 U	25.0 U	125 U	100 U
Ethylbenzene	700	20000	5000	100000	5.00 U	5.00 U	1.00 U	1.00 U	**1.1**	1.00 U	1.0 U	**7.84**	**4.4**	5.00 U	1.00 U	5.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	10.0 U	2.00 U	2.00 U	2.0 U	2.00 U	2.0 U	2.00 U	2.0 U	10.0 U	2.00 U	10.0 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	1.00 U	1.0 U	5.00 U	1.00 U	5.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	5.00 U	1.00 U	1.00 U	5.0 U	1.00 U	5.0 U	**1.74**	5.0 U	5.00 U	1.00 U	5.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	5.00 U	5.00 U	**1.18**	1.00 U	**2.4**	**1.61**	1.0 U	**2.49**	1.0 U	5.00 U	1.00 U	5.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	5.00 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	**3.23**	**1.3**	5.00 U	1.00 U	5.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	10 U	NS	NS	**1**	NS	**1**	NS	**1**	10 U	NS	NS	**20**
Total Petroleum					**33.7**	**31.6**	**84.5**	**47.6**	1.0 U	**101.7**	1.0 U	**516**	**106.1**	**1350**	**1860**	**2250**	**2400**
CALCULATED XYLENES					NS	NS	NS	**2**	NS	**1.61**	NS	NS	NS	NS	NS	**5**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Transect A (continued)											
Location Group:																
Location ID:					AE103R-1	AE103R-1	AE103R-1	AE103R-1	AE104R-4	AE104R-4	AE104R-4	AE104R-4	AE109R-5	AE109R-5	AE109R-5	AE109R-5
Sample ID:					16A-AE103R1-061516-1	17A-AE103R1-100217-1	18A-AE103R1-092518-1	19A-AE103R1-091819-1	16A-AE104R4-061416-1	17A-AE104R4-100317-1	18A-AE104R4-092618-1	19A-AE104R4-091819-1	16A-AE109R5-061616-1	17A-AE109R5-101017-1	18A-AE109R5-100218-1	19A-AE109R5-091819-1
Sample Date:					6/15/2016	10/2/2017	9/25/2018	9/18/2019	6/14/2016	10/3/2017	9/26/2018	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019
Sample Type:					N	N	N	N	N	N	N	N	N	N	N	N
Depth Interval:					48 - 53 ft	48 - 53 ft	48 - 53 ft	48-53 ft	128 - 133 ft	128 - 133 ft	128 - 133 ft	128-133 ft	183 - 189 ft	183 - 189 ft	183 - 189 ft	183-189 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**												
EPH (ug/l)																
2-Methylnaphthalene	10	2000	20000	100000	5.10 U	4.90 U	4.85 U	0.47 U	5.26 U	5.00 U	5.00 U	0.47 U	5.15 U	4.90 U	4.85 U	0.47 U
Acenaphthene	20		10000	100000	5.10 U	4.90 U	4.85 U	0.47 U	5.26 U	5.00 U	5.00 U	0.47 U	5.15 U	4.90 U	4.85 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	0.09 U
Anthracene	60		30	600	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	**0.13**
Benzo(a)Pyrene	**0.2**		500	5000	5.10 U	4.90 U	4.85 U	0.19 U	5.26 U	5.00 U	5.00 U	0.19 U	5.15 U	4.90 U	4.85 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	**0.19**
Benzo(g,h,i)Perylene	50		20	500	5.10 U	4.90 U	4.85 U	0.02 U	5.26 U	5.00 U	5.00 U	0.02 U	5.15 U	4.90 U	4.85 U	**0.12**
Benzo(k)Fluoranthene	1		100	1000	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	**0.14**
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	102 U	98.0 U	97.1 U	200 U	105 U	100 U	100 U	200 U	103 U	**332**	97.1 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	102 U	98.0 U	97.1 U	200 U	105 U	100 U	100 U	200 U	103 U	98.0 U	97.1 U	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	102 U	98.0 U	97.1 U	200 U	105 U	100 U	100 UJ	200 U	103 U	98.0 U	97.1 U	190 U
Chrysene	**2**		70	700	5.10 U	4.90 U	4.85 U	0.05 U	5.26 U	5.00 U	5.00 U	0.05 U	5.15 U	4.90 U	4.85 U	**0.18**
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.10 U	4.90 U	4.85 U	0.02 U	5.26 U	5.00 U	5.00 U	0.02 U	5.15 U	4.90 U	4.85 U	**0.03**
Fluoranthene	90		200	2000	5.10 U	4.90 U	4.85 U	0.47 U	5.26 U	5.00 U	5.00 U	0.47 U	5.15 U	4.90 U	4.85 U	0.47 U
Fluorene	30		40	400	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.10 U	4.90 U	4.85 U	0.09 U	5.26 U	5.00 U	5.00 U	0.09 U	5.15 U	4.90 U	4.85 U	**0.14**
Naphthalene	140	700	20000	100000	5.10 U	4.90 U	4.85 U	0.47 U	5.26 U	5.00 U	5.00 U	0.47 U	5.15 U	4.90 U	4.85 U	0.47 U
Phenanthrene	40		10000	100000	5.10 U	4.90 U	4.85 U	0.47 U	5.26 U	5.00 U	5.00 U	0.47 U	5.15 U	4.90 U	4.85 U	0.47 U
Pyrene	60		20	600	5.10 U	4.90 U	4.85 U	0.07 U	5.26 U	5.00 U	5.00 U	0.07 U	5.15 U	4.90 U	4.85 U	**0.26**
VPH (ug/l)																
Benzene	5	1000	10000	100000	20.0 U	1.00 U	1.00 U	1.0 U	10.0 U	1.00 U	R	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	**1150 J+**	**1040 J+**	**811 J+**	**800**	**2020**	**1560 J+**	**2080 J**	**2200**	**324 J+**	**283 J+**	**329 J+**	**240**
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	100 U	25.0 U	25.0 U	100 U	50.0 U	25.0 U	R	100 U	**28.9**	25.0 U	25.0 U	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	100 U	25.0 U	25.0 U	100 U	50.0 U	25.0 U	R	100 U	25.0 U	25.0 U	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	20.0 U	1.00 U	1.00 U	1.0 U	10.0 U	1.00 U	R	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	40.0 U	2.00 U	2.00 U	2.0 U	20.0 U	2.00 U	R	2.0 U	10.0 U	2.00 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	20.0 U	1.00 UJ	1.00 U	1.0 U	10.0 U	1.00 U	R	1.0 U	5.00 U	1.00 UJ	1.00 U	1.0 U
Naphthalene	140	700	20000	100000	20.0 U	1.00 U	1.00 U	5.0 U	10.0 U	1.00 U	R	5.0 U	5.00 U	1.00 U	1.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	20.0 U	1.00 U	1.00 U	1.0 U	10.0 U	1.00 U	R	1.0 U	5.00 U	1.00 U	1.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	20.0 U	1.00 U	1.00 U	1.0 U	10.0 U	1.00 U	R	**3.4**	**12.1**	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	40 U	NS	NS	**20**	20 U	NS	NS	**50**	10 U	NS	NS	**5**
Total Petroleum					**1150**	**1040**	**811**	**800**	**2020**	**1560**	**2080**	**2200**	**364.3**	**615**	**329**	**240**
CALCULATED XYLENES					NS	NS	**2**	NS	NS	NS	NS	NS	NS	NS	**2**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Transect A (continued)				Transect B						
Location Group:															
Location ID:					EMW-11R2	EMW-11R2	EMW-11R2	EMW-11R2	AE105R-2	AE105R-2	AE105R-2	AE105R-2	AE105R-4	AE105R-4	AE105R-4
Sample ID:					16A-EMW11R2-062116-1	17A-EMW11R2-101017-1	18A-EMW11R2-092418-1	19A-EMW11R2-091719-1	16A-AE105R2-062016-1	17A-AE105R2-101217-1	18A-AE105R2-100318-1	19A-AE105R2-091619-1	17A-AE105R4-101217-1	18A-AE105R4-100318-1	19A-AE105R4-091619-1
Sample Date:					6/21/2016	10/10/2017	9/24/2018	9/17/2019	6/20/2016	10/12/2017	10/3/2018	9/16/2019	10/12/2017	10/3/2018	9/16/2019
Sample Type:					N	N	N	N	N	N	N	N	N	N	N
Depth Interval:					104 - 114 ft	104 - 114 ft	104 - 114 ft	104-114 ft	98 - 103 ft	98 - 103 ft	98 - 103 ft	98-103 ft	125 - 130 ft	125 - 130 ft	125-130 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**											
EPH (ug/l)															
2-Methylnaphthalene	10	2000	20000	100000	5.10 U	4.90 U	4.90 UJ	0.47 U	5.15 U	4.95 U	4.85 U	0.47 U	4.95 U	4.85 U	0.47 U
Acenaphthene	20		10000	100000	5.10 U	4.90 U	4.90 UJ	0.47 U	5.15 U	4.95 U	4.85 U	0.47 U	**5.04**	4.85 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.10 U	4.90 U	4.90 UJ	0.09 UJ	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Anthracene	60		30	600	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.10 U	4.90 U	**13.6 J-**	0.19 U	5.15 U	4.95 U	4.85 U	0.19 U	4.95 U	4.85 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.10 U	4.90 U	**13.6 J-**	0.02 U	5.15 U	4.95 U	4.85 U	0.02 U	4.95 U	4.85 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	102 U	**248**	98.0 U	190 U	103 U	99.0 U	97.1 U	190 U	**108**	97.1 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	102 U	98.0 U	98.0 U	190 U	103 U	99.0 U	97.1 UJ	190 U	99.0 U	97.1 UJ	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	102 U	98.0 U	98.0 UJ	190 U	103 U	99.0 U	97.1 UJ	190 U	99.0 U	97.1 UJ	190 U
Chrysene	**2**		70	700	5.10 U	4.90 U	4.90 UJ	0.05 U	5.15 U	4.95 U	4.85 U	0.05 U	4.95 U	4.85 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.10 U	4.90 U	4.90 UJ	0.02 U	5.15 U	4.95 U	4.85 U	0.02 U	4.95 U	4.85 U	0.02 U
Fluoranthene	90		200	2000	5.10 U	4.90 U	4.90 UJ	0.47 U	5.15 U	4.95 U	4.85 U	0.47 U	4.95 U	4.85 U	0.47 U
Fluorene	30		40	400	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.10 U	4.90 U	4.90 UJ	0.09 U	5.15 U	4.95 U	4.85 U	0.09 U	4.95 U	4.85 U	0.09 U
Naphthalene	140	700	20000	100000	5.10 U	4.90 U	4.90 UJ	0.47 U	5.15 U	4.95 U	4.85 U	0.47 U	4.95 U	4.85 U	0.47 U
Phenanthrene	40		10000	100000	5.10 U	4.90 U	4.90 UJ	0.47 U	5.15 U	4.95 U	4.85 U	0.47 U	4.95 U	4.85 U	0.47 U
Pyrene	60		20	600	5.10 U	4.90 U	4.90 UJ	0.07 U	5.15 U	4.95 U	4.85 U	0.07 U	4.95 U	4.85 U	0.07 U
VPH (ug/l)															
Benzene	5	1000	10000	100000	50.0 U	10.0 U	1.00 U	2.0 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	**5020 J+**	**3830 J+**	37500 U	**4000**	**106 J+**	**90.8 J+**	75.0 U	100 U	**92.1 J+**	**83.6 J+**	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	250 U	250 U	12500 U	200 U	25.0 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	250 U	250 U	12500 U	200 U	25.0 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	50.0 U	10.0 U	1.00 U	2.0 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	100 U	20.0 U	2.00 U	4.0 U	10.0 U	2.00 U	2.00 U	2.0 U	2.00 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	50.0 U	10.0 UJ	1.00 U	2.0 U	5.00 U	**2.48**	**1.97**	**2.4**	**2.42**	**2.35**	**2.6**
Naphthalene	140	700	20000	100000	50.0 U	10.0 U	1.00 U	10 U	5.00 U	1.00 U	1.00 U	5.0 U	1.00 U	1.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	50.0 U	10.0 U	1.00 U	2.0 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	50.0 U	10.0 U	1.00 U	2.0 U	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	100 U	NS	NS	**100**	10 U	NS	NS	**1**	NS	NS	**2**
Total Petroleum					**5020**	**4078**	37500 U	**4000**	**106**	**90.8**	75.0 U	1.0 U	**200.1**	**83.6**	2.0 U
CALCULATED XYLENES					NS	NS	**2**	NS	NS	NS	**2**	NS	NS	**2**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Transect B (continued)							Transect B-1/2				
Location Group:																
Location ID:					AE106R-3	AE106R-3	AE106R-3	AE106R-3	AE106R-5	AE106R-5	AE106R-5	AE112R-6	AE112R-6	AE112R-6	AE112R-6	AE112R-6
Sample ID:					16A-AE106R3-062016-1	17A-AE106R3-101217-1	18A-AE106R3-100318-1	19A-AE106R3-091619-1	17A-AE106R5-101217-1	18A-AE106R5-100318-1	19A-AE106R5-091619-1	16B-AE112R6-062116-1	17A-AE112R6-101717-1	18A-AE112R6-092618-1	18A-AE112R6-092618-2	19A-AE112R6-091319-1
Sample Date:					6/20/2016	10/12/2017	10/3/2018	9/16/2019	10/12/2017	10/3/2018	9/16/2019	6/21/2016	10/17/2017	9/26/2018	9/26/2018	9/13/2019
Sample Type:					N	N	N	N	N	N	N	N	N	N	FD	N
Depth Interval:					84 - 88 ft	84 - 88 ft	84 - 88 ft	84-88 ft	164 - 169 ft	164 - 169 ft	164-169 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153-163 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**												
EPH (ug/l)																
2-Methylnaphthalene	10	2000	20000	100000	5.21 U	5.00 U	4.95 U	0.47 U	5.00 U	4.90 U	0.47 U	5.15 U	4.85 U	4.95 U	5.00 U	0.47 U
Acenaphthene	20		10000	100000	5.21 U	5.00 U	4.95 U	0.47 U	5.00 U	4.90 U	0.47 U	5.15 U	4.85 U	4.95 U	5.00 U	0.47 U
Acenaphthylene	30	10000	40	100000	5.21 U	5.00 U	4.95 U	0.09 UJ	5.00 U	4.90 U	0.09 UJ	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Anthracene	60		30	600	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Benzo(a)Pyrene	**0.2**		500	5000	5.21 U	5.00 U	4.95 U	0.19 U	5.00 U	4.90 U	0.19 U	5.15 U	4.85 U	4.95 U	5.00 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Benzo(g,h,i)Perylene	50		20	500	5.21 U	5.00 U	4.95 U	0.02 U	5.00 U	4.90 U	0.02 U	5.15 U	4.85 U	4.95 U	5.00 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	104 U	100 U	99.0 U	190 U	100 U	**220**	190 U	103 U	**102**	99.0 U	100 U	200 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	104 U	100 U	99.0 UJ	190 U	100 U	98.0 UJ	190 U	103 U	97.1 U	99.0 UJ	100 UJ	200 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	104 U	100 U	99.0 UJ	190 U	100 U	98.0 UJ	190 U	103 U	97.1 U	99.0 UJ	100 UJ	200 U
Chrysene	**2**		70	700	5.21 U	5.00 U	4.95 U	0.05 U	5.00 U	4.90 U	0.05 U	5.15 U	4.85 U	4.95 U	5.00 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	5.21 U	5.00 U	4.95 U	0.02 U	5.00 U	4.90 U	0.02 U	5.15 U	4.85 U	4.95 U	5.00 U	0.02 U
Fluoranthene	90		200	2000	5.21 U	5.00 U	4.95 U	0.47 U	5.00 U	4.90 U	0.47 U	5.15 U	4.85 U	4.95 U	5.00 U	0.47 U
Fluorene	30		40	400	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	5.21 U	5.00 U	4.95 U	0.09 U	5.00 U	4.90 U	0.09 U	5.15 U	4.85 U	4.95 U	5.00 U	0.09 U
Naphthalene	140	700	20000	100000	5.21 U	5.00 U	4.95 U	0.47 U	5.00 U	4.90 U	0.47 U	5.15 U	4.85 U	4.95 U	5.00 U	0.47 U
Phenanthrene	40		10000	100000	5.21 U	5.00 U	4.95 U	0.47 U	5.00 U	4.90 U	0.47 U	5.15 U	4.85 U	4.95 U	5.00 U	0.47 U
Pyrene	60		20	600	5.21 U	5.00 U	4.95 U	0.07 U	5.00 U	4.90 U	0.07 U	5.15 U	4.85 U	4.95 U	5.00 U	0.07 U
VPH (ug/l)																
Benzene	5	1000	10000	100000	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	75.0 U	75.0 U	100 U	75.0 U	75.0 U	100 U	75.0 U	75.0 U	75.0 U	75.0 U	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	25.0 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	25.0 U	25.0 U	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	25.0 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	100 U	25.0 U	25.0 U	25.0 U	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	2.00 U	2.00 U	2.0 U	2.00 U	2.00 U	2.0 U	10.0 U	2.00 U	2.00 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	1.00 U	1.00 U	5.0 U	1.00 U	1.00 U	5.0 U	5.00 U	1.00 U	1.00 U	1.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	5.00 U	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	**7.30**	1.00 U	1.00 U	1.0 U	1.00 U	1.00 U	1.0 U	**23.5**	**15.2**	**3.55 J**	**4.90 J**	**1.7**
Xylenes (Total)	10000	3000	5000	100000	10 U	NS	NS	**1**	NS	NS	**1**	10 U	NS	NS	NS	**1**
Total Petroleum					**8.9**	75.0 U	75.0 U	1.0 U	75.0 U	**220**	1.0 U	**34.2**	**115.7**	**4.05**	**3.18**	**1.5**
CALCULATED XYLENES					NS	NS	**2**	NS	NS	**2**	NS	NS	NS	**2**	**2**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-4
Summary of 2016 - 2019 Groundwater Analytical Results for Petroleum Hydrocarbons
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Transect C				
Location Group:									
Location ID:					STM-8R1	STM-8R1	STM-8R1	STM-8R1	STM-8R1
Sample ID:					16A-STM8R1-062816-1	17A-STM8R1-101717-1	17A-STM8R1-101717-2	18A-STM8R1-100218-1	19A-STM8R1-092619-1
Sample Date:					6/28/2016	10/17/2017	10/17/2017	10/2/2018	9/26/2019
Sample Type:					N	N	FD	N	N
Depth Interval:					85 - 90 ft	85 - 90 ft	85 - 90 ft	85 - 90 ft	85-90 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**	**Upper Concentration**					
EPH (ug/l)									
2-Methylnaphthalene	10	2000	20000	100000	4.85 U	4.95 U	4.85 U	4.85 U	0.48 U
Acenaphthene	20		10000	100000	4.85 U	4.95 U	4.85 U	4.85 U	0.48 U
Acenaphthylene	30	10000	40	100000	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
Anthracene	60		30	600	4.85 U	4.95 U	4.85 U	4.85 U	0.09 U
Benzo(a)Anthracene	**1**		1000	10000	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
Benzo(a)Pyrene	**0.2**		500	5000	4.85 U	4.95 U	4.85 U	4.85 U	0.19 U
Benzo(b)Fluoranthene	1		400	4000	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
Benzo(g,h,i)Perylene	50		20	500	4.85 U	4.95 U	4.85 U	4.85 U	0.02 U
Benzo(k)Fluoranthene	1		100	1000	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
C11-C22 Aromatic Hydrocarbons	**200**	50000	5000	100000	97.1 U	**115**	**119**	97.1 U	190 U
C19-C36 Aliphatic Hydrocarbons	14000		50000	100000	97.1 U	99.0 U	97.1 U	97.1 U	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	97.1 U	99.0 U	97.1 U	97.1 U	190 UJ
Chrysene	**2**		70	700	4.85 U	4.95 U	4.85 U	4.85 U	0.05 U
Dibenzo(a,h)Anthracene	**0.5**		**40**	400	4.85 U	4.95 U	4.85 U	4.85 U	0.02 U
Fluoranthene	90		200	2000	4.85 U	4.95 U	4.85 U	4.85 U	0.48 U
Fluorene	30		40	400	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
Indeno(1,2,3-cd)Pyrene	**0.5**		100	1000	4.85 U	4.95 U	4.85 U	4.85 U	0.10 U
Naphthalene	140	700	20000	100000	4.85 U	4.95 U	4.85 U	4.85 U	0.48 U
Phenanthrene	40		10000	100000	4.85 U	4.95 U	4.85 U	4.85 U	0.48 U
Pyrene	60		20	600	4.85 U	4.95 U	4.85 U	4.85 U	0.07 U
VPH (ug/l)									
Benzene	5	1000	10000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	**50000**	100000	75.0 U	75.0 U	75.0 U	75.0 U	100 U
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	25.0 U	25.0 U	25.0 U	25.0 U	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	25.0 U	25.0 U	25.0 U	25.0 U	100 U
Ethylbenzene	700	20000	5000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
M, P XYLENES	10000	3000	5000	100000	10.0 U	2.00 U	2.00 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether				100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.00 U	1.00 U	1.00 U	1.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
Toluene	**1000**	50000	40000	100000	5.00 U	1.00 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	NS	NS	NS	**1**
Total Petroleum					75.0 U	**115**	**119**	75.0 U	1.0 U
CALCULATED XYLENES					NS	NS	NS	**2**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
Detects are bolded
Criteria exceedances are highlighted

Table 5-5
Groundwater Mann Kendall Trend Tests for Petroleum Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE03	Ethylbenzene	8	7	-24	-24	8	Downward Trend	12	Downward Trend
AE03	Naphthalene	8	8	-20	-20	8	Downward Trend	12	Downward Trend
AE03	Calculated VPH	7	7	-15	-15	7	Downward Trend	11	Downward Trend
AE04	Calculated VPH	7	7	-13	-13	7	Downward Trend	11	Downward Trend
AE100R-1	Ethylbenzene	6	5	-3	-3	7	Not Significant	9	Not Significant
AE100R-1	Toluene	6	5	-11	-11	7	Downward Trend	9	Downward Trend
AE100R-1	Xylenes (Total)	6	4	-5	-5	7	Not Significant	9	Not Significant
AE100R-1	Naphthalene	6	5	-3	-3	7	Not Significant	9	Not Significant
AE102RR-6	Calculated VPH	4	3	0	0		No Trend		No Trend
AE103R-1	Calculated VPH	4	3	-6	-6	4	Downward Trend	6	Downward Trend
AE104R-4	Calculated VPH	4	4	4	4	4	Upward Trend	6	Not Significant
AE105D	Methyl Tert-Butyl Ether	6	3	10	10	7	Upward Trend	9	Upward Trend
AE105R-2	Methyl Tert-Butyl Ether	6	3	6	6	7	Not Significant	9	Not Significant
AE105R-2	Calculated VPH	4	4	-4	-4	4	Downward Trend	6	Not Significant
AE105R-4	Methyl Tert-Butyl Ether	6	3	6	6	7	Not Significant	9	Not Significant
AE105S	Methyl Tert-Butyl Ether	6	3	8	8	7	Upward Trend	9	Not Significant
AE106R-1	Toluene	6	3	-12	-12	7	Downward Trend	9	Downward Trend
AE106R-3	Toluene	6	3	-8	-8	7	Downward Trend	9	Not Significant
AE106S	Methyl Tert-Butyl Ether	6	6	-15	-15	7	Downward Trend	9	Downward Trend
AE108R-1	Toluene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE108R-5	Toluene	6	3	-10	-10	7	Downward Trend	9	Downward Trend
AE109R-5	Calculated VPH	4	3	-4	-4	4	Downward Trend	6	Not Significant
AE110R-6	Toluene	4	3	-4	-4	4	Downward Trend	6	Not Significant
AE111R-1	Toluene	5	3	-7	-7	6	Downward Trend	8	Not Significant
AE111R-3	Toluene	5	5	-4	-4	6	Not Significant	8	Not Significant
AE111R-5	Toluene	5	5	-4	-4	6	Not Significant	8	Not Significant
AE111R-6	Toluene	5	3	-3	-3	6	Not Significant	8	Not Significant
AE112R-3	Toluene	5	4	-8	-8	6	Downward Trend	8	Downward Trend
AE112R-6	Toluene	5	5	-10	-10	6	Downward Trend	8	Downward Trend
AE112R-6	Calculated VPH	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE23R	Toluene	8	6	13	13	8	Upward Trend	12	Upward Trend
AE23R	Calculated VPH	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE28R-2	Calculated VPH	4	3	-4	-4	4	Downward Trend	6	Not Significant
AE29R-6	Toluene	6	4	-8	-8	7	Downward Trend	9	Not Significant
AE29R-6	Calculated VPH	4	3	0	0		No Trend		No Trend
EMW-11R2	Calculated VPH	4	3	0	0		No Trend		No Trend

Table 5-5
Groundwater Mann Kendall Trend Tests for Petroleum Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
GZA-101R	Toluene	21	8	-113	-3.417	0.8416	Downward Trend	1.282	Downward Trend
GZA-105D	Xylenes (Total)	34	3	61	0.8986	0.8416	Upward Trend	1.282	Not Significant
GZA-105D	Calculated VPH	4	4	-4	-4	4	Downward Trend	6	Not Significant
GZA-105R	Toluene	30	3	-5	-0.07216	0.8416	Not Significant	1.282	Not Significant
GZA-105S	Calculated VPH	10	7	-4	-4	11	Not Significant	17	Not Significant
MW-4	Methyl Tert-Butyl Ether	8	8	6	6	8	Not Significant	12	Not Significant
PS-1D	Methyl Tert-Butyl Ether	15	15	-77	-3.77	0.8416	Downward Trend	1.282	Downward Trend
PS-1S	Methyl Tert-Butyl Ether	8	7	2	2	8	Not Significant	12	Not Significant
PS-2D	Methyl Tert-Butyl Ether	7	4	-11	-11	7	Downward Trend	11	Downward Trend
PS-5D	Methyl Tert-Butyl Ether	10	9	-17	-17	11	Downward Trend	17	Downward Trend
STM-8D	Methyl Tert-Butyl Ether	13	9	23	1.351	0.8416	Upward Trend	1.282	Upward Trend
STM-8R	Methyl Tert-Butyl Ether	14	6	1	0	0.8416	Not Significant	1.282	Not Significant
TRC-101	Calculated VPH	6	3	8	8	7	Upward Trend	9	Not Significant
TRC-102	Calculated VPH	10	6	-38	-38	11	Downward Trend	17	Downward Trend
TRC-301R-2	Methyl Tert-Butyl Ether	6	3	8	8	7	Upward Trend	9	Not Significant
TRC-301R-4	Methyl Tert-Butyl Ether	6	6	5	5	7	Not Significant	9	Not Significant

Notes:

Datasets presented for wells that were included in the sampling program in September 2019.

Field duplicates assigned the maximum value for the purposes of the trend test.

The detection limit was used for non-detect concentrations for the purposes of the trend test.

Trend test results were interpreted using a confidence level of 80% and 90%. If the absolute value of the statistic is equal to or greater than the critical value, a significant trend is concluded. The direction of the trend is determined by the sign of the statistic with positive statistics indicating an upward trend and negative statistics indicating a downward trend.

* When sample size > 10, the normal approximation is used and calculated per box 4-9 in Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S. When the normal approximation is used, the critical value is the standard normal distribution.

When S is 0, no critical value is calculated and a conclusion of no trend is made.

NA = The Mann-Kendall trend test was not performed because there were less than 4 samples.

ND = The Mann-Kendall trend test was not performed because there were less than 3 detected concentrations.

- Analyte results not available for location.

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Downgradient Wetland														
				Location ID:	MW-4	MW-4	MW-4	MW-4	MW-4	MW-5	MW-5	MW-5	MW-5	MW-7	MW-7	MW-7	MW-7	PS-1D	PS-1D	PS-1D
				Sample ID:	16A-MW4-062416-1	17A-MW4-101817-1	18A-MW4-100418-1	19A-MW4-091919-1	19A-MW4-091919-2	16A-MW5-061716-1	17A-MW5-102017-1	18A-MW-5-092818-1	19A-MW5-093019-1	16A-MW7-061716-1	17A-MW7-102017-1	18A-MW-7-092818-1	19A-MW7-092619-1	16A-PS1D-062916-1	17A-PS1D-101617-1	18A-PS1D-092718-1
				Sample Date:	6/24/2016	10/18/2017	10/4/2018	9/19/2019	9/19/2019	6/17/2016	10/20/2017	9/28/2018	9/30/2019	6/17/2016	10/20/2017	9/28/2018	9/26/2019	6/29/2016	10/16/2017	9/27/2018
				Sample Type:	N	N	N	N	FD	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	18 - 28 ft	18 - 28 ft	18 - 28 ft	18-28 ft	18-28 ft	28 - 38 ft	28 - 38 ft	28 - 38 ft	28-38 ft	15 - 25 ft	15 - 25 ft	15 - 25 ft	15-25 ft	49.25 - 54.25 ft	49.25 - 54.25 ft	49.25 - 54.25 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**																
Volatile Organic Compounds (µg/l)																				
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 UJ	R	0.5 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	40 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	R	10.0 U	2.00 UJ	2.00 U	R	10.0 U	2.00 UJ	2.00 U	R	10.0 U	2.00 U	2.00 UJ
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	5.0 U	5.0 U	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 UJ
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	5.0 U	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 UJ
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	R	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 UJ
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	R	R	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 UJ	2.00 UJ	2.00 U	R	2.0 UJ	2.00 UJ	2.00 UJ	1.0 UJ	2.0 U	2.00 U	2.00 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	5.0 U	5.0 U	2.0 U	2.00 U	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	1.0 U	2.0 UJ	2.00 U	2.00 UJ	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**34.1**	**44.9**	**39.8**	**20**	**19**	**6.4**	**14.1**	**12.5**	**11**	**10.0**	**23.8**	**16.0**	**29**	**12.3**	**13.5**	**8.99**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	**1.61**	**1.14**	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 UJ	0.50 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	**6.1**	**8.59**	**6.64**	**4.7**	**4.5**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**1.0**	**1.10**	**1.34**
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**3.3**	**1.62**	**3.45**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.5 U	2.5 U	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 UJ
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	**1.25**	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**1.8**	**4.26**	**8.50**	**27**	**16.1**	**15.0**	**15.0**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	**1.7 J**	**1.47**	**1.59**	**3.7**	**3.8**	1.0 U	1.00 U	1.00 UJ	1.0 U	**1.5**	**1.52**	**1.39 J**	**2.0**	1.0 UJ	1.00 U	1.00 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**

Notes:
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Downgradient Wetland (continued)													
					Location ID:	PS-1D	PS-1S	PS-1S	PS-1S	PS-1S	PS-2D	PS-2D	PS-2D	PS-2D	PS-3	PS-3	PS-3	PS-3	PS-5D	PS-5D	PS-5D
					Sample ID:	19A-PS1D-091719-1	16A-PS1S-062916-1	17A-PS1S-101617-1	18A-PS1S-092718-1	19A-PS1S-091719-1	16A-PS2D-062916-1	17A-PS2D-101617-1	18A-PS2D-092718-1	19A-PS2D-091719-1	16A-PS3-062416-1	17A-PS3-101817-1	18A-PS3-100418-1	19A-PS3-091919-1	16A-PS5D-062716-1	17A-PS5D-101917-1	18A-PS5D-100418-1
					Sample Date:	9/17/2019	6/29/2016	10/16/2017	9/27/2018	9/17/2019	6/29/2016	10/16/2017	9/27/2018	9/17/2019	6/24/2016	10/18/2017	10/4/2018	9/19/2019	6/27/2016	10/19/2017	10/4/2018
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	49.25-54.25 ft	12 - 17 ft	12 - 17 ft	12 - 17 ft	12-17 ft	49.1 - 54.1 ft	49.1 - 54.1 ft	49.1 - 54.1 ft	49.1-54.1 ft	2.7 - 7.7 ft	2.7 - 7.7 ft	2.7 - 7.7 ft	2.7-7.7 ft	24.1 - 29.1 ft	24.1 - 29.1 ft	24.1 - 29.1 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**																
Volatile Organic Compounds (µg/l)																				
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	R	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	40 U	20.0 U	20.0 U	20.0 UJ	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
2-Butanone	4000	50000	50000	100000	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	**2.62**	**5.75**
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
2-Hexanone	NE	NE	NE	NE	R	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	R	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U
Acetone	6300	50000	50000	100000	R	10.0 UJ	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	10.0 UJ	**51.8**	**33.3**
Benzene	5	1000	10000	100000	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.0 U	1.00 U	1.00 UJ	R	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U
Bromomethane	10	7	800	8000	R	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Carbon Disulfide	NE	NE	NE	NE	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 UJ	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloroethane	NE	NE	NE	NE	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Chloroform	70	50	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloromethane	NE	NE	NE	NE	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**9.0**	**5.7**	**9.88**	**10.2**	**7.3**	1.0 U	**1.07**	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**11.6**	**21.0**	**16.6**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 U	0.50 UJ	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	**2.1**	**4.20**	**3.85**	**3.3**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	**2.2**	**18.2**	**25.6**	**23.3**	**21**	**1.0**	**1.08**	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**1.8**	**1.86**	**1.39**
Methylene Chloride	5	2000	50000	100000	1.0 U	2.0 UJ	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 UJ	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 UJ	2.00 UJ	2.00 U
Naphthalene	140	700	20000	100000	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Styrene	100	100	6000	60000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**3.1**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Tetrahydrofuran	NE	NE	NE	NE	R	2.0 U	2.00 U	2.00 U	2.5 U	2.0 U	2.00 U	2.00 U	2.5 U	2.0 U	2.00 U	2.00 U	2.5 U	2.0 U	2.00 U	2.00 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**13**	**1.9**	**3.25**	**1.69**	**1.6**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	**1.2**	**1.0**	**1.46**	**2.05 J**	**1.3**	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	**3.8**	**3.16**	**4.31**
Xylenes (Total)	10000	3000	5000	100000	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**

Notes:
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Downgradient Wetland (continued)					Building 1_TankF			
				Location ID:	PS-5D	PS-8D	PS-8D	PS-8D	PS-8D	AE23R	AE23R	AE23R	AE23R
				Sample ID:	19A-PS5D-091919-1	16A-PS8D-062916-1	17A-PS8D-101917-1	18A-PS8D-100218-1	19A-PS8D-091719-1	16B-AE23R-062716-1	17A-AE23R-101317-1	18A-AE23R-091918-1	19A-AE23R-092319-1
				Sample Date:	9/19/2019	6/29/2016	10/19/2017	10/2/2018	9/17/2019	6/27/2016	10/13/2017	9/19/2018	9/23/2019
				Sample Type:	N	N	N	N	N	N	N	N	N
				Depth Interval:	24.1-29.1 ft	51.8 - 56.8 ft	51.8 - 56.8 ft	51.8 - 56.8 ft	51.8-56.8 ft	44.75 - 54.75 ft	44.75 - 54.75 ft	44.75 - 54.75 ft	44.75-54.75 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**									
Volatile Organic Compounds (µg/l)													
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	2000 U	**1520**	5000 U	**1200**
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	1000 U	250 U	2500 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	**965**	5000 U	**800**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	2000 U	**645**	5000 U	**580**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,2,3-Trichloropropane	NE	NE	NE	NE	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	2000 U	500 U	5000 U	500 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	3000 U	500 U	5000 U	500 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	R	2.0 U	2.00 U	2.00 U	R	4000 U	1000 U	10000 UJ	R
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	1000 U	250 U	2500 U	500 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	600 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	2000 U	500 U	5000 U	500 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
1,4-Dioxane	**0.3**	6000	50000	100000	40 U	20.0 U	20.0 U	20.0 U	40 U	NS	10000 U	100000 UJ	40000 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	2000 U	500 U	5000 UJ	1000 U
2-Butanone	4000	50000	50000	100000	**14 J+**	10.0 U	2.00 U	2.00 U	R	20000 U	1000 U	10000 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
2-Hexanone	NE	NE	NE	NE	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	20000 U	1000 U	10000 UJ	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	20000 U	1000 U	10000 U	R
Acetone	6300	50000	50000	100000	**29 J+**	10.0 U	10.0 U	10.0 U	R	20000 UJ	5000 U	50000 UJ	R
Benzene	5	1000	10000	100000	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	2000 U	500 U	5000 U	500 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	1000 U	250 U	2500 U	500 U
Bromoform	4	700	50000	100000	R	1.0 U	1.00 U	1.00 U	R	2000 U	500 U	5000 UJ	500 UJ
Bromomethane	10	7	800	8000	1.0 U	2.0 UJ	2.00 U	2.00 UJ	1.0 U	4000 UJ	1000 UJ	10000 UJ	R
Carbon Disulfide	NE	NE	NE	NE	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	4000 U	1000 U	10000 U	810 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	2000 U	500 U	5000 UJ	500 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Chloroethane	NE	NE	NE	NE	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	4000 UJ	1000 U	10000 U	1000 U
Chloroform	70	50	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Chloromethane	NE	NE	NE	NE	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	4000 UJ	1000 UJ	10000 U	500 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**13**	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	1000 U	250 U	2500 U	500 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	1000 U	250 U	2500 UJ	500 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	4000 UJ	1000 U	10000 U	500 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 UJ	500 U	5000 U	1000 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	700 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	1000 U	250 U	2500 U	500 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
M, P Xylenes	10000	3000	5000	100000	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	4000 U	1000 U	10000 U	1000 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	**1.8**	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Methylene Chloride	5	2000	50000	100000	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	4000 UJ	1000 U	10000 U	500 U
Naphthalene	140	700	20000	100000	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U	2000 U	500 U	10000 U	500 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	660 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Styrene	100	100	6000	60000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	690 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	1000 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**51400**	**67300**	**48400**	**100000**
Tetrahydrofuran	NE	NE	NE	NE	2.5 U	2.0 U	2.00 U	2.00 U	2.5 U	4000 U	1000 U	10000 U	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**3280**	**4660**	5000 U	**4200**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	1000 U	250 U	2500 U	500 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**125000**	**179000**	**163000**	**240000**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	2000 U	500 U	5000 UJ	1000 U
Vinyl Chloride	**2**	**2**	50000	100000	**4.6**	1.0 UJ	1.00 U	1.00 U	1.0 U	2000 U	500 U	5000 U	500 U
Xylenes (Total)	10000	3000	5000	100000	**1**	2.0 U	2.0 U	**2**	**1**	4000 U	1000 U	**10000**	**1000**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Building 1_TankF (continued)												
				Location ID:	AE24	AE24	AE24	AE24	AE24	AE26R-1	AE26R-1	AE26R-1	AE26R-1	AE26R-2	AE26R-2	AE26R-2	AE26R-2
				Sample ID:	16A-AE24-062316-1	17A-AE24-101917-1	17A-AE24-101917-2	18A-AE24-092518-1	19A-AE24-092319-1	16B-AE26R1-062316-1	17A-AE26R1-100417-1	18A-AE26R1-091818-1	19A-AE26R1-092319-1	16B-AE26R2-062316-1	17A-AE26R2-100417-1	18A-AE26R2-091818-1	19A-AE26R2-092319-1
				Sample Date:	6/23/2016	10/19/2017	10/19/2017	9/25/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019
				Sample Type:	N	N	FD	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	7.25 - 17.25 ft	7.25 - 17.25 ft	7.25 - 17.25 ft	7.25 - 17.25 ft	7.25-17.25 ft	50 - 56 ft	50 - 56 ft	50 - 56 ft	50-56 ft	72 - 78 ft	72 - 78 ft	72 - 78 ft	72-78 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	200 U	5.00 U	5.00 U	10.0 UJ	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	100 U	2.50 U	2.50 U	5.00 U	R	2.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	0.50 U	1.0 U
1,1,2-Trichloroethane	5	900	50000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	200 U	5.00 U	5.00 U	10.0 U	70 U	**15.8**	**25.1**	**29.3**	**22**	**23.2**	**31.2**	**30.7**	**20**
1,1-Dichloroethylene	**7**	**80**	30000	100000	200 U	5.00 UJ	5.00 UJ	10.0 U	50 U	5.0 U	10.0 U	**5.40 J**	**3.7**	5.0 U	5.00 U	**4.94 J**	**2.4**
1,1-Dichloropropene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 UJ	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	2.5 U	5.0 U	5.00 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	200 U	5.00 U	5.00 U	10.0 U	70 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	56 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	400 UJ	10.0 U	10.0 U	20.0 U	R	10.0 U	20.0 UJ	10.0 U	R	10.0 U	10.0 UJ	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	100 U	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	0.50 U	1.0 U
1,2-Dichlorobenzene	600	8000	2000	80000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,2-Dichloroethane	5	5	20000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	3.0 U	5.0 U	5.00 U	1.00 U	1.2 U
1,2-Dichloropropane	5	3	50000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	3.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	60 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,3-Dichloropropane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,4-Dichlorobenzene	5	60	8000	80000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	4000 U	100 U	100 U	200 UJ	4000 U	NS	200 U	100 UJ	200 U	100 U	100 U	20.0 U	80 U
2,2-Dichloropropane	NE	NE	NE	NE	200 UJ	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 UJ	NS R	5.0 U	5.0 U	5.00 UJ	1.00 U	2.0 U
2-Butanone	4000	50000	50000	100000	2000 U	10.0 UJ	10.0 UJ	20.0 U	R	50.0 U	20.0 U	10.0 U	R	50.0 U	10.0 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
2-Hexanone	NE	NE	NE	NE	2000 UJ	10.0 U	10.0 U	20.0 UJ	R	50.0 U	20.0 U	10.0 U	25 U	50.0 U	10.0 U	2.00 U	10 U
2-Phenylbutane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
4-Chlorotoluene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2000 UJ	10.0 U	10.0 U	20.0 UJ	R	50.0 U	20.0 U	10.0 U	25 U	50.0 U	10.0 U	2.00 U	10 U
Acetone	6300	50000	50000	100000	2000 UJ	50.0 U	50.0 U	100 U	R	50.0 U	100 U	50.0 UJ	R	50.0 U	50.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	3.5 U	5.0 U	5.00 U	1.00 U	1.4 U
Bromobenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	62 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Bromochloromethane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	83 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Bromodichloromethane	3	6	50000	100000	100 U	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	0.50 U	1.0 U
Bromoform	4	700	50000	100000	200 U	5.00 U	5.00 U	10.0 UJ	50 U	5.0 U	10.0 UJ	5.00 U	R	5.0 U	5.00 UJ	1.00 U	R
Bromomethane	10	7	800	8000	400 U	10.0 UJ	10.0 UJ	20.0 U	R	10.0 U	20.0 U	10.0 UJ	5.0 U	10.0 U	10.0 U	2.00 UJ	2.0 U
Carbon Disulfide	NE	NE	NE	NE	400 U	10.0 U	10.0 U	20.0 U	500 U	10.0 U	20.0 U	10.0 U	25 U	10.0 U	10.0 U	2.00 U	10 U
Carbon Tetrachloride	5	2	5000	50000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	2.5 U	5.0 U	5.00 U	1.00 U	2.0 U
Chlorobenzene	100	200	1000	10000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Chloroethane	NE	NE	NE	NE	400 U	10.0 U	10.0 U	20.0 U	100 U	10.0 U	20.0 U	10.0 UJ	5.0 U	10.0 U	10.0 U	2.00 UJ	2.0 U
Chloroform	70	50	20000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Chloromethane	NE	NE	NE	NE	400 UJ	10.0 U	10.0 U	20.0 U	100 U	10.0 U	20.0 U	10.0 U	5.0 U	10.0 UJ	10.0 U	2.00 U	2.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	**22.8**	**152**	**248 J-**	**260**	**33.6**	**131**	**153**	**130**
cis-1,3-Dichloropropene	NE	NE	NE	NE	100 UJ	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 U	2.50 UJ	2.5 U	2.5 U	2.50 U	0.50 U	1.0 U
Cymene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Dibromochloromethane	2	20	50000	100000	100 U	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	0.50 U	1.0 U
Dibromomethane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	400 U	10.0 U	10.0 U	20.0 U	100 U	10.0 U	20.0 UJ	10.0 U	5.0 U	10.0 U	10.0 UJ	2.00 U	2.0 U
Diethyl Ether	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Diisopropyl Ether	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	200 UJ	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 UJ	5.00 U	5.0 U	5.0 UJ	5.00 UJ	1.00 U	2.0 U
Ethylbenzene	700	20000	5000	100000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 UJ	5.0 U	5.0 U	5.00 U	1.00 UJ	2.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	100 U	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 UJ	2.50 U	2.5 U	2.5 U	2.50 UJ	0.50 U	1.0 U
Isopropylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
M, P Xylenes	10000	3000	5000	100000	400 U	10.0 U	10.0 U	20.0 U	100 U	10.0 U	20.0 U	10.0 U	5.0 U	10.0 U	10.0 U	2.00 U	2.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	NE	200 UJ	5.00 U	5.00 U	10.0 U	70 U	5.0 U	10.0 UJ	5.00 U	5.0 U	5.0 UJ	5.00 UJ	1.00 U	2.0 U
Methylene Chloride	5	2000	50000	100000	400 U	10.0 U	10.0 U	20.0 U	50 U	10.0 U	20.0 U	10.0 UJ	5.0 U	10.0 U	10.0 U	2.00 UJ	2.0 U
Naphthalene	140	700	20000	100000	200 U	5.00 U	5.00 U	20.0 U	100 U	5.0 UJ	10.0 U	10.0 UJ	5.0 U	5.0 U	5.00 U	2.00 U	2.0 U
N-Butylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
N-Propylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
o-Xylene	10000	3000	5000	100000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 UJ	5.00 U	1.00 U	2.0 U
Styrene	100	100	6000	60000	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Tert-Butylbenzene	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 UJ	1.00 U	2.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**7660**	**164**	**157**	**733**	**5500**	**131**	**179 J**	**316 J-**	**270**	**44.2**	5.00 U	**2.63**	**9.3**
Tetrahydrofuran	NE	NE	NE	NE	400 U	10.0 U	10.0 U	20.0 U	R	10.0 U	20.0 U	10.0 U	13 U	10.0 U	10.0 U	2.00 U	5.0 U
Toluene	**1000**	50000	40000	100000	200 U	5.00 U	5.00 U	10.0 U	100 U	**20.7**	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	200 U	5.00 U	5.00 U	10.0 U	80 U	5.0 U	10.0 U	**12.6**	**19**	5.0 U	5.00 U	**7.23**	**6.6**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	100 UJ	2.50 U	2.50 U	5.00 U	50 U	2.5 U	5.00 UJ	2.50 UJ	2.5 U	2.5 UJ	2.50 UJ	0.50 U	1.0 U
Trichloroethene	**5**	**5**	**5000**	**50000**	200 U	5.00 U	5.00 U	10.0 U	50 U	**236**	**478**	**719**	**500**	**109**	**110**	**87.5**	**79**
Trichlorofluoromethane	NE	NE	NE	NE	200 U	5.00 U	5.00 U	10.0 U	100 U	5.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	1.00 U	2.0 U
Vinyl Chloride	**2**	**2**	50000	100000	200 U	5.00 U	5.00 U	10.0 U	50 U	5.0 UJ	10.0 U	5.00 UJ	2.5 U	5.0 U	5.00 U	1.00 UJ	2.0 U
Xylenes (Total)	10000	3000	5000	100000	400 U	10 U	10 U	**20**	**100**	10 U	20 U	**10**	**5**	10 U	10 U	**2**	**2**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Building 1_TankF (continued)										
					Location ID:	AE26R-5	AE26R-5	AE26R-5	AE26R-5	AE26S	AE26S	AE26S	AE26S	AE28R-1	AE28R-1	AE28R-1	AE28R-1
					Sample ID:	16B-AE26R5-062316-1	17A-AE26R5-100417-1	18A-AE26R5-091818-1	19A-AE26R5-092319-1	16A-AE26S-062316-1	17A-AE26S-100517-1	18A-AE26S-092518-1	19A-AE26S-092319-1	16B-AE28R1-062316-1	17A-AE28R1-100417-1	18A-AE28R1-091818-1	19A-AE28R1-092319-1
					Sample Date:	6/23/2016	10/4/2017	9/18/2018	9/23/2019	6/23/2016	10/5/2017	9/25/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	123 - 132 ft	123 - 132 ft	123 - 132 ft	123-132 ft	25 - 30 ft	25 - 30 ft	25 - 30 ft	25-30 ft	45 - 51 ft	45 - 51 ft	45 - 51 ft	45-51 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 UJ	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 UJ	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	10.0 U	25.0 U	2.50 U	R	0.5 U	2.50 U	0.50 U	0.50 U	25.0 U	100 U	250 U	R
1,1,2-Trichloroethane	5	900	50000	100000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,1-Dichloroethane	**70**	2000	20000	100000	**43.0**	**50.5**	**42.9**	**38**	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	**100**
1,1-Dichloroethylene	**7**	**80**	30000	100000	20.0 U	50.0 U	**12.4 J**	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,1-Dichloropropene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 UJ	1.0 U	50.0 U	200 U	500 U	100 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,2,3-Trichloropropane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	0.50 U	50.0 U	200 U	500 U	50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	70 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	56 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	40.0 U	100 UJ	10.0 U	R	2.0 U	10.0 UJ	2.00 U	R	100 U	400 UJ	1000 U	R
1,2-Dibromoethane	0.02	2	50000	100000	10.0 U	25.0 U	2.50 U	10 U	0.5 U	2.50 U	0.50 U	0.50 U	25.0 U	100 U	250 U	50 U
1,2-Dichlorobenzene	600	8000	2000	80000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
1,2-Dichloroethane	5	5	20000	100000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	0.60 U	50.0 U	200 U	500 U	50 U
1,2-Dichloropropane	5	3	50000	100000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	60 U
1,3-Dichlorobenzene	100	6000	50000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,3-Dichloropropane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
1,4-Dichlorobenzene	5	60	8000	80000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	1000 U	100 U	800 U	20.0 U	100 U	20.0 UJ	40 U	1000 U	4000 U	10000 U	4000 U
2,2-Dichloropropane	NE	NE	NE	NE	20.0 U	50.0 UJ	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 UJ	500 UJ	100 U
2-Butanone	4000	50000	50000	100000	200 U	100 U	10.0 U	R	10.0 U	10.0 U	2.00 UJ	R	500 U	400 U	1000 U	R
2-Chlorotoluene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
2-Hexanone	NE	NE	NE	NE	200 U	100 U	10.0 U	R	10.0 U	10.0 U	2.00 UJ	5.0 U	500 U	400 U	1000 U	R
2-Phenylbutane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
4-Chlorotoluene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
4-Methyl-2-Pentanone	350	50000	50000	100000	200 U	100 U	10.0 U	R	10.0 U	10.0 U	2.00 U	5.0 U	500 U	400 U	1000 U	R
Acetone	6300	50000	50000	100000	200 U	500 U	50.0 UJ	R	10.0 U	50.0 U	10.0 U	R	500 U	2000 U	5000 U	R
Benzene	5	1000	10000	100000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	0.70 U	50.0 U	200 U	500 U	50 U
Bromobenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	62 U
Bromochloromethane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	83 U
Bromodichloromethane	3	6	50000	100000	10.0 U	25.0 U	2.50 U	10 U	0.5 U	2.50 U	0.50 U	0.50 U	25.0 U	100 U	250 U	50 U
Bromoform	4	700	50000	100000	20.0 U	50.0 UJ	5.00 U	10 U	1.0 U	5.00 UJ	1.00 U	R	50.0 U	200 UJ	500 U	50 U
Bromomethane	10	7	800	8000	40.0 U	100 U	10.0 UJ	R	2.0 U	10.0 U	2.00 UJ	1.0 U	100 U	400 U	1000 U	R
Carbon Disulfide	NE	NE	NE	NE	40.0 U	100 U	10.0 U	100 U	2.0 U	10.0 UJ	2.00 U	5.0 U	100 U	400 U	1000 UJ	500 U
Carbon Tetrachloride	5	2	5000	50000	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 UJ	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
Chlorobenzene	100	200	1000	10000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Chloroethane	NE	NE	NE	NE	40.0 U	100 U	10.0 UJ	20 U	2.0 U	10.0 U	2.00 U	1.0 U	100 U	400 U	1000 U	100 U
Chloroform	70	50	20000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
Chloromethane	NE	NE	NE	NE	40.0 U	100 U	10.0 U	20 U	2.0 UJ	10.0 U	2.00 U	1.0 U	100 UJ	400 U	1000 U	100 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**111**	**310**	**466**	**510**	**117**	**111**	**63.2**	**57**	50.0 U	**738**	**1280**	**1900**
cis-1,3-Dichloropropene	NE	NE	NE	NE	10.0 U	25.0 U	2.50 U	10 U	0.5 U	2.50 U	0.50 U	0.40 U	25.0 U	100 U	250 U	50 U
Cymene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Dibromochloromethane	2	20	50000	100000	10.0 U	25.0 U	2.50 U	10 U	0.5 U	2.50 UJ	0.50 U	0.50 U	25.0 U	100 U	250 U	50 U
Dibromomethane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	50 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	40.0 U	100 UJ	10.0 U	20 U	2.0 U	10.0 U	2.00 U	1.0 U	100 U	400 UJ	1000 U	100 U
Diethyl Ether	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Diisopropyl Ether	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	20.0 U	50.0 UJ	5.00 U	20 U	1.0 UJ	5.00 U	1.00 U	1.0 U	50.0 UJ	200 UJ	500 U	100 U
Ethylbenzene	700	20000	5000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	20.0 U	50.0 U	5.00 UJ	20 U	**4.1**	5.00 UJ	**2.04**	**2.2**	50.0 U	200 U	500 U	100 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	10.0 U	25.0 UJ	2.50 U	10 U	0.5 U	2.50 U	0.50 U	0.40 U	25.0 U	100 UJ	250 U	50 U
Isopropylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
M, P Xylenes	10000	3000	5000	100000	40.0 U	100 U	10.0 U	20 U	2.0 U	10.0 U	2.00 U	1.0 U	100 U	400 U	1000 U	100 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	20.0 U	50.0 UJ	5.00 U	20 U	1.0 UJ	5.00 U	1.00 U	1.0 U	50.0 UJ	200 UJ	500 U	70 U
Methylene Chloride	5	2000	50000	100000	40.0 U	100 U	10.0 UJ	10 U	2.0 U	10.0 UJ	2.00 U	1.0 U	100 U	400 U	1000 U	50 U
Naphthalene	140	700	20000	100000	20.0 UJ	50.0 U	10.0 U	20 U	1.0 U	5.00 U	2.00 U	1.0 U	50.0 U	200 U	1000 U	100 U
N-Butylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
N-Propylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
o-Xylene	10000	3000	5000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 UJ	5.00 U	1.00 U	1.0 U	50.0 UJ	200 U	500 U	100 U
Styrene	100	100	6000	60000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Tert-Butylbenzene	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	20.0 U	50.0 UJ	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 UJ	500 U	100 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**1130**	**965 J**	**952**	**1000**	**56.5**	**41.8**	**31.1**	**29**	**1570**	**3600 J**	**5500**	**3500**
Tetrahydrofuran	NE	NE	NE	NE	40.0 U	100 U	10.0 U	R	2.0 U	10.0 U	2.00 U	2.5 U	100 U	400 U	1000 U	R
Toluene	**1000**	50000	40000	100000	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	20.0 U	50.0 U	**18.4**	**37**	**4.0**	5.00 U	**2.24**	**2.3**	50.0 U	200 U	500 U	**250**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	10.0 U	25.0 UJ	2.50 U	10 U	0.5 UJ	2.50 U	0.50 U	0.40 U	25.0 UJ	100 UJ	250 U	50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**1260**	**2030**	**1970**	**1900**	**34.2**	**36.0**	**21.4**	**23**	**1550**	**9930**	**13900**	**10000**
Trichlorofluoromethane	NE	NE	NE	NE	20.0 U	50.0 U	5.00 U	20 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	100 U
Vinyl Chloride	**2**	**2**	50000	100000	20.0 UJ	50.0 U	5.00 UJ	10 U	1.0 U	5.00 U	1.00 U	1.0 U	50.0 U	200 U	500 U	**380**
Xylenes (Total)	10000	3000	5000	100000	40 U	100 U	**10**	**20**	2.0 U	10 U	**2**	**1**	100 U	400 U	**1000**	**100**

Notes:
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Building 1_TankF (continued)											
				Location ID:	AE28R-2	AE28R-2	AE28R-2	AE28R-2	AE28R-3	AE28R-3	AE28R-3	AE28R-3	AE28R-4	AE28R-4	AE28R-4	AE28R-4
				Sample ID:	16B-AE28R2-062316-1	17A-AE28R2-100417-1	18A-AE28R2-091818-1	19A-AE28R2-092319-1	16B-AE28R3-062316-1	17A-AE28R3-100417-1	18A-AE28R3-091818-1	19A-AE28R3-092319-1	16B-AE28R4-062316-1	17A-AE28R4-100517-1	18A-AE28R4-091818-1	19A-AE28R4-092319-1
				Sample Date:	6/23/2016	10/4/2017	9/18/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019	6/23/2016	10/5/2017	9/18/2018	9/23/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	75 - 85 ft	75 - 85 ft	75 - 85 ft	75-85 ft	98 - 108 ft	98 - 108 ft	98 - 108 ft	98-108 ft	132 - 142 ft	132 - 142 ft	132 - 142 ft	132-142 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 UJ	1.00 U	50 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 UJ	**3.94**	100 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	250 U	100 U	250 U	R	100 U	100 U	50.0 U	R	100 U	50.0 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,1-Dichloroethane	**70**	2000	20000	100000	500 U	200 U	500 U	**160**	200 U	200 U	100 U	70 U	200 U	**100**	**77.1**	**72**
1,1-Dichloroethylene	**7**	**80**	30000	100000	500 U	200 U	500 UJ	**50**	200 U	200 U	100 U	50 U	200 U	100 U	**31.0**	50 U
1,1-Dichloropropene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,2,3-Trichloropropane	NE	NE	NE	NE	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	500 U	200 U	500 U	70 U	200 U	200 U	100 U	70 U	200 U	100 U	1.00 U	70 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	56 U	200 U	200 U	100 U	56 U	200 U	100 U	**3.53**	56 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	1000 U	400 UJ	1000 U	R	400 U	400 UJ	200 U	R	400 U	200 UJ	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	250 U	100 U	250 U	50 U	100 U	100 U	50.0 U	50 U	100 U	50.0 U	0.50 U	50 U
1,2-Dichlorobenzene	600	8000	2000	80000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
1,2-Dichloroethane	5	5	20000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,2-Dichloropropane	5	3	50000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	60 U	200 U	200 U	100 U	60 U	200 U	100 U	**1.94**	60 U
1,3-Dichlorobenzene	100	6000	50000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,3-Dichloropropane	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
1,4-Dichlorobenzene	5	60	8000	80000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	4000 U	10000 U	4000 U	4000 U	4000 U	2000 U	4000 U	4000 U	2000 U	20.0 U	4000 U
2,2-Dichloropropane	NE	NE	NE	NE	500 U	200 UJ	500 U	100 U	200 U	200 UJ	100 UJ	100 U	200 U	100 U	1.00 U	100 U
2-Butanone	4000	50000	50000	100000	5000 U	400 U	1000 U	R	2000 U	400 U	200 U	R	2000 U	200 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
2-Hexanone	NE	NE	NE	NE	5000 U	400 U	1000 U	R	2000 U	400 U	200 U	R	2000 U	200 U	2.00 U	R
2-Phenylbutane	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
4-Chlorotoluene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5000 U	400 U	1000 U	R	2000 U	400 U	200 U	R	2000 U	200 U	2.00 U	R
Acetone	6300	50000	50000	100000	5000 U	2000 U	5000 UJ	R	2000 U	2000 U	1000 U	R	2000 U	1000 U	10.0 U	R
Benzene	5	1000	10000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
Bromobenzene	NE	NE	NE	NE	500 U	200 U	500 U	62 U	200 U	200 U	100 U	62 U	200 U	100 U	1.00 U	62 U
Bromochloromethane	NE	NE	NE	NE	500 U	200 U	500 U	83 U	200 U	200 U	100 U	83 U	200 U	100 U	1.00 U	83 U
Bromodichloromethane	3	6	50000	100000	250 U	100 U	250 U	50 U	100 U	100 U	50.0 U	50 U	100 U	50.0 U	0.50 U	50 U
Bromoform	4	700	50000	100000	500 U	200 UJ	500 U	50 U	200 U	200 UJ	100 U	50 UJ	200 U	100 UJ	1.00 U	50 UJ
Bromomethane	10	7	800	8000	1000 U	400 U	1000 UJ	R	400 U	400 U	200 U	R	400 U	200 U	2.00 U	R
Carbon Disulfide	NE	NE	NE	NE	1000 U	400 U	1000 U	500 U	400 U	400 U	200 UJ	500 U	400 U	200 UJ	2.00 U	500 U
Carbon Tetrachloride	5	2	5000	50000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 UJ	1.00 U	50 U
Chlorobenzene	100	200	1000	10000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	**1.41**	100 U
Chloroethane	NE	NE	NE	NE	1000 U	400 U	1000 UJ	100 U	400 U	400 U	200 U	100 U	400 U	200 U	2.00 U	100 U
Chloroform	70	50	20000	100000	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
Chloromethane	NE	NE	NE	NE	1000 UJ	400 U	1000 U	100 U	400 UJ	400 U	200 U	100 U	400 UJ	200 U	2.00 U	100 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	500 U	**298**	500 U	**840**	200 U	**294**	**462**	**730**	200 U	**311**	**484**	**540**
cis-1,3-Dichloropropene	NE	NE	NE	NE	250 U	100 U	250 U	50 U	100 U	100 U	50.0 U	50 U	100 U	50.0 U	0.50 U	50 U
Cymene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
Dibromochloromethane	2	20	50000	100000	250 U	100 U	250 U	50 U	100 U	100 U	50.0 U	50 U	100 U	50.0 UJ	0.50 U	50 U
Dibromomethane	NE	NE	NE	NE	500 U	200 U	500 U	50 U	200 U	200 U	100 U	50 U	200 U	100 U	1.00 U	50 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1000 U	400 UJ	1000 U	100 U	400 U	400 UJ	200 U	100 U	400 U	200 U	2.00 UJ	100 U
Diethyl Ether	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
Diisopropyl Ether	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	500 UJ	200 UJ	500 U	100 U	200 UJ	200 UJ	100 U	100 U	200 UJ	100 U	1.00 U	100 U
Ethylbenzene	700	20000	5000	100000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	**1.11**	100 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	500 U	200 U	500 UJ	100 U	200 U	200 U	100 U	100 U	200 U	100 UJ	1.00 U	100 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	250 U	100 UJ	250 U	50 U	100 U	100 UJ	50.0 U	50 U	100 U	50.0 U	0.50 U	50 U
Isopropylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
M, P Xylenes	10000	3000	5000	100000	1000 U	400 U	1000 U	100 U	400 U	400 U	200 U	100 U	400 U	200 U	2.00 U	100 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	500 UJ	200 UJ	500 U	70 U	200 UJ	200 UJ	100 U	70 U	200 UJ	100 U	1.00 U	70 U
Methylene Chloride	5	2000	50000	100000	1000 U	400 U	1000 UJ	50 U	400 U	400 U	200 U	50 U	400 U	200 UJ	2.00 U	50 U
Naphthalene	140	700	20000	100000	500 U	200 U	1000 U	100 U	200 U	200 U	200 U	100 U	200 U	100 U	2.00 U	100 U
N-Butylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
N-Propylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
o-Xylene	10000	3000	5000	100000	500 UJ	200 U	500 U	100 U	200 UJ	200 U	100 U	100 U	200 UJ	100 U	1.00 U	100 U
Styrene	100	100	6000	60000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
Tert-Butylbenzene	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 U	100 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	500 U	200 UJ	500 U	100 U	200 U	200 UJ	100 U	100 U	200 U	100 U	1.00 U	100 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**19700**	**20200 J**	**18300**	**17000**	**7210**	**5400 J**	**4200**	**3600**	**6960**	**6910**	**5110 J-**	**7000**
Tetrahydrofuran	NE	NE	NE	NE	1000 U	400 U	1000 U	R	400 U	400 U	200 U	R	400 U	200 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	**5.45**	100 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	500 U	200 U	500 U	**140**	200 U	200 U	100 U	**120**	200 U	100 U	**61.3**	80 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	250 UJ	100 UJ	250 U	50 U	100 UJ	100 UJ	50.0 U	50 U	100 UJ	50.0 U	0.50 U	50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**15700**	**18000**	**19600**	**19000**	**3690**	**5190**	**6220**	**5100**	**3730**	**6060**	**5550 J-**	**7300**
Trichlorofluoromethane	NE	NE	NE	NE	500 U	200 U	500 U	100 U	200 U	200 U	100 U	100 U	200 U	100 U	1.00 UJ	100 U
Vinyl Chloride	**2**	**2**	50000	100000	500 U	200 U	500 UJ	**99**	200 U	200 U	100 U	50 U	200 U	100 U	1.00 UJ	50 U
Xylenes (Total)	10000	3000	5000	100000	1000 U	400 U	**1000**	**100**	400 U	400 U	**200**	**100**	400 U	200 U	**2**	**100**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Building 1_TankF (continued)											
				Location ID:	AE29R-1	AE29R-1	AE29R-1	AE29R-1	AE29R-3	AE29R-3	AE29R-3	AE29R-3	AE29R-5	AE29R-5	AE29R-5	AE29R-5
				Sample ID:	16B-AE29R1-062816-1	17A-AE29R1-101717-1	18A-AE29R1-091818-1	19A-AE29R1-092419-1	16B-AE29R3-062816-1	17A-AE29R3-101717-1	18A-AE29R3-091818-1	19A-AE29R3-092419-1	16B-AE29R5-062816-1	17A-AE29R5-101717-1	18A-AE29R5-091818-1	19A-AE29R5-092419-1
				Sample Date:	6/28/2016	10/17/2017	9/18/2018	9/24/2019	6/28/2016	10/17/2017	9/18/2018	9/24/2019	6/28/2016	10/17/2017	9/18/2018	9/24/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	37 - 44 ft	37 - 44 ft	37 - 44 ft	37-44 ft	70 - 76 ft	70 - 76 ft	70 - 76 ft	70-76 ft	113 - 119 ft	113 - 119 ft	113 - 119 ft	113-119 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 UJ	0.50 U	0.50 U	0.50 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.5 UJ	2.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	**3.6**	**10.8**	**3.81**	**6.3**	**10.1**	**37.2**	**33.1**	**34**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	**1.2**	**3.53 J**	1.00 U	**1.7**	**2.4**	**8.45 J**	**6.06**	**7.5**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	5.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	0.50 U	2.0 U	10.0 U	2.00 U	0.50 U
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	5.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	100 U	20.0 U	**23.3**	20.0 U	10 U	20.0 U	100 U	20.0 U	10 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	**2.89**	5.0 UJ	10.0 U	10.0 U	2.00 U	5.0 UJ
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	25 U	10.0 U	10.0 U	10.0 U	25 U	10.0 U	50.0 U	10.0 U	25 U
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	5.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	10.0 U	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	10.0 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 UJ	2.0 U	10.0 U	2.00 U	1.0 UJ
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	10.0 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	**5.7**	**47.5**	**21.2**	**36**	**20.7**	**212**	**224**	**190**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	2.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	10.0 U	2.00 UJ	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	5.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	5.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	5.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	5.00 UJ	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	2.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	10.0 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 UJ	2.0 U	10.0 U	2.00 U	1.0 UJ
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 UJ	5.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	**5.38**	1.0 U	1.0 U	5.00 U	**3.17**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.5 U	2.0 U	2.00 U	2.00 U	2.5 UJ	2.0 U	10.0 U	2.00 U	2.5 UJ
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	5.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	**1.12**	1.00 U	1.0 U	1.0 U	**5.95**	**5.25**	**5.8**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	2.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**4.2**	**2.75**	1.00 U	**2.4**	**16.7**	**47.9**	**17.1**	**21**	**20.5**	**22.2**	**13.3**	**41**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	5.00 U	1.00 UJ	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	5.00 U	1.00 UJ	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	10 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Building 1_TankF (continued)											
				Location ID:	AE29R-6	AE29R-6	AE29R-6	AE29R-6	GZA-101R	GZA-101R	GZA-101R	GZA-101R	TRC-201R	TRC-201R	TRC-201R	TRC-201R
				Sample ID:	16B-AE29R6-062816-1	17A-AE29R6-101717-1	18A-AE29R6-091818-1	19A-AE29R6-092419-1	16A-GZA101R-061416-1	17A-GZA101R-101017-1	18A-GZA101R-091818-1	19A-GZA101R-092619-1	16A-TRC201R-062816-1	17A-TRC201R-100617-1	18A-TRC201R-092618-1	19A-TRC201R-092519-1
				Sample Date:	6/28/2016	10/17/2017	9/18/2018	9/24/2019	6/14/2016	10/10/2017	9/18/2018	9/26/2019	6/28/2016	10/6/2017	9/26/2018	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	140 - 146 ft	140 - 146 ft	140 - 146 ft	140-146 ft	36.5 - 38 ft	36.5 - 38 ft	36.5 - 38 ft	36.5-38 ft	38 - 161.3 ft	38 - 161.3 ft	38 - 161.3 ft	38 - 161.3 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 UJ	0.50 U	2.50 U	2.5 U	0.5 U	5.00 U	2.50 U	R	2.5 U	2.50 U	2.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**8.3**	**89.0 J**	**60.6**	**56**	1.0 U	10.0 U	5.00 U	5.0 U	**95.3**	**67.7**	**73.2**	**77**
1,1-Dichloroethylene	**7**	**80**	30000	100000	**2.0**	**19.6**	**13.3 J**	**13**	1.0 U	10.0 U	5.00 UJ	5.0 U	**23.4**	**16.9**	**18.0**	**20**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 UJ	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	10.0 U	5.0 U	2.0 UJ	20.0 UJ	10.0 U	R	10.0 U	10.0 U	10.0 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	2.50 U	2.5 U	0.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	2.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 UJ	5.00 U	3.0 U	1.0 U	10.0 U	5.00 U	3.0 U	5.0 U	5.00 U	5.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	5.00 U	3.0 U	1.0 U	10.0 U	5.00 U	3.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	**50.8**	100 U	500 U	20.0 U	200 U	100 U	200 U	100 U	100 U	100 UJ	**55 J**
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	10.0 U	25 U	10.0 U	20.0 U	10.0 U	R	50.0 U	10.0 U	10.0 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	10.0 U	25 U	10.0 U	20.0 U	10.0 U	R	50.0 U	10.0 U	10.0 UJ	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	10.0 U	25 U	10.0 U	20.0 U	10.0 U	R	50.0 U	10.0 U	10.0 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	50.0 UJ	130 U	10.0 U	100 U	50.0 UJ	R	50.0 UJ	50.0 U	50.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	5.00 U	3.5 U	1.0 U	10.0 U	5.00 U	3.5 U	5.0 U	5.00 U	5.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	2.50 U	2.5 U	0.5 U	5.00 UJ	2.50 U	2.5 U	2.5 U	2.50 U	2.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	5.00 U	4.0 U	1.0 U	10.0 UJ	5.00 U	R	5.0 U	5.00 U	5.00 UJ	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	10.0 UJ	5.0 U	2.0 U	20.0 U	10.0 UJ	R	10.0 UJ	10.0 U	10.0 U	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	10.0 U	25 U	2.0 U	20.0 U	10.0 U	25 UJ	10.0 U	10.0 U	10.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	5.00 U	2.5 U	1.0 U	10.0 UJ	5.00 U	2.5 U	5.0 U	5.00 U	5.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	10.0 UJ	5.0 U	2.0 U	20.0 U	10.0 UJ	5.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 UJ	10.0 U	5.0 U	2.0 U	20.0 U	10.0 U	5.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**27.8**	**325**	**349**	**320**	**4.5**	10.0 U	5.00 U	5.0 U	**165**	**178 J**	**160**	**170**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	2.50 U	2.5 U	0.5 UJ	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	2.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	2.50 U	2.5 U	0.5 U	5.00 UJ	2.50 U	2.5 U	2.5 U	2.50 U	2.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	10.0 U	5.0 U	2.0 U	20.0 U	10.0 U	5.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 UJ	5.00 U	5.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	5.00 UJ	5.0 U	1.0 U	10.0 U	5.00 UJ	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	2.50 U	2.5 U	0.5 U	5.00 U	2.50 U	2.5 U	2.5 U	2.50 U	2.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	10.0 U	5.0 U	2.0 U	20.0 U	10.0 U	5.0 U	10.0 U	10.0 U	10.0 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	10.0 UJ	5.0 U	2.0 U	20.0 U	10.0 UJ	5.0 UJ	10.0 UJ	10.0 U	10.0 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	10.0 U	5.0 U	1.0 UJ	10.0 U	10.0 U	5.0 U	5.0 U	5.00 U	10.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	5.00 U	5.0 U	1.0 U	10.0 UJ	5.00 U	5.0 U	5.0 U	5.00 UJ	5.00 UJ	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	5.00 U	5.0 U	**441**	**356**	**277**	**300**	5.0 U	5.00 U	5.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	10.0 U	13 U	2.0 U	20.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R
Toluene	**1000**	50000	40000	100000	**7.8**	**1.80**	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	**1.5**	**23.8 J**	**17.2**	**19**	1.0 U	10.0 U	5.00 U	5.0 U	**34.0 J**	**26.4**	**29.0**	**28**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	2.50 U	2.5 U	0.5 UJ	5.00 UJ	2.50 U	2.5 U	2.5 U	2.50 UJ	2.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**16.0**	**146**	**90.9**	**85**	**186**	**176**	**134**	**120**	**62.8**	**60.4**	**48.2**	**50**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 UJ	1.00 UJ	5.00 U	5.0 U	1.0 U	10.0 U	5.00 U	5.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	**1.78**	5.00 UJ	2.5 U	1.0 UJ	10.0 U	5.00 UJ	2.5 UJ	5.0 U	5.00 U	5.00 U	**2.1**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**10**	**5**	2.0 U	20 U	**10**	**5**	10 U	10 U	**10**	1.0 U

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL												
				Location ID:	AE03	AE03	AE03	AE03	AE03	AE03	AE03	AE04	AE04	AE04	AE04	AE04	AE04
				Sample ID:	16A-AE03-062816-1	16A-AE03-062816-2	17A-AE03-100917-1	18A-AE03-092418-1	18A-AE03-092418-2	19A-AE03-091219-1	19A-AE03-091219-2	16A-AE04-061316-1	17A-AE04-100917-1	18A-AE04-092518-1	18A-AE04-092518-2	19A-AE04-091219-1	19A-AE04-091219-2
				Sample Date:	6/28/2016	6/28/2016	10/9/2017	9/24/2018	9/24/2018	9/12/2019	9/12/2019	6/13/2016	10/9/2017	9/25/2018	9/25/2018	9/12/2019	9/12/2019
				Sample Type:	N	FD	N	N	FD	N	FD	N	N	N	FD	N	FD
				Depth Interval:	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3-13 ft	3-13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3-13 ft	3-13 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 UJ	0.5 UJ	0.50 U	0.50 U	0.50 U	R	R	0.5 U	0.50 U	0.50 U	0.50 U	R	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	0.50 U	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	R	R	2.0 UJ	2.00 UJ	2.00 U	2.00 U	R	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	0.60 U	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	20.0 U	20.0 U	40 U	40 U	20.0 U	20.0 U	20.0 UJ	20.0 UJ	40 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	10.0 U	2.00 U	2.00 U	2.00 UJ	R	R	10.0 U	2.00 U	2.00 UJ	2.00 UJ	R	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	10.0 U	2.00 U	2.00 U	2.00 UJ	R	R	10.0 U	2.00 U	2.00 UJ	2.00 UJ	R	R
2-Phenylbutane	NE	NE	NE	NE	**9.0**	**9.2**	**9.79 J**	1.00 UJ	**8.17 J**	**7.7**	**7.6**	**2.6**	1.00 U	**3.49**	**3.71**	**2.4**	**2.4**
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	10.0 U	2.00 U	2.00 U	2.00 U	R	R	10.0 U	2.00 U	2.00 U	2.00 U	R	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	10.0 U	10.0 UJ	R	R	10.0 U	10.0 U	10.0 U	10.0 U	R	R
Benzene	5	1000	10000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	0.70 U	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.0 U	2.00 U	2.00 UJ	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 UJ	2.00 UJ	1.0 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	5.0 U	5.0 U	2.0 U	2.00 U	2.00 U	2.00 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.0 UJ	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.0 U	2.00 UJ	2.00 UJ	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 UJ	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.0 UJ	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000	**1.5**	**1.5**	**1.82 J**	**1.38**	**1.18**	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	**6.2**	**6.2**	**7.40**	**7.51**	**5.91**	**4.6**	**4.6**	**2.6**	**1.68**	**4.11**	**4.40**	**2.0**	**2.0**
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000	**8.7 J**	**9.3 J**	**12.6**	**10.4**	**12.1**	**9.4**	**9.5**	1.0 UJ	1.00 U	2.00 U	2.00 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	**9.0**	**9.6**	**9.55 J**	**10.4**	**7.19**	**6.0**	**5.8**	**1.8**	1.00 U	**3.05**	**3.33**	**1.1**	**1.0**
N-Propylbenzene	NE	NE	NE	NE	**16.6**	**17.3**	**17.9**	**18.0**	**16.3**	**12**	**12**	**3.8**	**1.65**	**7.55**	**7.92**	**4.5**	**4.6**
o-Xylene	10000	3000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	**9.1**	**9.2**	**10.6**	1.00 UJ	**7.72 J**	**6.3**	**6.2**	**4.5**	**4.76**	**9.19**	**9.47**	**8.9**	**9.0**
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.0 U	2.00 U	2.00 U	2.00 U	R	R	2.0 U	2.00 U	2.00 U	2.00 U	R	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 UJ	0.50 UJ	0.50 U	0.50 U	0.40 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 UJ	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 UJ	1.0 U	**1.6 J**	1.00 U	1.00 U	1.00 U	1.0 UJ	1.0 UJ
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	2.0 U	**2**	**2**	**1**	**1**	2.0 U	2.0 U	**2**	**2**	**1**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL (continued)											
				Location ID:	GZA-102S	GZA-102S	GZA-105D	GZA-105D	GZA-105D	GZA-105D	GZA-105R	GZA-105R	GZA-105R	GZA-105R	GZA-105S	GZA-105S
				Sample ID:	18A-GZA102S-092418-1	19A-GZA102S-091319-1	16A-GZA105D-061516-1	17A-GZA-105D-101917-1	18A-GZA105D-092518-1	19A-GZA105D-091819-1	16A-GZA105R-061516-1	17A-GZA105R-100917-1	18A-GZA105R-091918-1	19A-GZA105R-091819-1	16A-GZA105S-061516-1	17A-GZA105S-100917-1
				Sample Date:	9/24/2018	9/13/2019	6/15/2016	10/19/2017	9/25/2018	9/18/2019	6/15/2016	10/9/2017	9/19/2018	9/18/2019	6/15/2016	10/9/2017
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	2.5-11.5 ft	2.5-11.5 ft	16 - 26 ft	16 - 26 ft	16 - 26 ft	16-26 ft	34.5 - 36.5 ft	34.5 - 36.5 ft	34.5 - 36.5 ft	34.5-36.5 ft	4 - 14 ft	4 - 14 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 UJ	1.0 U	200 U	200 UJ	200 UJ	50 U	1.0 U	1.00 UJ
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 UJ	200 U	100 U	1.0 U	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	R	5.0 U	5.00 U	2.50 U	0.50 U	100 U	100 U	100 U	50 U	0.5 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.00 U	1.0 U	**11.5**	**23.0**	**7.40**	**3.6**	200 U	200 U	200 U	**93**	1.0 U	1.00 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.00 U	1.0 U	**11.6**	**11.0 J**	5.00 U	**2.8**	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,1-Dichloropropene	NE	NE	NE	NE	1.00 UJ	1.0 U	10.0 U	10.0 U	5.00 UJ	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.00 U	0.50 U	10.0 U	10.0 U	5.00 U	0.50 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	70 U	1.0 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	56 U	1.0 U	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.00 U	R	20.0 U	20.0 U	10.0 U	R	400 UJ	400 UJ	400 UJ	R	2.0 UJ	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.50 U	5.0 U	5.00 U	2.50 U	0.50 U	100 U	100 U	100 U	50 U	0.5 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	1.00 U	0.60 U	10.0 U	10.0 U	5.00 U	0.60 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	60 U	1.0 U	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 UJ	40 U	NS	200 U	100 UJ	40 U	4000 U	4000 U	4000 UJ	4000 U	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 UJ	5.00 U	1.0 U	200 U	200 UJ	200 U	100 U	1.0 U	1.00 U
2-Butanone	4000	50000	50000	100000	2.00 U	R	100 U	20.0 UJ	10.0 U	R	2000 U	400 U	400 U	R	10.0 U	2.00 U
2-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
2-Hexanone	NE	NE	NE	NE	2.00 UJ	R	100 U	20.0 U	10.0 UJ	5.0 U	2000 U	400 U	400 U	200 U	10.0 U	2.00 U
2-Phenylbutane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	**1.8**	**1.77 J**
4-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2.00 UJ	R	100 U	20.0 U	10.0 UJ	5.0 U	2000 U	400 U	400 U	350 U	10.0 U	2.00 U
Acetone	6300	50000	50000	100000	10.0 UJ	R	100 U	100 U	50.0 U	R	2000 U	2000 U	2000 UJ	R	10.0 UJ	10.0 U
Benzene	5	1000	10000	100000	1.00 U	0.70 U	10.0 U	10.0 U	5.00 U	0.70 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
Bromobenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	62 U	1.0 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	83 U	1.0 U	1.00 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.50 U	5.0 U	5.00 U	2.50 U	0.50 U	100 U	100 UJ	100 U	50 U	0.5 U	0.50 UJ
Bromoform	4	700	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 UJ	R	200 U	200 UJ	200 UJ	R	1.0 U	1.00 UJ
Bromomethane	10	7	800	8000	2.00 U	1.0 U	20.0 U	20.0 UJ	10.0 U	1.0 U	400 UJ	400 U	400 U	50 U	2.0 U	2.00 U
Carbon Disulfide	NE	NE	NE	NE	2.00 U	5.0 U	20.0 U	20.0 U	10.0 U	5.0 U	400 U	400 U	400 U	500 U	2.0 U	2.00 U
Carbon Tetrachloride	5	2	5000	50000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 UJ	200 UJ	50 U	1.0 U	1.00 U
Chlorobenzene	100	200	1000	10000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Chloroethane	NE	NE	NE	NE	2.00 U	1.0 U	20.0 UJ	20.0 U	10.0 U	1.0 U	400 U	400 U	400 U	100 U	2.0 U	2.00 U
Chloroform	70	50	20000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
Chloromethane	NE	NE	NE	NE	2.00 U	1.0 U	20.0 UJ	20.0 U	10.0 U	1.0 U	400 UJ	400 U	400 UJ	100 U	2.0 U	2.00 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**14.8**	**2.7**	**419**	**823**	**244**	**130**	**216**	**222**	**264**	**210**	1.0 U	1.00 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.40 U	5.0 U	5.00 U	2.50 U	0.40 U	100 U	100 U	100 U	50 U	0.5 U	0.50 U
Cymene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 UJ
Dibromochloromethane	2	20	50000	100000	0.50 U	0.50 U	5.0 U	5.00 U	2.50 U	0.50 UJ	100 U	100 UJ	100 UJ	50 UJ	0.5 U	0.50 UJ
Dibromomethane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	50 U	1.0 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.00 U	1.0 U	20.0 U	20.0 U	10.0 U	1.0 U	400 U	400 U	400 U	100 U	2.0 U	2.00 UJ
Diethyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 UJ	200 U	100 U	1.0 U	1.00 UJ
Ethylbenzene	700	20000	5000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.50 U	0.40 U	5.0 U	5.00 U	2.50 U	0.40 U	100 U	100 U	100 U	50 U	0.5 U	0.50 U
Isopropylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	2.00 U	1.0 U	20.0 U	20.0 U	10.0 U	1.0 U	400 U	400 U	400 U	100 U	2.0 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 UJ	200 U	70 U	1.0 U	1.00 UJ
Methylene Chloride	5	2000	50000	100000	2.00 U	1.0 U	20.0 U	20.0 U	10.0 U	1.0 U	400 U	400 U	400 U	50 U	2.0 U	2.00 U
Naphthalene	140	700	20000	100000	2.00 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U	200 UJ	200 U	400 U	100 U	1.0 UJ	**2.00**
N-Butylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	**1.1**	**1.90 J**
N-Propylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	**1.03**
o-Xylene	10000	3000	5000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Styrene	100	100	6000	60000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	**7.1**	**4.17**
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 UJ	200 U	100 U	1.0 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**2.27 J**	**2.0**	**134**	**382**	**116**	**24**	**4980**	**5630**	**5350**	**5100**	1.0 U	1.00 U
Tetrahydrofuran	NE	NE	NE	NE	2.00 U	R	20.0 U	20.0 U	10.0 U	2.5 U	400 U	400 U	400 U	250 U	2.0 U	2.00 U
Toluene	**1000**	50000	40000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	**1.5**	200 U	200 U	200 U	80 U	1.0 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.40 U	5.0 U	5.00 U	2.50 U	0.40 U	100 U	100 UJ	100 U	50 U	0.5 U	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**6.39**	**2.9**	**250**	**994**	**289**	**55**	**7120**	**8270**	**7570**	**6700**	1.0 U	1.00 U
Trichlorofluoromethane	NE	NE	NE	NE	1.00 U	1.0 U	10.0 U	10.0 U	5.00 U	1.0 U	200 U	200 U	200 U	100 U	1.0 U	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	**9.57**	**1.3**	**79.7**	**83.9**	**46.8**	**23**	200 U	200 U	200 U	50 U	1.0 UJ	1.00 U
Xylenes (Total)	10000	3000	5000	100000	**2**	**1**	20 U	20 U	**10**	**1**	400 U	400 U	**400**	**100**	2.0 U	2.0 U

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL (continued)												
				Location ID:	GZA-105S	GZA-105S	GZA-105S	IP-01R2	IP-01R2	IP-01R2	IP-01R2	IP-01R2	IP-01R2	PZ-2S	PZ-2S	TRC-101	TRC-101
				Sample ID:	17A-GZA105S-100917-2	18A-GZA105S-092518-1	19A-GZA105S-091819-1	16A-IPIR2-062716-1	17A-IP1R2-100617-1	17A-IP1R2-100617-2	18A-IP1R2-092418-1	18A-IP1R2-092418-2	19A-IP1R2-091319-1	18A-PZ2S-092418-1	19A-PZ2S-093019-1	18A-TRC101-092418-1	19A-TRC101-091919-1
				Sample Date:	10/9/2017	9/25/2018	9/18/2019	6/27/2016	10/6/2017	10/6/2017	9/24/2018	9/24/2018	9/13/2019	9/24/2018	9/30/2019	9/24/2018	9/19/2019
				Sample Type:	FD	N	N	N	N	FD	N	FD	N	N	N	N	N
				Depth Interval:	4 - 14 ft	4 - 14 ft	4 - 14 ft	54 - 74 ft	54 - 74 ft	54 - 74 ft	54 - 74 ft	54 - 74 ft	54-74 ft	3.5 - 8.5 ft	3.5 to 8.5 ft	1.5 - 10.5 ft	1.5-10.5 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.00 UJ	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	0.50 U	R	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	R	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.00 U	1.00 U	1.0 U	**149**	**109**	**101**	200 U	200 U	**130**	1.00 U	1.0 U	**1.54**	**1.4**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	**34**	1.00 U	1.0 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.00 U	1.00 UJ	1.0 U	100 U	100 U	100 U	200 UJ	200 UJ	40 U	1.00 UJ	1.0 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	0.50 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	0.50 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	**1.4**	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.00 U	2.00 U	R	200 U	200 U	200 U	400 U	400 U	R	2.00 U	R	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.50 U	0.50 U	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.00 U	1.00 U	0.60 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	0.60 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 UJ	1.0 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 UJ	40 U	2000 U	2000 U	2000 U	4000 UJ	4000 UJ	1600 U	20.0 U	40 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 UJ	1.0 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	2.00 U	2.00 UJ	R	1000 U	200 U	200 U	400 U	400 U	R	2.00 U	R	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	2.00 U	2.00 UJ	R	1000 U	200 U	200 U	400 UJ	400 UJ	80 U	2.00 U	R	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	**1.93 J**	**1.19**	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	**8.41**	**7.6**
4-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2.00 U	2.00 U	R	1000 U	200 U	200 U	400 UJ	400 UJ	200 U	2.00 U	R	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	R	1000 U	1000 U	1000 U	2000 UJ	2000 UJ	R	10.0 U	R	10.0 U	R
Benzene	5	1000	10000	100000	1.00 U	1.00 U	0.70 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	0.70 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 UJ	0.50 U	0.50 U	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.00 UJ	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	R	1.00 U	1.0 U	1.00 U	R
Bromomethane	10	7	800	8000	2.00 U	2.00 UJ	R	200 U	200 U	200 U	400 U	400 U	20 U	2.00 UJ	R	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.00 U	2.00 U	5.0 U	200 U	200 U	200 U	400 U	400 U	200 U	2.00 U	5.0 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.00 U	2.00 U	1.0 U	200 UJ	200 U	200 U	400 U	400 U	40 U	2.00 U	1.0 UJ	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 UJ	1.0 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.00 U	2.00 U	1.0 U	200 UJ	200 U	200 U	400 U	400 U	40 U	2.00 U	1.0 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.00 U	1.00 U	1.0 U	**110**	**105 J**	**121 J**	200 U	200 U	**120**	**1.02**	1.0 U	1.00 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.50 U	0.40 U	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	0.40 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.00 UJ	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 UJ	0.50 U	0.50 U	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.00 UJ	2.00 U	1.0 U	200 U	200 U	200 U	400 U	400 U	40 U	2.00 UJ	1.0 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.00 UJ	1.00 U	1.0 U	100 UJ	100 UJ	100 UJ	200 U	200 U	40 U	1.00 UJ	1.0 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.50 U	0.50 U	0.40 U	50.0 U	50.0 U	50.0 U	100 U	100 U	20 U	0.50 U	0.40 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	**4.67**	**3.0**
M, P Xylenes	10000	3000	5000	100000	2.00 U	2.00 U	1.0 U	200 U	200 U	200 U	400 U	400 U	40 U	2.00 U	1.0 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.00 UJ	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.00 U	2.00 U	1.0 U	200 U	200 U	200 U	400 U	400 U	20 UJ	2.00 U	1.0 U	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	**1.31**	2.00 U	1.0 U	100 UJ	100 U	100 U	400 U	400 U	40 U	2.00 U	1.0 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	**1.47 J**	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	**7.95**	**5.6**
N-Propylbenzene	NE	NE	NE	NE	**1.12**	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	**17.2**	**11**
o-Xylene	10000	3000	5000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	**4.77**	**2.54**	**2.9**	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	**15.4**	**11**
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 U	100 UJ	100 UJ	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.00 U	1.00 U	1.0 U	**3560**	**4450**	**4700**	**2930 J**	**3090 J**	**3400**	1.00 U	1.0 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.00 U	2.00 U	R	200 U	200 U	200 U	400 U	400 U	100 U	2.00 U	R	2.00 UJ	2.5 U
Toluene	**1000**	50000	40000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.00 U	1.00 U	1.0 U	100 U	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.50 U	0.40 U	50.0 U	50.0 UJ	50.0 UJ	100 U	100 U	20 U	0.50 U	0.40 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.00 U	1.00 U	1.0 U	**7290 J-**	**8450**	**8590**	**7430**	**7570**	**7300**	1.00 U	1.0 U	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	40 U	1.00 U	1.0 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.00 U	1.00 U	1.0 U	100 UJ	100 U	100 U	200 U	200 U	20 U	1.00 U	1.0 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	**2**	**1**	200 U	200 U	200 U	**400**	**400**	**40**	**2**	**1**	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL (continued)										
				Location ID:	TRC-102	TRC-102	TRC-102	TRC-102	TRC-102	TRC-103	TRC-103	TRC-401R	TRC-401R	TRC-401R	TRC-401R
				Sample ID:	16A-TRC102-062716-1	16A-TRC102-062716-2	17A-TRC102-100217-1	18A-TRC102-092418-1	19A-TRC102-092019-1	18A-TRC103-092418-1	19A-TRC103-091919-1	16A-TRC401R-062716-1	17A-TRC401R-100917-1	18A-TRC401R-091918-1	19A-TRC401R-093019-1
				Sample Date:	6/27/2016	6/27/2016	10/2/2017	9/24/2018	9/20/2019	9/24/2018	9/19/2019	6/27/2016	10/9/2017	9/19/2018	9/30/2019
				Sample Type:	N	FD	N	N	N	N	N	N	N	N	N
				Depth Interval:	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25-12.25 ft	1.25 - 11.25 ft	1.25-11.25 ft	38 - 58 ft	38 - 58 ft	38 - 58 ft	38-58 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**											
Volatile Organic Compounds (µg/l)															
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 UJ	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	50.0 U	2.50 U	10.0 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	**145**	**40.8**	**75.2 J**	**92**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	**20**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 UJ	1.0 U	100 U	5.00 U	20.0 U	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 U	2.00 U	R	2.00 U	R	200 U	10.0 U	40.0 UJ	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.5 UJ	0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	50.0 U	2.50 U	10.0 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	0.60 U	1.00 U	0.60 U	100 U	5.00 U	20.0 U	10 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 UJ	20.0 U	20.0 U	40 U	20.0 UJ	40 U	2000 U	100 UJ	400 UJ	800 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 UJ	20.0 UJ	20 U
2-Butanone	4000	50000	50000	100000	10.0 U	10.0 UJ	2.00 U	2.00 U	R	2.00 U	R	1000 U	10.0 U	40.0 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
2-Hexanone	NE	NE	NE	NE	10.0 U	10.0 UJ	2.00 U	2.00 U	5.0 U	2.00 UJ	5.0 U	1000 U	10.0 U	40.0 U	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	10.0 UJ	2.00 U	2.00 UJ	5.0 U	2.00 UJ	5.0 U	1000 U	10.0 U	40.0 U	R
Acetone	6300	50000	50000	100000	10.0 UJ	10.0 UJ	10.0 U	10.0 U	R	10.0 UJ	R	1000 UJ	50.0 U	200 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	0.70 U	1.00 U	0.70 U	100 U	5.00 U	20.0 U	10 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	50.0 U	2.50 U	10.0 U	10 U
Bromoform	4	700	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	R	1.00 U	R	100 U	5.00 U	20.0 UJ	10 U
Bromomethane	10	7	800	8000	2.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.00 U	1.0 U	200 U	10.0 U	40.0 U	R
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 UJ	2.00 UJ	5.0 U	2.00 U	5.0 U	200 U	10.0 U	40.0 U	100 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 UJ	10 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 U	2.00 UJ	1.0 U	2.00 U	1.0 U	200 U	10.0 U	40.0 U	20 U
Chloroform	70	50	20000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 UJ	2.00 U	1.0 U	2.00 U	1.0 U	200 UJ	10.0 U	40.0 UJ	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**6.7 J**	**3.8 J**	**1.66**	**1.16 J**	1.0 U	**3.20**	**1.2**	**107**	**28.6**	**127**	**100**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.5 UJ	0.50 UJ	0.50 U	0.40 U	0.50 U	0.40 U	50.0 U	2.50 U	10.0 U	10 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.5 UJ	0.50 U	0.50 U	0.50 UJ	0.50 U	0.50 U	50.0 U	2.50 U	10.0 U	10 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	10 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 U	2.00 UJ	1.0 U	2.00 U	1.0 U	200 UJ	10.0 U	40.0 U	20 U
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 UJ	5.00 U	20.0 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.50 U	0.40 U	50.0 U	2.50 U	10.0 U	10 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.00 U	1.0 U	200 U	10.0 U	40.0 U	20 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Methylene Chloride	5	2000	50000	100000	2.0 UJ	2.0 UJ	2.00 U	2.00 UJ	1.0 U	2.00 U	1.0 U	200 UJ	10.0 U	40.0 U	10 U
Naphthalene	140	700	20000	100000	1.0 U	1.0 UJ	1.00 U	2.00 UJ	1.0 U	2.00 U	1.0 U	100 U	5.00 U	40.0 U	20 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Styrene	100	100	6000	60000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 UJ	**2.88**	**2.81**	**6.1**	**1.25**	**1.1**	100 U	5.00 U	20.0 U	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 UJ	1.0 U	**2240 J+**	**216**	**1070**	**2600**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.0 UJ	2.00 U	2.00 U	2.5 U	2.00 U	2.5 U	200 U	10.0 U	40.0 U	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.5 UJ	0.50 UJ	0.50 U	0.40 U	0.50 U	0.40 U	50.0 U	2.50 U	10.0 UJ	10 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**1.1**	**1.0 J-**	**1.10**	1.00 U	1.0 U	**2.03**	1.0 U	**4150 J**	**355**	**1960**	**5200**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.00 U	1.0 U	100 U	5.00 U	20.0 U	20 U
Vinyl Chloride	**2**	**2**	50000	100000	**5.2**	**5.2 J-**	**1.09 J**	1.00 UJ	1.0 U	**2.39**	1.0 U	100 U	5.00 U	20.0 U	10 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	2.0 U	**2**	**1**	**2**	**1**	200 U	10 U	**40**	**20**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Tank Farm											
				Location ID:	AE100R-1	AE100R-1	AE100R-1	AE100R-1	AE100R-3	AE100R-3	AE100R-3	AE100R-3	AE100R-4	AE100R-4	AE100R-4	AE100R-4
				Sample ID:	16A-AE100R1-061516-1	17A-AE100R1-100417-1	18A-AE100R1-091918-1	19A-AE100R1-092319-1	16A-AE100R3-061516-1	17A-AE100R3-100417-1	18A-AE100R3-091918-1	19A-AE100R3-092319-1	16A-AE100R4-061516-1	17A-AE100R4-100417-1	18A-AE100R4-091918-1	19A-AE100R4-092319-1
				Sample Date:	6/15/2016	10/4/2017	9/19/2018	9/23/2019	6/15/2016	10/4/2017	9/19/2018	9/23/2019	6/15/2016	10/4/2017	9/19/2018	9/23/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	18 - 24 ft	18 - 24 ft	18 - 24 ft	18-24 ft	50 - 56 ft	50 - 56 ft	50 - 56 ft	50-56 ft	63 - 68 ft	63 - 68 ft	63 - 68 ft	63-68 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	20.0 UJ	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	10.0 U	R	25.0 U	25.0 U	50.0 U	R	25.0 U	25.0 U	50.0 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	**73**	50.0 U	50.0 U	100 U	70 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	70 U	50.0 U	50.0 U	100 U	70 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	**46.5**	**6.12**	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	40.0 UJ	R	100 UJ	100 UJ	200 UJ	R	100 UJ	100 UJ	200 UJ	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	10.0 U	0.50 U	25.0 U	25.0 U	50.0 U	50 U	25.0 U	25.0 U	50.0 U	50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	20.0 U	0.60 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	**2.8**	**1.11**	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	400 UJ	40 U	NS	1000 U	2000 UJ	4000 U	NS	1000 U	2000 UJ	4000 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	20.0 U	1.0 U	50.0 U	50.0 UJ	100 UJ	100 U	50.0 U	50.0 UJ	100 UJ	100 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	40.0 U	R	500 U	100 U	200 U	R	500 U	100 U	200 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	40.0 U	R	500 U	100 U	200 UJ	R	500 U	100 U	200 UJ	R
2-Phenylbutane	NE	NE	NE	NE	**3.0**	**2.75**	20.0 U	**2.2**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	40.0 U	R	500 U	100 U	200 U	R	500 U	100 U	200 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	200 UJ	R	500 U	500 U	1000 UJ	R	500 U	500 U	1000 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	20.0 U	0.70 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	10.0 U	0.50 U	25.0 U	25.0 U	50.0 U	50 U	25.0 U	25.0 U	50.0 U	50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 UJ	20.0 UJ	1.0 U	50.0 U	50.0 UJ	100 UJ	50 U	50.0 U	50.0 UJ	100 UJ	50 U
Bromomethane	10	7	800	8000	2.0 UJ	2.00 U	40.0 U	R	100 U	100 U	200 UJ	R	100 U	100 U	200 UJ	R
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	40.0 U	5.0 U	100 U	100 U	200 U	500 U	100 U	100 U	200 U	500 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	20.0 UJ	1.0 U	50.0 U	50.0 U	100 UJ	50 U	50.0 U	50.0 U	100 UJ	50 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	40.0 U	1.0 U	100 U	100 U	200 U	100 U	100 U	100 U	200 U	100 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	50 U	50.0 U	50.0 U	100 U	50 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 U	40.0 UJ	1.0 U	100 U	100 U	200 U	100 U	100 U	100 U	200 U	100 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**7.5**	**5.29**	**35.6**	**16**	50.0 U	50.0 U	100 U	**61**	**58.5**	50.0 U	100 U	**89**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	10.0 U	0.40 U	25.0 U	25.0 U	50.0 U	50 U	25.0 U	25.0 U	50.0 U	50 U
Cymene	NE	NE	NE	NE	**2.5**	**1.40**	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	10.0 UJ	0.50 U	25.0 U	25.0 U	50.0 UJ	50 U	25.0 U	25.0 U	50.0 UJ	50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	40.0 U	1.0 U	100 U	100 UJ	200 U	100 U	100 U	100 UJ	200 U	100 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	20.0 U	1.0 U	50.0 U	50.0 UJ	100 U	100 U	50.0 U	50.0 UJ	100 U	100 U
Ethylbenzene	700	20000	5000	100000	**49.2**	**38.1**	20.0 U	**4.7**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	**3.1**	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	10.0 U	0.40 U	25.0 U	25.0 UJ	50.0 U	50 U	25.0 U	25.0 UJ	50.0 U	50 U
Isopropylbenzene	NE	NE	NE	NE	**16.0**	**14.7**	20.0 U	**4.3**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
M, P Xylenes	10000	3000	5000	100000	**33.7**	**8.61**	40.0 U	1.0 U	100 U	100 U	200 U	100 U	100 U	100 U	200 U	100 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 UJ	20.0 U	1.0 U	50.0 U	50.0 UJ	100 U	70 U	50.0 U	50.0 UJ	100 U	70 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	40.0 U	1.0 U	100 U	100 U	200 U	50 U	100 U	100 U	200 U	50 U
Naphthalene	140	700	20000	100000	**15.9 J**	**11.2**	40.0 U	**2.0**	50.0 UJ	50.0 U	200 U	100 U	50.0 UJ	50.0 U	200 U	100 U
N-Butylbenzene	NE	NE	NE	NE	**2.8**	**2.55**	20.0 U	**1.2**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
N-Propylbenzene	NE	NE	NE	NE	**38.3**	**35.3**	20.0 U	**13**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
o-Xylene	10000	3000	5000	100000	**31.9**	**11.0**	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Tert-Butylbenzene	NE	NE	NE	NE	**6.1**	**6.38**	20.0 U	**6.7**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 UJ	100 U	100 U	50.0 U	50.0 UJ	100 U	100 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	**635**	**3.6**	**2270**	**3440 J**	**1390**	**5700**	**1490**	**1900 J**	**1500**	**4000**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	40.0 U	R	100 U	100 U	200 U	R	100 U	100 U	200 U	R
Toluene	**1000**	50000	40000	100000	**78.7**	**29.2**	20.0 U	**1.4**	50.0 U	50.0 U	100 U	100 U	50.0 U	50.0 U	100 U	100 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 U	80 U	50.0 U	50.0 U	100 U	80 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 UJ	10.0 U	0.40 U	25.0 U	25.0 UJ	50.0 U	50 U	25.0 U	25.0 UJ	50.0 U	50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	**971**	**13**	**3410**	**4780**	**2200**	**7300**	**2350**	**2990**	**2740**	**5400**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	20.0 U	1.0 U	50.0 U	50.0 U	100 UJ	100 U	50.0 U	50.0 U	100 UJ	100 U
Vinyl Chloride	**2**	**2**	50000	100000	**3.8**	**1.35**	20.0 U	**4.8**	50.0 UJ	50.0 U	100 U	50 U	50.0 UJ	50.0 U	100 U	50 U
Xylenes (Total)	10000	3000	5000	100000	**65.6**	**19.6**	**40**	**1**	100 U	100 U	**200**	**100**	100 U	100 U	**200**	**100**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Tank Farm A(continued)								Transect A				
				Location ID:	AE100R-5	AE100R-5	AE100R-5	AE100R-5	AE100R-6	AE100R-6	AE100R-6	AE100R-6	AE101D	AE101D	AE101D	AE101D	AE101D
				Sample ID:	16A-AE100R5-061516-1	17A-AE100R5-100417-1	18A-AE100R5-091918-1	19A-AE100R5-092319-1	16A-AE100R6-061516-1	17A-AE100R6-100417-1	18A-AE100R6-091918-1	19A-AE100R6-092319-1	16A-AE101D-061516-1	16A-AE101D-061516-2	17A-AE101D-100217-1	18A-AE101D-092618-1	19A-AE101D-093019-1
				Sample Date:	6/15/2016	10/4/2017	9/19/2018	9/23/2019	6/15/2016	10/4/2017	9/19/2018	9/23/2019	6/15/2016	6/15/2016	10/2/2017	9/26/2018	9/30/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N	N
				Depth Interval:	88 - 93 ft	88 - 93 ft	88 - 93 ft	88-93 ft	108.5 - 113.5 ft	108.5 - 113.5 ft	108.5 - 113.5 ft	108.5-113.5 ft	20 - 25 ft	20 - 25 ft	20 - 25 ft	20 - 25 ft	20-25 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	5.0 U	5.00 U	25.0 U	R	12.5 U	10.0 U	25.0 U	R	0.5 U	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**22.0**	**27.1**	50.0 U	50 U	**28.5**	**31.6**	50.0 U	**32**	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	20.0 U	20.0 UJ	100 UJ	R	50.0 UJ	40.0 UJ	100 UJ	R	2.0 U	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	5.0 U	5.00 U	25.0 U	25 U	12.5 U	10.0 U	25.0 U	10 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	10.0 U	10.0 U	50.0 U	40 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	200 U	1000 UJ	2000 U	NS	400 U	1000 UJ	800 U	NS	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	10.0 U	10.0 UJ	50.0 UJ	50 U	25.0 U	20.0 UJ	50.0 UJ	20 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	100 U	20.0 U	100 U	R	250 U	40.0 U	100 U	R	10.0 U	10.0 U	2.00 U	2.00 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	100 U	20.0 U	100 UJ	R	250 U	40.0 U	100 UJ	R	10.0 U	10.0 U	2.00 U	2.00 UJ	R
2-Phenylbutane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	100 U	20.0 U	100 U	R	250 U	40.0 U	100 U	R	10.0 U	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	100 U	100 U	500 UJ	R	250 U	200 U	500 UJ	R	10.0 U	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	10.0 U	10.0 U	50.0 U	25 U	25.0 U	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	5.0 U	5.00 U	25.0 U	25 U	12.5 U	10.0 U	25.0 U	10 U	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U
Bromoform	4	700	50000	100000	10.0 U	10.0 UJ	50.0 UJ	25 U	25.0 U	20.0 UJ	50.0 UJ	10 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Bromomethane	10	7	800	8000	20.0 UJ	20.0 U	100 UJ	R	50.0 U	40.0 U	100 UJ	R	2.0 UJ	2.0 UJ	2.00 UJ	2.00 U	R
Carbon Disulfide	NE	NE	NE	NE	20.0 U	20.0 U	100 U	250 U	50.0 U	40.0 U	100 U	100 U	2.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	10.0 U	10.0 U	50.0 UJ	25 U	25.0 U	20.0 U	50.0 UJ	10 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	20.0 U	20.0 U	100 U	50 U	50.0 U	40.0 U	100 U	20 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	20.0 U	20.0 U	100 U	50 U	50.0 U	40.0 U	100 U	20 U	2.0 UJ	2.0 UJ	2.00 U	2.00 U	**1.5**
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**118**	**65.2**	**68.5**	**160**	**188**	**160**	**101 D**	**110**	**20.2**	**20.3**	**51.6**	**24.4**	**32**
cis-1,3-Dichloropropene	NE	NE	NE	NE	5.0 U	5.00 U	25.0 U	25 U	12.5 U	10.0 U	25.0 U	10 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	5.0 U	5.00 U	25.0 UJ	25 U	12.5 U	10.0 U	25.0 UJ	10 U	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	20.0 U	20.0 UJ	100 U	50 U	50.0 U	40.0 UJ	100 U	20 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	10.0 U	10.0 UJ	50.0 U	50 U	25.0 U	20.0 UJ	50.0 U	20 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	5.0 U	5.00 UJ	25.0 U	25 U	12.5 U	10.0 UJ	25.0 U	10 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	20.0 U	20.0 U	100 U	50 U	50.0 U	40.0 U	100 U	20 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	10.0 U	10.0 UJ	50.0 U	50 U	25.0 U	20.0 UJ	50.0 U	20 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	20.0 U	20.0 U	100 U	25 U	50.0 U	40.0 U	100 U	10 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	10.0 UJ	10.0 U	100 U	50 U	25.0 UJ	20.0 U	100 U	20 U	1.0 UJ	1.0 UJ	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	**1.2**
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	10.0 U	10.0 UJ	50.0 U	50 U	25.0 U	20.0 UJ	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**302**	**493 J**	**884**	**1400**	**754**	**849 J**	**744 D**	**1200**	**1.4**	**1.3**	1.00 UJ	**21.4**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	30.0 U	20.0 U	100 U	R	50.0 U	40.0 U	100 U	R	2.0 U	2.0 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	10.0 U	10.0 U	50.0 U	50 U	25.0 U	20.0 U	50.0 U	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	5.0 U	5.00 UJ	25.0 U	25 U	12.5 U	10.0 UJ	25.0 U	10 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**718**	**1020**	**1810**	**2300**	**1170**	**1320**	**1350 D**	**1600**	**3.4**	**3.0**	**2.73**	**11.3**	**3.8**
Trichlorofluoromethane	NE	NE	NE	NE	10.0 U	10.0 U	50.0 UJ	50 U	25.0 U	20.0 U	50.0 UJ	20 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	**33.2**	10.0 U	50.0 U	25 U	25.0 UJ	20.0 U	50.0 U	10 U	1.0 U	1.0 U	1.00 UJ	**1.66**	**1.6**
Xylenes (Total)	10000	3000	5000	100000	20 U	20 U	**100**	**50**	50 U	40 U	**100**	**20**	2.0 U	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)								
				Location ID:	AE101R-1	AE101R-1	AE101R-1	AE101R-1	AE101R-1	AE101R-2	AE101R-2	AE101R-2	AE101R-2
				Sample ID:	16A-AE101R1-061616-1	17A-AE101R1-101117-1	18A-AE101R1-092018-1	19A-AE101R1-092519-1	19A-AE101R1-092519-2	16A-AE101R2-061616-1	17A-AE101R2-101117-1	18A-AE101R2-092018-1	19A-AE101R2-092519-1
				Sample Date:	6/16/2016	10/11/2017	9/20/2018	9/25/2019	9/25/2019	6/16/2016	10/11/2017	9/20/2018	9/25/2019
				Sample Type:	N	N	N	N	FD	N	N	N	N
				Depth Interval:	30.5 - 35.5 ft	30.5 - 35.5 ft	30.5 - 35.5 ft	30.5-35.5 ft	30.5-35.5 ft	55 - 60 ft	55 - 60 ft	55 - 60 ft	55-60 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**									
Volatile Organic Compounds (µg/l)													
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	2.00 UJ	1.0 U	2.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	1.00 U	0.50 U	R	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	**1.55**	2.00 UJ	**1.7**	2.0 U	**7.7**	**7.88**	**5.44 J**	**5.8**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	0.50 U	1.0 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 UJ	2.00 U	4.00 UJ	0.50 U	R	2.0 U	2.00 U	2.00 UJ	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	1.00 U	0.50 U	1.0 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	2.00 U	0.60 U	1.2 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	40.0 UJ	10 U	80 U	20.0 U	20.0 U	20.0 UJ	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 UJ	1.0 U	2.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	4.00 U	5.0 UJ	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	4.00 U	5.0 U	R	10.0 U	2.00 U	2.00 U	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	4.00 U	5.0 U	R	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	20.0 UJ	25 U	R	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	2.00 U	0.70 U	1.4 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	1.00 U	0.50 U	1.0 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	2.00 UJ	1.0 U	R	1.0 U	1.00 U	1.00 UJ	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	4.00 U	1.0 U	R	2.0 U	2.00 UJ	2.00 U	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	4.00 U	5.0 U	10 UJ	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	2.00 UJ	1.0 U	2.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 UJ	2.00 U	4.00 U	1.0 UJ	2.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 UJ	4.00 UJ	1.0 U	2.0 U	2.0 UJ	2.00 UJ	2.00 UJ	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**12.8**	**38.7**	**32.7**	**30**	**27**	**116**	**62.8**	**80.1**	**34**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	1.00 U	0.40 U	1.0 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	1.00 U	0.50 U	1.0 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	4.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	1.00 U	0.40 U	1.0 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	4.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	4.00 U	1.0 UJ	2.0 UJ	2.0 U	2.00 U	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	4.00 U	1.0 U	2.0 U	1.0 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	**1.1**	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**17.9**	**126**	**166**	**160**	**170**	**6.4**	**5.06**	**4.66**	**19**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	4.00 U	2.5 UJ	R	2.0 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	1.00 UJ	0.40 U	1.0 U	0.5 U	0.50 U	0.50 UJ	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**17.7**	**64.9**	**55.0**	**50**	**39**	**28.0**	**25.6**	**35.4**	**44**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	2.00 U	1.0 U	2.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	**7.40**	**6.40**	**6.4**	**5.5 J-**	**11.6**	**10.5**	**14.3**	**5.8**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**4**	**1**	**2**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)							
					Location ID:	AE101R-3	AE101R-3	AE101R-3	AE101R-3	AE101R-3	AE101R-5	AE101R-5	AE101R-5	AE101R-5
					Sample ID:	16A-AE101R3-061616-1	17A-AE101R3-101117-1	18A-AE101R3-092018-1	18A-AE101R3-092018-2	19A-AE101R3-092519-1	16A-AE101R5-061616-1	17A-AE101R5-101917-1	18A-AE101R5-092618-1	19A-AE101R5-092519-1
					Sample Date:	6/16/2016	10/11/2017	9/20/2018	9/20/2018	9/25/2019	6/16/2016	10/19/2017	9/26/2018	9/25/2019
					Sample Type:	N	N	N	FD	N	N	N	N	N
					Depth Interval:	80 - 85 ft	80 - 85 ft	80 - 85 ft	80 - 85 ft	80-85 ft	175 - 180 ft	175 - 180 ft	175 - 180 ft	175-180 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	50.0 U	50.0 U	20.0 U	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	R	25.0 U	25.0 U	10.0 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	**9.9**	**6.52**	**3.88 J**	**3.91 J**	**4.0**	50.0 U	**51.5**	**47.8**	**51**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	**14**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	50.0 U	50.0 U	20.0 U	20 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	R	100 U	100 U	40.0 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	25.0 U	25.0 U	10.0 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	50.0 U	50.0 U	20.0 U	10 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 UJ	20.0 UJ	40 U	NS	1000 U	400 U	800 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 UJ	1.00 UJ	1.0 U	50.0 U	50.0 UJ	20.0 U	20 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	R	500 U	100 U	40.0 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	2.00 U	R	500 U	100 U	40.0 UJ	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	R	500 U	100 U	40.0 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 UJ	10.0 UJ	R	500 U	500 U	200 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	50.0 U	50.0 U	20.0 U	10 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	25.0 U	25.0 U	10.0 U	10 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	50.0 U	50.0 U	20.0 U	10 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 UJ	100 UJ	100 U	40.0 U	10 UJ
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	5.0 U	100 U	100 UJ	40.0 U	100 U
Carbon Tetrachloride	5	2	5000	50000	1.0 UJ	1.00 U	1.00 UJ	1.00 UJ	1.0 U	50.0 U	50.0 UJ	20.0 U	10 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	100 U	100 U	40.0 U	20 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	1.0 U	100 UJ	100 U	40.0 U	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**32.2**	**20.6**	**38.8**	**39.0**	**19**	**786**	**924**	**809**	**1200**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.50 U	0.40 U	25.0 U	25.0 U	10.0 U	10 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	25.0 U	25.0 U	10.0 U	10 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	100 U	100 U	40.0 U	20 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 UJ	20.0 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	25.0 U	25.0 UJ	10.0 U	10 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	100 U	100 U	40.0 U	20 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	2.00 U	1.0 U	100 U	100 UJ	40.0 U	10 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 U	2.00 U	1.0 U	50.0 UJ	50.0 U	40.0 U	20 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**15.5**	**8.66**	**2.22**	**2.06**	**6.9**	**245**	**623**	**451**	**730**
Tetrahydrofuran	NE	NE	NE	NE	**2.9**	2.00 U	2.00 U	2.00 U	R	100 U	100 U	40.0 U	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	**1.4**	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 U	20.0 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 UJ	0.50 UJ	0.40 U	25.0 U	25.0 U	10.0 U	10 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**42.6**	**27.6**	**13.0**	**13.2**	**18**	**2490**	**2560**	**2280**	**2800**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	50.0 U	50.0 UJ	20.0 U	20 U
Vinyl Chloride	**2**	**2**	50000	100000	**5.8**	**2.86**	**10.8**	**10.2**	**4.9**	50.0 U	50.0 U	20.0 U	**14**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**2**	**1**	100 U	100 U	**40**	**20**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE101R-6	AE101R-6	AE101R-6	AE101R-6	AE101S	AE101S	AE101S	AE101S	AE102D	AE102D	AE102D	AE102D
				Sample ID:	16A-AE101R6-061716-1	17A-AE101R6-101917-1	18A-AE101R6-092618-1	19A-AE101R6-093019-1	16A-AE101S-061716-1	17A-AE101S-100217-1	18A-AE101S-092618-1	19A-AE101S-093019-1	16A-AE102D-061316-1	17A-AE102D-100217-1	18A-AE102D-100118-1	19A-AE102D-092519-1
				Sample Date:	6/17/2016	10/19/2017	9/26/2018	9/30/2019	6/17/2016	10/2/2017	9/26/2018	9/30/2019	6/13/2016	10/2/2017	10/1/2018	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	227 - 232 ft	227 - 232 ft	227 - 232 ft	227-232 ft	10 - 15 ft	10 - 15 ft	10 - 15 ft	10-15 ft	33 - 38 ft	33 - 38 ft	33 - 38 ft	33-38 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	10.0 UJ	20.0 U	10.0 U	20 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	5.0 U	10.0 U	5.00 U	R	0.5 U	0.50 U	0.50 U	R	2.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**30.5 J**	**36.2**	**33.8**	**42**	1.0 U	1.00 U	1.00 U	1.0 U	**6.8**	**1.90**	**7.33**	**6.0**
1,1-Dichloroethylene	**7**	**80**	30000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 UJ	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	0.50 U	5.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	10.0 UJ	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	20.0 U	40.0 U	20.0 U	R	2.0 U	2.00 U	2.00 U	R	10.0 UJ	2.00 U	2.00 U	0.50 U
1,2-Dibromoethane	0.02	2	50000	100000	5.0 U	10.0 U	5.00 U	10 U	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	0.60 U	5.0 U	1.00 UJ	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	10.0 UJ	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	400 U	200 U	800 U	NS	20.0 U	20.0 U	40 U	NS	20.0 U	20.0 U	10 U
2,2-Dichloropropane	NE	NE	NE	NE	10.0 UJ	20.0 UJ	10.0 U	20 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	100 U	40.0 U	20.0 UJ	R	10.0 U	2.00 U	2.00 UJ	R	50.0 U	2.00 U	2.00 U	5.0 UJ
2-Chlorotoluene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	100 U	40.0 U	20.0 UJ	R	10.0 U	2.00 U	2.00 UJ	R	50.0 U	2.00 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	100 U	40.0 U	20.0 U	R	10.0 U	2.00 U	2.00 U	R	50.0 U	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	100 U	200 U	100 UJ	R	10.0 U	10.0 U	10.0 UJ	R	50.0 U	10.0 U	10.0 U	25 U
Benzene	5	1000	10000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	0.70 U	5.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	5.0 U	10.0 U	5.00 U	10 U	0.5 U	0.50 UJ	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Bromomethane	10	7	800	8000	20.0 U	40.0 U	20.0 U	R	2.0 U	2.00 UJ	2.00 U	R	10.0 U	2.00 U	2.00 UJ	1.0 U
Carbon Disulfide	NE	NE	NE	NE	20.0 U	40.0 UJ	20.0 U	100 U	2.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	10.0 UJ	20.0 UJ	10.0 U	10 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	20.0 U	40.0 U	20.0 U	20 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	**3.02**	2.00 U	1.0 UJ
Chloroform	70	50	20000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	20.0 U	40.0 U	20.0 U	20 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**853**	**1140**	**1620**	**1500**	**18.6**	**40.8**	**17.5**	**19**	**36.6**	**12.4**	**60.2**	**4.6**
cis-1,3-Dichloropropene	NE	NE	NE	NE	5.0 UJ	10.0 U	5.00 U	10 U	0.5 UJ	0.50 U	0.50 U	0.40 U	2.5 UJ	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	5.0 U	10.0 U	5.00 U	10 U	0.5 U	0.50 UJ	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	10 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	20.0 U	40.0 U	20.0 U	20 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	10.0 UJ	20.0 U	10.0 U	20 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	10.0 U	20.0 UJ	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	5.0 U	10.0 UJ	5.00 U	10 U	0.5 U	0.50 U	0.50 U	0.40 U	2.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	20.0 U	40.0 U	20.0 U	20 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	10.0 UJ	20.0 U	10.0 U	20 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	20.0 U	40.0 UJ	20.0 U	10 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U	1.0 UJ
Naphthalene	140	700	20000	100000	10.0 U	20.0 U	20.0 U	20 U	1.0 U	1.00 U	2.00 U	1.0 U	5.0 UJ	1.00 U	2.00 UJ	1.0 U
N-Butylbenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	**1.3**	5.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 UJ	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**145**	**378**	**28.3**	**17**	1.0 U	**1.94 J**	**1.13**	1.0 U	**19.6**	**1.05**	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	20.0 U	40.0 U	20.0 U	R	2.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	2.5 UJ
Toluene	**1000**	50000	40000	100000	10.0 U	20.0 U	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	**12.0**	20.0 U	**15.6**	**25**	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	**1.33**	**2.52**	**1.9**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	5.0 UJ	10.0 U	5.00 U	10 U	0.5 UJ	0.50 U	0.50 U	0.40 U	2.5 UJ	0.50 UJ	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**695**	**1270**	**993**	**1300**	**10.7**	**12.9**	**7.41**	1.0 U	**131**	**8.18**	**3.21**	**1.1**
Trichlorofluoromethane	NE	NE	NE	NE	10.0 U	20.0 UJ	10.0 U	20 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	10.0 U	20.0 U	**52.4**	**250**	1.0 U	1.00 UJ	1.00 U	1.0 U	**19.4 J**	**4.71**	1.00 U	**2.7**
Xylenes (Total)	10000	3000	5000	100000	20 U	40 U	**20**	**20**	2.0 U	2.0 U	**2**	**1**	10 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)									
				Location ID:	AE102M	AE102M	AE102M	AE102M	AE102M	AE102RR-2	AE102RR-2	AE102RR-2	AE102RR-2	AE102RR-2
				Sample ID:	16A-AE102M-061316-1	17A-AE102M-100217-1	18A-AE102M-100118-1	19A-AE102M-092519-1	19A-AE102M-092519-2	16A-AE102RR2-061416-1	17A-AE102RR2-100317-1	18A-AE102RR2-091918-1	18A-AE102RR2-091918-2	19A-AE102RR2-092419-1
				Sample Date:	6/13/2016	10/2/2017	10/1/2018	9/25/2019	9/25/2019	6/14/2016	10/3/2017	9/19/2018	9/19/2018	9/24/2019
				Sample Type:	N	N	N	N	FD	N	N	N	FD	N
				Depth Interval:	23 - 28 ft	23 - 28 ft	23 - 28 ft	23-28 ft	23-28 ft	75 - 80 ft	75 - 80 ft	75 - 80 ft	75 - 80 ft	75-80 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	2.50 U	2.50 U	2.5 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**1.3**	**1.82**	**1.91**	**2.4**	**2.5**	**10.3**	**7.95**	**12.2**	**12.8**	**11**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	**2.9**	5.00 U	5.00 U	5.00 U	5.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	0.50 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	0.50 U	0.50 U	2.0 UJ	10.0 U	10.0 U	10.0 U	5.0 U
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	2.50 U	2.50 U	2.5 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	0.60 U	1.0 U	5.00 UJ	5.00 U	5.00 U	3.0 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	3.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 U	10 U	10 U	200 U	100 U	100 U	100 U	500 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 UJ	5.0 UJ	5.0 UJ	10.0 U	10.0 U	10.0 U	10.0 U	25 U
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 UJ	5.0 U	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	25 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	5.0 U	10.0 U	10.0 U	10.0 U	10.0 U	25 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 UJ	25 U	25 U	10.0 U	50.0 U	50.0 U	50.0 U	130 U
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	0.70 U	1.0 U	5.00 U	5.00 U	5.00 U	3.5 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	2.50 U	2.50 U	2.5 U
Bromoform	4	700	50000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	4.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	2.00 U	1.0 U	1.0 U	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	5.0 U	5.0 U	2.0 U	10.0 U	10.0 U	10.0 U	25 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	2.5 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	1.0 UJ	1.0 UJ	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	1.0 U	1.0 U	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**51.0**	**50.3**	**23.2**	**43**	**45**	**88.8**	**211**	**188**	**184**	**130**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 UJ	2.50 U	2.50 U	2.50 U	2.5 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.5 U	2.50 U	2.50 U	2.50 U	2.5 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 U	2.50 U	2.50 U	2.50 U	2.5 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	1.0 U	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	1.0 UJ	1.0 UJ	2.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.0 UJ	5.00 U	10.0 U	10.0 U	5.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	**1.79**	**2.85**	**2.8**	**3.0**	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 UJ	5.00 U	5.00 U	5.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**5.1**	**26.8 J**	**12.9**	**8.8**	**10**	**256**	**109**	**122**	**128**	**130**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.5 UJ	2.5 UJ	2.0 U	10.0 U	10.0 UJ	10.0 UJ	13 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	**1.2**	**1.1**	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.40 U	0.5 UJ	2.50 UJ	2.50 U	2.50 U	2.5 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**10.7**	**17.4**	**16.9**	**23**	**24**	**468**	**256**	**408**	**413**	**400**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	5.00 U	5.00 U	5.00 U	5.0 U
Vinyl Chloride	**2**	**2**	50000	100000	**9.6**	**22.3 J**	**11.4 J-**	**14**	**15**	1.0 UJ	**5.25**	**9.05**	**8.05**	**5.8**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	**1**	2.0 U	10 U	**10**	**10**	**5**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE102RR-4	AE102RR-4	AE102RR-4	AE102RR-4	AE102RR-5	AE102RR-5	AE102RR-5	AE102RR-5	AE102RR-6	AE102RR-6	AE102RR-6	AE102RR-6
				Sample ID:	16A-AE102RR4-061416-1	17A-AE102RR4-100317-1	18A-AE102RR4-091918-1	19A-AE102RR4-092419-1	16A-AE102RR5-061416-1	17A-AE102RR5-100317-1	18A-AE102RR5-091918-1	19A-AE102RR5-092419-1	16A-AE102RR6-061416-1	17A-AE102RR6-100317-1	18A-AE102RR6-091918-1	19A-AE102RR6-092419-1
				Sample Date:	6/14/2016	10/3/2017	9/19/2018	9/24/2019	6/14/2016	10/3/2017	9/19/2018	9/24/2019	6/14/2016	10/3/2017	9/19/2018	9/24/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	125 - 130 ft	125 - 130 ft	125 - 130 ft	125-130 ft	141 - 146 ft	141 - 146 ft	141 - 146 ft	141-146 ft	153 - 158 ft	153 - 158 ft	153 - 158 ft	153-158 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	20.0 U	20.0 U	20.0 UJ	5.0 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	10.0 U	10.0 U	10.0 U	2.5 U	25.0 U	25.0 U	50.0 U	10 U	50.0 U	50.0 U	100 U	10 U
1,1,2-Trichloroethane	5	900	50000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	20.0 U	20.0 U	20.0 U	**13**	50.0 U	50.0 U	100 U	**47**	100 U	100 U	200 U	**80**
1,1-Dichloroethylene	**7**	**80**	30000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	**11**	100 U	100 U	200 U	**23**
1,1-Dichloropropene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2,3-Trichloropropane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2,4-Trichlorobenzene	70	200	50000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	40.0 U	40.0 U	40.0 UJ	R	100 U	100 U	200 UJ	20 U	200 U	200 U	400 UJ	20 U
1,2-Dibromoethane	0.02	2	50000	100000	10.0 U	10.0 U	10.0 U	2.5 U	25.0 U	25.0 U	50.0 U	10 U	50.0 U	50.0 U	100 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,2-Dichloroethane	5	5	20000	100000	20.0 U	20.0 U	20.0 U	3.0 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
1,2-Dichloropropane	5	3	50000	100000	20.0 U	20.0 U	20.0 U	3.0 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	400 U	400 UJ	200 U	NS	1000 U	2000 UJ	2000 U	NS	2000 U	4000 UJ	2000 U
2,2-Dichloropropane	NE	NE	NE	NE	20.0 U	20.0 UJ	20.0 U	5.0 U	50.0 U	50.0 UJ	100 UJ	20 U	100 U	100 UJ	200 UJ	20 U
2-Butanone	4000	50000	50000	100000	200 U	40.0 U	40.0 U	R	500 U	100 U	200 U	100 U	1000 U	200 U	400 U	100 U
2-Chlorotoluene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
2-Hexanone	NE	NE	NE	NE	200 U	40.0 U	40.0 U	R	500 U	100 U	200 UJ	100 U	1000 U	200 U	400 UJ	100 U
2-Phenylbutane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	200 U	40.0 U	40.0 U	25 U	500 U	100 U	200 U	100 U	1000 U	200 U	400 U	100 U
Acetone	6300	50000	50000	100000	200 UJ	200 U	200 UJ	R	500 UJ	500 U	1000 UJ	500 U	1000 UJ	1000 U	2000 UJ	500 U
Benzene	5	1000	10000	100000	20.0 U	20.0 U	20.0 U	3.5 U	50.0 U	50.0 U	100 U	10 U	100 U	100 U	200 U	10 U
Bromobenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Bromochloromethane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Bromodichloromethane	3	6	50000	100000	10.0 U	10.0 U	10.0 U	2.5 U	25.0 U	25.0 U	50.0 U	10 U	50.0 U	50.0 U	100 U	10 U
Bromoform	4	700	50000	100000	20.0 U	20.0 U	20.0 UJ	R	50.0 U	50.0 U	100 UJ	10 U	100 U	100 U	200 UJ	10 U
Bromomethane	10	7	800	8000	40.0 UJ	40.0 U	40.0 U	5.0 U	100 UJ	100 U	200 UJ	10 U	200 UJ	200 U	400 UJ	10 U
Carbon Disulfide	NE	NE	NE	NE	40.0 U	40.0 UJ	40.0 U	25 U	100 U	100 UJ	200 U	100 U	200 U	200 UJ	400 U	100 U
Carbon Tetrachloride	5	2	5000	50000	20.0 U	20.0 U	20.0 UJ	2.5 U	50.0 U	50.0 U	100 UJ	10 U	100 U	100 U	200 UJ	10 U
Chlorobenzene	100	200	1000	10000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Chloroethane	NE	NE	NE	NE	40.0 U	40.0 U	40.0 U	5.0 U	100 U	100 U	200 U	20 U	200 U	200 U	400 U	20 U
Chloroform	70	50	20000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Chloromethane	NE	NE	NE	NE	40.0 U	40.0 UJ	40.0 UJ	5.0 U	100 U	100 UJ	200 U	20 U	200 U	200 UJ	400 U	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**64.8**	**74.4**	**91.8**	**83**	**122**	**125**	**127**	**180**	**229**	**215**	**202**	**240**
cis-1,3-Dichloropropene	NE	NE	NE	NE	10.0 U	10.0 UJ	10.0 U	2.5 U	25.0 U	25.0 UJ	50.0 U	10 U	50.0 U	50.0 UJ	100 U	10 U
Cymene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Dibromochloromethane	2	20	50000	100000	10.0 U	10.0 U	10.0 UJ	2.5 U	25.0 U	25.0 U	50.0 UJ	10 U	50.0 U	50.0 U	100 UJ	10 U
Dibromomethane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	40.0 U	40.0 U	40.0 U	5.0 U	100 U	100 U	200 U	20 U	200 U	200 U	400 U	20 U
Diethyl Ether	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	20.0 U	20.0 UJ	20.0 U	5.0 U	50.0 U	50.0 UJ	100 U	20 U	100 U	100 UJ	200 U	20 U
Ethylbenzene	700	20000	5000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	10.0 U	10.0 U	10.0 U	2.5 U	25.0 U	25.0 U	50.0 U	10 U	50.0 U	50.0 U	100 U	10 U
Isopropylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
M, P Xylenes	10000	3000	5000	100000	40.0 U	40.0 U	40.0 U	5.0 U	100 U	100 U	200 U	20 U	200 U	200 U	400 U	20 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	20.0 U	20.0 UJ	20.0 U	5.0 U	50.0 U	50.0 UJ	100 U	20 U	100 U	100 UJ	200 U	20 U
Methylene Chloride	5	2000	50000	100000	40.0 U	40.0 U	40.0 U	5.0 U	100 U	100 U	200 U	10 U	200 U	200 U	400 U	10 U
Naphthalene	140	700	20000	100000	20.0 UJ	20.0 U	40.0 U	5.0 U	50.0 UJ	50.0 U	200 U	20 U	100 UJ	100 U	400 U	20 U
N-Butylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
N-Propylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
o-Xylene	10000	3000	5000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Styrene	100	100	6000	60000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**657**	**414**	**548**	**340**	**1750**	**1200**	**1320**	**1200**	**3940**	**2910**	**3230**	**3200**
Tetrahydrofuran	NE	NE	NE	NE	40.0 U	40.0 U	40.0 U	13 U	100 U	100 U	200 U	50 U	200 U	200 U	400 U	50 U
Toluene	**1000**	50000	40000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 U	20 U	100 U	100 U	200 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	10.0 U	10.0 UJ	10.0 U	2.5 U	25.0 U	25.0 UJ	50.0 U	10 U	50.0 U	50.0 UJ	100 U	10 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**970**	**606**	**864 J-**	**550**	**2360**	**1650**	**2060**	**2100**	**5310**	**3680**	**4540**	**4300**
Trichlorofluoromethane	NE	NE	NE	NE	20.0 U	20.0 U	20.0 U	5.0 U	50.0 U	50.0 U	100 UJ	20 U	100 U	100 U	200 UJ	20 U
Vinyl Chloride	**2**	**2**	50000	100000	20.0 U	20.0 UJ	20.0 U	2.5 U	50.0 U	50.0 UJ	100 U	10 U	100 U	100 UJ	200 U	10 U
Xylenes (Total)	10000	3000	5000	100000	40 U	40 U	**40**	**5**	100 U	100 U	**200**	**20**	200 U	200 U	**400**	**20**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)											
					Location ID:	AE103D	AE103D	AE103D	AE103D	AE103D	AE103R-1	AE103R-1	AE103R-1	AE103R-1	AE103R-3	AE103R-3	AE103R-3	AE103R-3
					Sample ID:	16A-AE103D-061316-1	17A-AE103D-100317-1	18A-AE103D-092418-1	18A-AE103D-092418-2	19A-AE103D-091919-1	16A-AE103R1-061516-1	17A-AE103R1-100217-1	18A-AE103R1-092518-1	19A-AE103R1-091819-1	16A-AE103R3-061516-1	17A-AE103R3-100217-1	18A-AE103R3-092518-1	19A-AE103R3-091819-1
					Sample Date:	6/13/2016	10/3/2017	9/24/2018	9/24/2018	9/19/2019	6/15/2016	10/2/2017	9/25/2018	9/18/2019	6/15/2016	10/2/2017	9/25/2018	9/18/2019
					Sample Type:	N	N	N	FD	N	N	N	N	N	N	N	N	N
					Depth Interval:	35 - 40 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35-40 ft	48 - 53 ft	48 - 53 ft	48 - 53 ft	48-53 ft	70 - 76 ft	70 - 76 ft	70 - 76 ft	70-76 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 UJ	10 U	200 U	100 U	20.0 U	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 UJ	20.0 U	20 U	200 U	100 UJ	20.0 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	50.0 U	25.0 U	10.0 U	10 U	100 U	50.0 U	10.0 U	10 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	**1.9**	**2.31**	**2.15**	**2.35 J**	**1.6**	100 U	50.0 U	**29.0**	**28**	200 U	100 U	**66.6**	**77 J+**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	**20 J+**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 UJ	20 U	200 U	100 U	20.0 UJ	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	R	200 U	100 UJ	40.0 U	R	400 UJ	200 UJ	40.0 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 UJ	0.50 U	50.0 U	25.0 U	10.0 U	10 U	100 U	50.0 U	10.0 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	0.60 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 U	20.0 U	40 U	NS	1000 U	400 UJ	800 U	NS	2000 U	400 UJ	800 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 UJ	1.0 U	100 U	50.0 UJ	20.0 U	20 U	200 U	100 UJ	20.0 U	20 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	R	1000 UJ	100 U	40.0 U	R	2000 U	200 U	40.0 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	1000 U	100 U	40.0 UJ	40 U	2000 U	200 U	40.0 UJ	40 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 UJ	5.0 U	1000 U	100 U	40.0 UJ	100 U	2000 U	200 U	40.0 U	100 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	10.0 U	R	1000 UJ	500 U	200 U	R	2000 U	1000 U	200 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	**0.75**	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	50.0 U	25.0 UJ	10.0 U	10 U	100 U	50.0 UJ	10.0 U	10 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	R	100 U	50.0 UJ	20.0 UJ	R	200 U	100 UJ	20.0 U	R
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	200 UJ	100 UJ	40.0 U	10 U	400 U	200 UJ	40.0 UJ	10 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	2.00 UJ	5.0 U	200 U	100 UJ	40.0 U	100 U	400 U	200 UJ	40.0 U	100 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 UJ	20.0 U	10 U	200 U	100 UJ	20.0 U	10 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 UJ	1.0 U	200 U	100 U	40.0 U	20 U	400 U	200 U	40.0 U	20 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	2.00 U	1.0 U	200 UJ	100 U	40.0 U	20 U	400 U	200 U	40.0 U	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**3.9**	**4.99**	**5.20**	**5.74 J**	**3.2**	**1830**	**630**	**336**	**360**	**3130**	**511**	**436**	**330 J+**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 UJ	0.50 U	0.50 U	0.40 U	50.0 U	25.0 U	10.0 U	10 U	100 U	50.0 U	10.0 U	10 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	50.0 U	25.0 UJ	10.0 U	10 UJ	100 U	50.0 UJ	10.0 U	10 UJ
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	10 U	200 U	100 U	20.0 U	10 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 UJ	1.0 U	200 U	100 U	40.0 U	20 U	400 U	200 U	40.0 U	20 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 UJ	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 UJ	1.0 U	100 U	50.0 UJ	20.0 U	20 U	200 U	100 UJ	20.0 U	20 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	50.0 U	25.0 U	10.0 U	10 U	100 U	50.0 U	10.0 U	10 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	200 U	100 U	40.0 U	20 U	400 U	200 U	40.0 U	20 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 UJ	1.00 U	1.00 UJ	1.0 U	100 U	50.0 UJ	20.0 U	20 U	200 U	100 UJ	20.0 U	20 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	2.00 UJ	1.0 U	200 U	100 U	40.0 U	10 U	400 U	200 U	40.0 U	10 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 U	2.00 UJ	1.0 U	100 U	50.0 U	40.0 U	20 U	200 UJ	100 U	40.0 U	20 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**5.7**	**78.3 J-**	**45.9**	**49.4**	**28**	**1620**	**1480**	**1130**	**870**	**3290**	**2950**	**1730**	**1700**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 U	2.5 U	200 U	100 U	40.0 U	50 U	400 U	200 U	40.0 U	50 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 UJ	0.50 U	0.50 U	0.40 U	50.0 U	25.0 U	10.0 U	10 U	100 U	50.0 U	10.0 U	10 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**28.1**	**94.4**	**99.4 J**	**58.8 J**	**53**	**3880**	**2080**	**1590**	**1400**	**6430**	**4450**	**3190**	**3200**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	100 U	50.0 U	20.0 U	20 U	200 U	100 U	20.0 U	20 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 UJ	1.00 U	1.00 UJ	1.0 U	**112**	**74.5**	**49.2**	**23**	**268 J**	**139**	**147**	**100 J+**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**2**	**1**	200 U	100 U	**40**	**20**	400 U	200 U	**40**	**20**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)									
					Location ID:	AE103R-4	AE103R-4	AE103R-4	AE103R-4	AE103R-5	AE103R-5	AE103R-5	AE103R-5	AE103R-7	AE103R-7	AE103R-7	AE103R-7
					Sample ID:	16A-AE103R4-061516-1	17A-AE103R4-100217-1	18A-AE103R4-092518-1	19A-AE103R4-091819-1	16A-AE103R5-061516-1	17A-AE103R5-100217-1	18A-AE103R5-092518-1	19A-AE103R5-091819-1	16A-AE103R7-061516-1	17A-AE103R7-100217-1	18A-AE103R7-092518-1	19A-AE103R7-091819-1
					Sample Date:	6/15/2016	10/2/2017	9/25/2018	9/18/2019	6/15/2016	10/2/2017	9/25/2018	9/18/2019	6/15/2016	10/2/2017	9/25/2018	9/18/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	98 - 105 ft	98 - 105 ft	98 - 105 ft	98-105 ft	122 - 128 ft	122 - 128 ft	122 - 128 ft	122-128 ft	162.5 - 168 ft	162.5 - 168 ft	162.5 - 168 ft	162.5-168 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	200 U	200 UJ	200 UJ	50 U	200 U	200 UJ	200 UJ	50 U	100 U	100 UJ	100 UJ	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	200 U	200 UJ	200 U	100 U	200 U	200 UJ	200 U	100 U	100 U	100 UJ	100 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	10 U
1,1,2-Trichloroethane	5	900	50000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	200 U	200 U	200 U	**140**	200 U	200 U	200 U	**120**	100 U	100 U	100 U	**66**
1,1-Dichloroethylene	**7**	**80**	30000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	**17**
1,1-Dichloropropene	NE	NE	NE	NE	200 U	200 U	200 UJ	100 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 UJ	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,2,3-Trichloropropane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,2,4-Trichlorobenzene	70	200	50000	100000	200 U	200 U	200 U	70 U	200 U	200 U	200 U	70 U	100 U	100 U	100 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	56 U	200 U	200 U	200 U	56 U	100 U	100 U	100 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	400 UJ	400 U	400 U	R	400 UJ	400 U	400 U	R	200 UJ	200 U	200 U	R
1,2-Dibromoethane	0.02	2	50000	100000	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
1,2-Dichloroethane	5	5	20000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,2-Dichloropropane	5	3	50000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	60 U	200 U	200 U	200 U	60 U	100 U	100 U	100 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	4000 U	4000 UJ	4000 U	NS	4000 U	4000 UJ	4000 U	NS	2000 U	2000 UJ	800 U
2,2-Dichloropropane	NE	NE	NE	NE	200 U	200 UJ	200 U	100 U	200 U	200 UJ	200 U	100 U	100 U	100 UJ	100 U	20 U
2-Butanone	4000	50000	50000	100000	2000 U	400 U	400 U	R	2000 U	400 U	400 U	R	1000 U	200 U	200 U	R
2-Chlorotoluene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
2-Hexanone	NE	NE	NE	NE	2000 U	400 U	400 UJ	200 U	2000 U	400 U	400 UJ	200 U	1000 U	200 U	200 UJ	40 U
2-Phenylbutane	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2000 U	400 U	400 UJ	350 U	2000 U	400 U	400 UJ	350 U	1000 U	200 U	200 UJ	100 U
Acetone	6300	50000	50000	100000	2000 U	2000 U	2000 U	R	2000 U	2000 U	2000 U	R	1000 U	1000 U	1000 U	R
Benzene	5	1000	10000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
Bromobenzene	NE	NE	NE	NE	200 U	200 UJ	200 U	62 U	200 U	200 UJ	200 U	62 U	100 U	100 UJ	100 U	20 U
Bromochloromethane	NE	NE	NE	NE	200 U	200 U	200 U	83 U	200 U	200 U	200 U	83 U	100 U	100 U	100 U	20 U
Bromodichloromethane	3	6	50000	100000	100 U	100 UJ	100 U	50 U	100 U	100 UJ	100 U	50 U	50.0 U	50.0 UJ	50.0 U	10 U
Bromoform	4	700	50000	100000	200 U	200 UJ	200 UJ	R	200 U	200 UJ	200 UJ	R	100 U	100 UJ	100 UJ	R
Bromomethane	10	7	800	8000	400 U	400 UJ	400 U	50 U	400 U	400 UJ	400 U	50 U	200 U	200 UJ	200 U	10 U
Carbon Disulfide	NE	NE	NE	NE	400 U	400 U	400 U	500 U	400 U	400 U	400 U	500 U	200 U	200 U	200 U	100 U
Carbon Tetrachloride	5	2	5000	50000	200 U	200 UJ	200 U	50 U	200 U	200 UJ	200 U	50 U	100 U	100 UJ	100 U	10 U
Chlorobenzene	100	200	1000	10000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Chloroethane	NE	NE	NE	NE	400 U	400 U	400 U	100 U	400 U	400 U	400 U	100 U	200 U	200 U	200 U	20 U
Chloroform	70	50	20000	100000	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
Chloromethane	NE	NE	NE	NE	400 U	400 U	400 U	100 U	400 U	400 U	400 U	100 U	200 U	200 U	200 U	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**1080**	**1290**	**888**	**700**	**882**	**936**	**1190**	**1100**	**286**	**341**	**381**	**390**
cis-1,3-Dichloropropene	NE	NE	NE	NE	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	10 U
Cymene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Dibromochloromethane	2	20	50000	100000	100 U	100 UJ	100 U	50 UJ	100 U	100 UJ	100 U	50 UJ	50.0 U	50.0 UJ	50.0 U	10 UJ
Dibromomethane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	10 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	400 U	400 U	400 U	100 U	400 U	400 U	400 U	100 U	200 U	200 U	200 U	20 U
Diethyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	200 U	200 UJ	200 U	100 U	200 U	200 UJ	200 U	100 U	100 U	100 UJ	100 U	20 U
Ethylbenzene	700	20000	5000	100000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	10 U
Isopropylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
M, P Xylenes	10000	3000	5000	100000	400 U	400 U	400 U	100 U	400 U	400 U	400 U	100 U	200 U	200 U	200 U	20 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	200 U	200 UJ	200 U	70 U	200 U	200 UJ	200 U	70 U	100 U	100 UJ	100 U	20 U
Methylene Chloride	5	2000	50000	100000	400 U	400 U	400 U	50 U	400 U	400 U	400 U	50 U	200 U	200 U	200 U	10 U
Naphthalene	140	700	20000	100000	200 UJ	200 U	400 U	100 U	200 UJ	200 U	400 U	100 U	100 UJ	100 U	200 U	20 U
N-Butylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
N-Propylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
o-Xylene	10000	3000	5000	100000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Styrene	100	100	6000	60000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**7170**	**6190 J**	**4700**	**4100**	**7620**	**7030 J**	**5960**	**5500**	**3590**	**3600 J**	**2690**	**2100**
Tetrahydrofuran	NE	NE	NE	NE	400 U	400 U	400 U	250 U	400 U	400 U	400 U	250 U	200 U	200 U	200 U	50 U
Toluene	**1000**	50000	40000	100000	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	200 U	200 U	200 U	80 U	200 U	200 U	200 U	80 U	100 U	100 U	100 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	10 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**13500**	**9660**	**8890**	**7400**	**12800**	**9980**	**9710**	**9200**	**5170**	**4710**	**4380**	**4000**
Trichlorofluoromethane	NE	NE	NE	NE	200 U	200 U	200 U	100 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	20 U
Vinyl Chloride	**2**	**2**	50000	100000	200 UJ	200 UJ	200 U	**100**	200 UJ	200 UJ	200 U	**190**	100 UJ	100 UJ	100 U	**42**
Xylenes (Total)	10000	3000	5000	100000	400 U	400 U	**400**	**100**	400 U	400 U	**400**	**100**	200 U	200 U	**200**	**20**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)										
					Location ID:	AE103S	AE103S	AE103S	AE103S	AE104D	AE104D	AE104D	AE104D	AE104R-1	AE104R-1	AE104R-1	AE104R-1
					Sample ID:	16A-AE103S-061516-1	17A-AE103S-100317-1	18A-AE103S-092418-1	19A-AE103S-091919-1	16A-AE104D-061316-1	17A-AE104D-101017-1	18A-AE104D-092618-1	19A-AE104D-092019-1	16A-AE104R1-061416-1	17A-AE104R1-100317-1	18A-AE104R1-092618-1	19A-AE104R1-091819-1
					Sample Date:	6/15/2016	10/3/2017	9/24/2018	9/19/2019	6/13/2016	10/10/2017	9/26/2018	9/20/2019	6/14/2016	10/3/2017	9/26/2018	9/18/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	15 - 20 ft	15 - 20 ft	15 - 20 ft	15-20 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35-40 ft	48 - 54 ft	48 - 54 ft	48 - 54 ft	48-54 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	**1.0**	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	10.0 U	10.0 U	10.0 U	2.5 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**1.2**	**1.68**	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**36.8**	**38.6**	**39.4**	**26**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 UJ	5.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	2.5 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	R	2.0 UJ	2.00 U	2.00 U	R	40.0 UJ	40.0 U	40.0 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	10.0 U	10.0 U	10.0 U	2.5 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 UJ	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	20.0 U	20.0 U	20.0 U	3.0 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	3.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 U	40 U	NS	20.0 U	20.0 U	40 U	NS	400 U	400 UJ	200 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	20.0 U	20.0 UJ	20.0 U	5.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	200 U	40.0 U	40.0 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 UJ	5.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	200 U	40.0 U	40.0 UJ	25 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	200 U	40.0 U	40.0 UJ	25 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	200 U	200 U	200 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	20.0 U	20.0 U	20.0 U	3.5 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 UJ	5.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U	10.0 U	10.0 U	10.0 U	2.5 U
Bromoform	4	700	50000	100000	1.0 U	1.00 UJ	1.00 U	R	1.0 U	1.00 U	1.00 U	R	20.0 U	20.0 U	20.0 UJ	R
Bromomethane	10	7	800	8000	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	40.0 U	40.0 U	40.0 U	5.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 UJ	5.0 U	40.0 U	40.0 UJ	40.0 U	25 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	2.5 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	40.0 U	40.0 U	40.0 U	5.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	40.0 U	40.0 UJ	40.0 U	5.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**3.0**	**8.08**	1.00 UJ	1.0 U	**1.2**	1.00 U	1.00 U	1.0 U	**78.6**	**122**	**166**	**240**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	10.0 UJ	10.0 UJ	10.0 UJ	2.5 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	10.0 U	10.0 U	10.0 U	2.5 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	40.0 U	40.0 U	40.0 UJ	5.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 UJ	20.0 U	5.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	10.0 U	10.0 U	10.0 U	2.5 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	40.0 U	40.0 U	40.0 U	5.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 UJ	20.0 U	5.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	40.0 U	40.0 U	40.0 U	5.0 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 UJ	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	20.0 UJ	20.0 U	40.0 UJ	5.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Tert-Butylbenzene	NE	NE	NE	NE	**1.8**	**1.49**	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	**18.1**	**12.6**	**3.25**	1.0 U	**469**	**477**	**315**	**130**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.5 U	2.0 U	2.00 U	2.00 U	2.5 U	40.0 U	40.0 U	40.0 U	13 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	10.0 UJ	10.0 UJ	10.0 U	2.5 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	**1.08**	1.00 U	1.0 U	**10.6**	**7.94**	**3.37**	**2.2**	**1320**	**1500**	**1280**	**540**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	20.0 U	20.0 U	20.0 U	5.0 U
Vinyl Chloride	**2**	**2**	50000	100000	**2.9**	**7.44 J**	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	20.0 UJ	20.0 UJ	**26.2 J**	**29**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	40 U	40 U	**40**	**5**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE104R-3	AE104R-3	AE104R-3	AE104R-3	AE104R-4	AE104R-4	AE104R-4	AE104R-4	AE104R-5	AE104R-5	AE104R-5	AE104R-5
				Sample ID:	16A-AE104R3-061416-1	17A-AE104R3-100317-1	18A-AE104R3-092618-1	19A-AE104R3-091819-1	16A-AE104R4-061416-1	17A-AE104R4-100317-1	18A-AE104R4-092618-1	19A-AE104R4-091819-1	16A-AE104R5-061416-1	17A-AE104R5-100317-1	18A-AE104R5-092618-1	19A-AE104R5-091819-1
				Sample Date:	6/14/2016	10/3/2017	9/26/2018	9/18/2019	6/14/2016	10/3/2017	9/26/2018	9/18/2019	6/14/2016	10/3/2017	9/26/2018	9/18/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	97 - 102 ft	97 - 102 ft	97 - 102 ft	97-102 ft	128 - 133 ft	128 - 133 ft	128 - 133 ft	128-133 ft	156 - 162 ft	156 - 162 ft	156 - 162 ft	156-162 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	50.0 U	50.0 U	50.0 U	R	100 U	50.0 U	50.0 U	R	100 U	50.0 U	50.0 U	R
1,1,2-Trichloroethane	5	900	50000	100000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,1-Dichloroethane	**70**	2000	20000	100000	100 U	100 U	100 U	**49**	200 U	100 U	100 U	**75**	200 U	100 U	100 U	**66**
1,1-Dichloroethylene	**7**	**80**	30000	100000	100 U	100 U	100 UJ	**12**	200 U	100 U	100 UJ	25 U	200 U	100 U	100 UJ	25 U
1,1-Dichloropropene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,2,3-Trichloropropane	NE	NE	NE	NE	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,2,4-Trichlorobenzene	70	200	50000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	200 U	200 U	200 U	R	400 UJ	200 U	200 U	R	400 UJ	200 U	200 U	R
1,2-Dibromoethane	0.02	2	50000	100000	50.0 U	50.0 U	50.0 U	10 U	100 U	50.0 U	50.0 U	25 U	100 U	50.0 U	50.0 U	25 U
1,2-Dichlorobenzene	600	8000	2000	80000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,2-Dichloroethane	5	5	20000	100000	100 U	100 U	100 U	10 U	200 U	100 UJ	100 U	25 U	200 U	100 UJ	100 U	25 U
1,2-Dichloropropane	5	3	50000	100000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,3-Dichlorobenzene	100	6000	50000	100000	100 U	100 U	100 U	20 U	200 U	100 UJ	100 U	40 U	200 U	100 UJ	100 U	40 U
1,3-Dichloropropane	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
1,4-Dichlorobenzene	5	60	8000	80000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	2000 U	2000 U	800 U	NS	2000 U	2000 U	2000 U	NS	2000 U	2000 U	2000 U
2,2-Dichloropropane	NE	NE	NE	NE	100 U	100 UJ	100 U	20 U	200 U	100 UJ	100 U	50 U	200 U	100 UJ	100 U	50 U
2-Butanone	4000	50000	50000	100000	1000 U	200 U	200 U	R	2000 U	200 U	200 U	R	2000 U	200 U	200 U	R
2-Chlorotoluene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
2-Hexanone	NE	NE	NE	NE	1000 U	200 U	200 U	R	2000 U	200 U	200 U	R	2000 U	200 U	200 U	R
2-Phenylbutane	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
4-Chlorotoluene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 UJ	100 U	50 U	200 U	100 UJ	100 U	50 U
4-Methyl-2-Pentanone	350	50000	50000	100000	1000 U	200 U	200 U	R	2000 U	200 U	200 U	R	2000 U	200 U	200 U	R
Acetone	6300	50000	50000	100000	1000 UJ	1000 U	1000 U	R	2000 U	1000 U	1000 U	R	2000 U	1000 U	1000 U	R
Benzene	5	1000	10000	100000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
Bromobenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Bromochloromethane	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Bromodichloromethane	3	6	50000	100000	50.0 U	50.0 U	50.0 UJ	10 U	100 U	50.0 U	50.0 UJ	25 U	100 U	50.0 U	50.0 UJ	25 U
Bromoform	4	700	50000	100000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
Bromomethane	10	7	800	8000	200 UJ	200 U	200 UJ	R	400 U	200 U	200 UJ	R	400 U	200 U	200 UJ	R
Carbon Disulfide	NE	NE	NE	NE	200 U	200 UJ	200 UJ	100 U	400 U	200 U	200 UJ	250 U	400 U	200 U	200 UJ	250 U
Carbon Tetrachloride	5	2	5000	50000	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
Chlorobenzene	100	200	1000	10000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Chloroethane	NE	NE	NE	NE	200 U	200 U	200 U	20 U	400 U	200 U	200 U	50 U	400 U	200 U	200 U	50 U
Chloroform	70	50	20000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Chloromethane	NE	NE	NE	NE	200 U	200 UJ	200 U	20 U	400 U	200 U	200 U	50 U	400 U	200 U	200 U	50 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**149**	**136**	**139**	**230**	200 U	**224**	**218**	**490**	200 U	**291**	**280**	**520**
cis-1,3-Dichloropropene	NE	NE	NE	NE	50.0 U	50.0 UJ	50.0 U	10 U	100 UJ	50.0 U	50.0 U	25 U	100 UJ	50.0 U	50.0 U	25 U
Cymene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Dibromochloromethane	2	20	50000	100000	50.0 U	50.0 U	50.0 U	10 U	100 U	50.0 U	50.0 U	25 U	100 U	50.0 U	50.0 U	25 U
Dibromomethane	NE	NE	NE	NE	100 U	100 U	100 U	10 U	200 U	100 U	100 U	25 U	200 U	100 U	100 U	25 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	200 U	200 U	200 U	20 U	400 U	200 U	200 U	50 U	400 U	200 U	200 U	50 U
Diethyl Ether	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Diisopropyl Ether	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	100 U	100 UJ	100 U	20 U	200 U	100 UJ	100 U	50 U	200 U	100 UJ	100 U	50 U
Ethylbenzene	700	20000	5000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	100 U	100 U	100 UJ	20 U	200 U	100 U	100 UJ	50 U	200 U	100 U	100 UJ	50 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	50.0 U	50.0 U	50.0 U	10 U	100 U	50.0 U	50.0 U	25 U	100 U	50.0 U	50.0 U	25 U
Isopropylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
M, P Xylenes	10000	3000	5000	100000	200 U	200 U	200 U	20 U	400 U	200 U	200 U	50 U	400 U	200 U	200 U	50 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	100 U	100 UJ	100 U	20 U	200 U	100 UJ	100 U	50 U	200 U	100 UJ	100 U	50 U
Methylene Chloride	5	2000	50000	100000	200 U	200 U	200 UJ	10 U	400 U	200 U	200 UJ	25 U	400 U	200 U	200 UJ	25 U
Naphthalene	140	700	20000	100000	100 UJ	100 U	200 U	20 U	200 UJ	100 U	200 U	50 U	200 UJ	100 U	200 U	50 U
N-Butylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
N-Propylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
o-Xylene	10000	3000	5000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Styrene	100	100	6000	60000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Tert-Butylbenzene	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 UJ	100 U	50 U	200 U	100 UJ	100 U	50 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**3850**	**3300**	**2410**	**1800**	**4610**	**3800**	**3100**	**2100**	**3980**	**3890**	**2800**	**2400**
Tetrahydrofuran	NE	NE	NE	NE	200 U	200 U	200 U	R	400 U	200 U	200 U	R	400 U	200 U	200 U	R
Toluene	**1000**	50000	40000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	50.0 U	50.0 UJ	50.0 U	10 U	100 UJ	50.0 UJ	50.0 U	25 U	100 UJ	50.0 UJ	50.0 U	25 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**5860**	**4790**	**4340**	**3500**	**7150**	**5820**	**5650**	**4200**	**6390**	**5600**	**5440**	**4400**
Trichlorofluoromethane	NE	NE	NE	NE	100 U	100 U	100 U	20 U	200 U	100 U	100 U	50 U	200 U	100 U	100 U	50 U
Vinyl Chloride	**2**	**2**	50000	100000	100 U	100 UJ	100 UJ	**16**	200 UJ	100 U	100 UJ	**49**	200 UJ	100 U	100 UJ	**71**
Xylenes (Total)	10000	3000	5000	100000	200 U	200 U	**200**	**20**	400 U	200 U	**200**	**50**	400 U	200 U	**200**	**50**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)												
				Location ID:	AE104R-6	AE104R-6	AE104R-6	AE104R-6	AE104S	AE104S	AE104S	AE104S	AE108R-1	AE108R-1	AE108R-1	AE108R-1	AE108R-1
				Sample ID:	16A-AE104R6-061416-1	17A-AE104R6-100317-1	18A-AE104R6-092618-1	19A-AE104R6-091819-1	16A-AE104S-061316-1	17A-AE104S-101017-1	18A-AE104S-100118-1	19A-AE104S-092019-1	16A-AE108R1-061616-1	16A-AE108R1-061616-2	17A-AE108R1-100917-1	18A-AE108R1-091918-1	19A-AE108R1-092419-1
				Sample Date:	6/14/2016	10/3/2017	9/26/2018	9/18/2019	6/13/2016	10/10/2017	10/1/2018	9/20/2019	6/16/2016	6/16/2016	10/9/2017	9/19/2018	9/24/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N	N
				Depth Interval:	168 - 174 ft	168 - 174 ft	168 - 174 ft	168-174 ft	15 - 20 ft	15 - 20 ft	15 - 20 ft	15-20 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5-43.5 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	100 U	100 U	100 U	R	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	200 U	200 U	200 U	**68**	1.0 U	1.00 U	1.00 U	1.0 U	**1.2**	1.0 U	**1.13**	**1.82**	**1.3**
1,1-Dichloroethylene	**7**	**80**	30000	100000	200 U	200 U	200 UJ	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	400 UJ	400 U	400 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	100 U	100 U	100 U	25 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
1,3-Dichlorobenzene	100	6000	50000	100000	200 U	200 U	200 U	40 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
1,4-Dioxane	**0.3**	6000	50000	100000	NS	4000 U	4000 U	2000 U	NS	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	200 U	200 UJ	200 U	50 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	2000 U	400 U	400 U	R	10.0 U	2.00 U	2.00 UJ	R	10.0 U	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	2000 U	400 U	400 U	R	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	10.0 U	2.00 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
4-Methyl-2-Pentanone	350	50000	50000	100000	2000 U	400 U	400 U	R	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	2000 U	2000 U	2000 U	R	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	100 U	100 U	100 UJ	25 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U
Bromoform	4	700	50000	100000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	R	1.0 U	1.0 U	1.00 UJ	1.00 U	R
Bromomethane	10	7	800	8000	400 U	400 U	400 UJ	R	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	400 U	400 UJ	400 UJ	250 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	400 U	400 U	400 U	50 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 UJ	2.0 UJ	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	400 U	400 UJ	400 U	50 U	2.0 U	2.00 UJ	2.00 UJ	1.0 U	2.0 UJ	2.0 UJ	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	200 U	**324**	**338**	**490**	**6.4**	**1.86**	1.00 U	1.0 U	**15.1**	**12.8**	**21.9**	**38.0**	**24**
cis-1,3-Dichloropropene	NE	NE	NE	NE	100 UJ	100 UJ	100 U	25 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 UJ
Dibromochloromethane	2	20	50000	100000	100 U	100 U	100 U	25 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 UJ	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	200 U	200 U	200 U	25 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	400 U	400 U	400 U	50 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	200 U	200 UJ	200 U	50 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	200 U	200 U	200 UJ	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	100 U	100 U	100 U	25 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	400 U	400 U	400 U	50 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	200 U	200 UJ	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	400 U	400 U	400 UJ	25 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	200 UJ	200 U	400 U	50 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 UJ
N-Propylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 UJ
o-Xylene	10000	3000	5000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	200 U	200 U	200 U	50 U	**1.3**	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**4180**	**4120**	**3570**	**2400**	**3.8**	**1.19**	1.00 U	1.0 U	**1.4**	**1.3**	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	400 U	400 U	400 U	R	2.0 U	2.00 U	2.00 U	2.5 U	**2.9**	**3.6**	2.00 U	2.00 UJ	**3.1 J-**
Toluene	**1000**	50000	40000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	**48.8 J**	**77.7 J**	**9.80**	**4.51**	**1.0**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	100 UJ	100 UJ	100 U	25 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**6540**	**6130**	**6770**	**4600**	**4.0**	**1.13**	1.00 U	1.0 U	**7.6**	**6.5**	**5.12**	**6.55**	**4.9 J-**
Trichlorofluoromethane	NE	NE	NE	NE	200 U	200 U	200 U	50 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	200 UJ	200 UJ	200 UJ	**56**	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	400 U	400 U	**400**	**50**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = milligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)											
					Location ID:	AE108R-3	AE108R-3	AE108R-3	AE108R-3	AE108R-3	AE108R-5	AE108R-5	AE108R-5	AE108R-5	AE109D	AE109D	AE109D	AE109D
					Sample ID:	16A-AE108R3-061616-1	17A-AE108R3-100917-1	18A-AE108R3-091918-1	18A-AE108R3-091918-2	19A-AE108R3-092419-1	16A-AE108R5-061616-1	17A-AE108R5-100917-1	18A-AE108R5-091918-1	19A-AE108R5-092419-1	16A-AE109D-062116-1	16A-AE109D-062116-2	17A-AE109D-101317-1	18A-AE109D-092618-1
					Sample Date:	6/16/2016	10/9/2017	9/19/2018	9/19/2018	9/24/2019	6/16/2016	10/9/2017	9/19/2018	9/24/2019	6/21/2016	6/21/2016	10/13/2017	9/26/2018
					Sample Type:	N	N	N	FD	N	N	N	N	N	N	FD	N	N
					Depth Interval:	84 - 89 ft	84 - 89 ft	84 - 89 ft	84 - 89 ft	84-89 ft	163 - 168 ft	163 - 168 ft	163 - 168 ft	163-168 ft	18 - 23 ft	18 - 23 ft	18 - 23 ft	18 - 23 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	**1.3**	**1.63**	**2.93**	**2.5**	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.0 U	1.00 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	20.0 U	10 U	20.0 U	20.0 U	20.0 U	10 U	NS	NS	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 UJ	10.0 UJ	2.00 U	2.00 UJ
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	2.00 U	2.00 UJ
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	2.00 U	2.00 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	10.0 U	25 U	10.0 U	10.0 U	10.0 U	25 U	10.0 U	10.0 U	10.0 U	10.0 UJ
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 UJ	2.00 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.0 U	2.00 U	2.00 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloroethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.0 UJ	2.00 UJ	2.00 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**2.3**	**2.89**	**8.44**	**8.28**	**7.6**	**10.5**	**14.2**	**25.8**	**23**	1.0 U	1.0 U	1.00 U	1.00 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.5 U	0.5 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.0 UJ	1.00 U	1.00 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.0 UJ	1.00 U	1.00 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.0 U	2.00 U	2.00 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U	1.0 U	1.0 U	1.00 U	2.00 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**14.8**	**21.5**	**37.3**	**36.9**	**35**	**8.9**	**9.33**	**15.2**	**24**	1.0 U	1.0 U	1.00 U	1.00 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	2.5 U	2.0 U	2.00 U	2.00 UJ	2.5 U	2.0 U	2.0 U	2.00 U	2.00 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	**2.2**	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.5 U	0.50 U	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**9.4**	**12.7**	**29.2**	**28.8**	**23**	**14.1**	**21.5**	**47.8 J+**	**54**	**1.0**	**1.1**	**1.36**	1.00 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	2.0 U	**2**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)										
					Location ID:	AE109D	AE109R-1	AE109R-1	AE109R-1	AE109R-1	AE109R-2	AE109R-2	AE109R-2	AE109R-2	AE109R-3	AE109R-3	AE109R-3
					Sample ID:	19A-AE109D-092019-1	16A-AE109R1-061616-1	17A-AE109R1-101017-1	18A-AE109R1-100218-1	19A-AE109R1-091819-1	16A-AE109R2-061616-1	17A-AE109R2-101017-1	18A-AE109R2-100218-1	19A-AE109R2-091819-1	16A-AE109R3-061616-1	17A-AE109R3-101017-1	18A-AE109R3-100218-1
					Sample Date:	9/20/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/16/2016	10/10/2017	10/2/2018
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	18-23 ft	38 - 43 ft	38 - 43 ft	38 - 43 ft	38-43 ft	66 - 76 ft	66 - 76 ft	66 - 76 ft	66-76 ft	126 - 136 ft	126 - 136 ft	126 - 136 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	**2.07**	**1.04**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	5.0 U	1.00 U	1.00 UJ
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	5.0 U	1.00 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	R	2.0 U	2.00 UJ	2.00 U	R	2.0 U	2.00 UJ	2.00 U	R	10.0 U	2.00 U	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	5.0 U	1.00 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	100 U	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 UJ	1.00 UJ	1.00 U
2-Butanone	4000	50000	50000	100000	R	**10.6**	**3.24**	2.00 U	R	**17.1**	**5.00**	2.00 U	R	50.0 U	**4.73**	2.00 U
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
2-Hexanone	NE	NE	NE	NE	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	50.0 U	2.00 U	2.00 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	50.0 U	2.00 U	2.00 U
Acetone	6300	50000	50000	100000	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	50.0 U	10.0 U	10.0 U
Benzene	5	1000	10000	100000	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	5.0 U	1.00 U	1.00 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	2.5 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	R	1.0 U	1.00 UJ	1.00 U	R	1.0 U	1.00 UJ	1.00 U	R	5.0 U	1.00 U	1.00 U
Bromomethane	10	7	800	8000	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U
Carbon Disulfide	NE	NE	NE	NE	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Chloroethane	NE	NE	NE	NE	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	10.0 UJ	2.00 U	2.00 U
Chloroform	70	50	20000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Chloromethane	NE	NE	NE	NE	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	10.0 UJ	2.00 U	2.00 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	**2.9**	**3.66**	**2.80**	**3.1**	**2.0**	**2.01**	**2.07**	**2.3**	5.0 U	**31.6**	**27.4**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	2.5 U	0.50 U	0.50 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 UJ	0.5 U	0.50 UJ	0.50 U	0.50 UJ	2.5 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	2.5 U	0.50 U	0.50 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	5.0 UJ	1.00 U	1.00 U
Methylene Chloride	5	2000	50000	100000	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	2.00 U	2.00 U
Naphthalene	140	700	20000	100000	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	5.0 U	1.00 U	2.00 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Styrene	100	100	6000	60000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	**3.2**	1.00 U	1.00 U	1.0 U	**3.2**	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Tetrahydrofuran	NE	NE	NE	NE	2.5 U	**5.8**	2.00 U	2.00 U	2.5 U	**6.9**	2.00 U	2.00 U	**2.9**	**24.8**	2.00 U	2.00 U
Toluene	**1000**	50000	40000	100000	1.0 U	**30.5**	1.00 U	1.00 U	1.0 U	**62.8**	1.00 U	1.00 U	1.0 U	**132**	**8.28**	1.00 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	2.5 U	0.50 U	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	**6.1**	**3.68**	**1.76**	**1.5**	**6.0**	**2.87**	**1.53**	**1.4**	**15.7**	**18.1**	**2.93**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	1.00 U	1.00 U
Xylenes (Total)	10000	3000	5000	100000	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	10 U	2.0 U	**2**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE109R-3	AE109R-4	AE109R-4	AE109R-4	AE109R-4	AE109R-5	AE109R-5	AE109R-5	AE109R-5	AE109R-6	AE109R-6	AE109R-6
				Sample ID:	19A-AE109R3-091819-1	16A-AE109R4-061616-1	17A-AE109R4-101017-1	18A-AE109R4-100218-1	19A-AE109R4-091819-1	16A-AE109R5-061616-1	17A-AE109R5-101017-1	18A-AE109R5-100218-1	19A-AE109R5-091819-1	16A-AE109R6-061616-1	17A-AE109R6-101017-1	18A-AE109R6-100218-1
				Sample Date:	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/16/2016	10/10/2017	10/2/2018
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	126-136 ft	174 - 180.5 ft	174 - 180.5 ft	174 - 180.5 ft	174-180.5 ft	183 - 189 ft	183 - 189 ft	183 - 189 ft	183-189 ft	196 - 201 ft	196 - 201 ft	196 - 201 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	5.0 U	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	5.0 U	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	2.5 U	2.50 U	5.00 U	1.0 U	5.0 U	5.00 U	10.0 U	2.5 U	2.5 U	2.50 U	5.00 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	**7.8**	**16.2**	10.0 U	**3.5**	**11.6**	**19.6**	20.0 U	**10**	**6.4**	**8.75**	10.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	5.0 U	5.00 U	10.0 UJ	2.0 U	10.0 U	10.0 U	20.0 UJ	5.0 U	5.0 U	5.00 U	10.0 UJ
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	0.50 U	5.0 U	5.00 U	10.0 U	1.0 U	10.0 U	10.0 U	20.0 U	2.5 U	5.0 U	5.00 U	10.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	R	10.0 U	10.0 UJ	20.0 U	R	20.0 U	20.0 UJ	40.0 U	R	10.0 U	10.0 UJ	20.0 U
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	2.5 U	2.50 U	5.00 U	1.0 U	5.0 U	5.00 U	10.0 U	2.5 U	2.5 U	2.50 U	5.00 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U	5.0 U	5.00 U	10.0 U	1.2 U	10.0 U	10.0 U	20.0 U	3.0 U	5.0 U	5.00 U	10.0 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	3.0 U	5.0 U	5.00 U	10.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	40 U	100 U	100 U	200 U	80 U	NS	200 U	400 UJ	200 U	NS	100 U	200 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	5.0 UJ	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
2-Butanone	4000	50000	50000	100000	R	50.0 U	10.0 U	20.0 U	R	100 U	20.0 U	40.0 U	R	50.0 U	10.0 U	20.0 U
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
2-Hexanone	NE	NE	NE	NE	5.0 U	50.0 U	10.0 U	20.0 U	10 U	100 U	20.0 U	40.0 U	25 U	50.0 U	10.0 U	20.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5.0 U	50.0 U	10.0 U	20.0 U	10 U	100 U	20.0 U	40.0 U	25 U	50.0 U	10.0 U	20.0 U
Acetone	6300	50000	50000	100000	R	50.0 U	50.0 U	100 U	R	100 U	100 U	200 U	R	50.0 U	50.0 U	100 U
Benzene	5	1000	10000	100000	0.70 U	5.0 U	5.00 U	10.0 U	1.4 U	10.0 U	10.0 U	20.0 U	3.5 U	5.0 U	5.00 U	10.0 U
Bromobenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U	2.5 U	2.50 UJ	5.00 U	1.0 U	5.0 U	5.00 UJ	10.0 U	2.5 U	2.5 U	2.50 UJ	5.00 U
Bromoform	4	700	50000	100000	R	5.0 U	5.00 UJ	10.0 U	R	10.0 U	10.0 UJ	20.0 U	R	5.0 U	5.00 UJ	10.0 U
Bromomethane	10	7	800	8000	1.0 U	10.0 U	10.0 U	20.0 U	2.0 U	20.0 UJ	20.0 U	40.0 U	5.0 U	10.0 UJ	10.0 U	20.0 U
Carbon Disulfide	NE	NE	NE	NE	5.0 U	10.0 U	10.0 U	20.0 U	10 U	20.0 U	20.0 U	40.0 U	25 U	10.0 U	10.0 U	20.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	5.0 U	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	2.5 U	5.0 U	5.00 UJ	10.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Chloroethane	NE	NE	NE	NE	1.0 U	10.0 UJ	10.0 U	20.0 U	2.0 U	20.0 U	20.0 U	40.0 U	5.0 U	10.0 U	10.0 U	20.0 U
Chloroform	70	50	20000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Chloromethane	NE	NE	NE	NE	1.0 U	10.0 UJ	10.0 U	20.0 U	2.0 U	20.0 U	20.0 U	40.0 U	5.0 U	10.0 U	10.0 U	20.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**14**	**36.0**	**439**	**299**	**200**	**53.2**	**230**	**351**	**240**	**26.8**	**121**	**159**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	2.5 U	2.50 U	5.00 U	1.0 U	5.0 U	5.00 U	10.0 U	2.5 U	2.5 U	2.50 U	5.00 U
Cymene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Dibromochloromethane	2	20	50000	100000	0.50 UJ	2.5 U	2.50 UJ	5.00 U	1.0 UJ	5.0 U	5.00 UJ	10.0 U	2.5 UJ	2.5 U	2.50 UJ	5.00 U
Dibromomethane	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U	10.0 U	10.0 U	20.0 U	2.0 U	20.0 U	20.0 U	40.0 U	5.0 U	10.0 U	10.0 U	20.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	5.0 U	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.40 U	2.5 U	2.50 U	5.00 U	1.0 U	5.0 U	5.00 U	10.0 U	2.5 U	2.5 U	2.50 U	5.00 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
M, P Xylenes	10000	3000	5000	100000	1.0 U	10.0 U	10.0 U	20.0 U	2.0 U	20.0 U	20.0 U	40.0 U	5.0 U	10.0 U	10.0 U	20.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	5.0 UJ	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
Methylene Chloride	5	2000	50000	100000	1.0 U	10.0 U	10.0 U	20.0 U	2.0 U	20.0 U	20.0 U	40.0 U	5.0 U	10.0 U	10.0 U	20.0 U
Naphthalene	140	700	20000	100000	1.0 U	5.0 U	5.00 U	20.0 U	2.0 U	10.0 UJ	10.0 U	40.0 U	5.0 U	5.0 UJ	5.00 U	20.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Styrene	100	100	6000	60000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	5.0 U	5.00 UJ	10.0 U	2.0 U	10.0 U	10.0 UJ	20.0 U	5.0 U	5.0 U	5.00 UJ	10.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	**159**	**112**	10.0 U	2.0 U	**318**	**293**	**127**	**77**	**97.6**	**58.0**	**20.0**
Tetrahydrofuran	NE	NE	NE	NE	**5.2**	**13.3**	10.0 U	20.0 U	5.0 U	20.0 U	20.0 U	40.0 U	13 U	10.0 U	10.0 U	20.0 U
Toluene	**1000**	50000	40000	100000	1.0 U	**22.7**	5.00 U	10.0 U	2.0 U	**11.4**	10.0 U	20.0 U	5.0 U	**26.3**	5.00 U	10.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	5.0 U	**7.35**	10.0 U	**3.5**	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	2.5 U	2.50 UJ	5.00 U	1.0 U	5.0 U	5.00 UJ	10.0 U	2.5 U	2.5 U	2.50 UJ	5.00 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**1.1**	**366**	**453**	**75.9**	**20**	**832**	**1190**	**739**	**360**	**342**	**377**	**237**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	5.0 U	5.0 U	5.00 U	10.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	5.0 U	5.00 U	10.0 U	2.0 U	10.0 U	10.0 U	20.0 U	2.5 U	5.0 U	5.00 U	10.0 U
Xylenes (Total)	10000	3000	5000	100000	**1**	10 U	10 U	**20**	**2**	20 U	20 U	**40**	**5**	10 U	10 U	**20**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE109R-6	AE109R-7	AE109R-7	AE109R-7	AE109R-7	AE109R-7	AE109R-8	AE109R-8	AE109R-8	AE109R-8	AE110R-1	AE110R-1
				Sample ID:	19A-AE109R6-091819-1	16A-AE109R7-061616-1	17A-AE109R7-101017-1	18A-AE109R7-100218-1	19A-AE109R7-091819-1	19A-AE109R7-091819-2	16A-AE109R8-061616-1	17A-AE109R8-101017-1	18A-AE109R8-100218-1	19A-AE109R8-091819-1	16A-AE110R1-061716-1	17A-AE110R1-101117-1
				Sample Date:	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	9/18/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/17/2016	10/11/2017
				Sample Type:	N	N	N	N	N	FD	N	N	N	N	N	N
				Depth Interval:	196-201 ft	204 - 214 ft	204 - 214 ft	204 - 214 ft	204-214 ft	204-214 ft	245 - 250 ft	245 - 250 ft	245 - 250 ft	245-250 ft	34 - 44 ft	34 - 44 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	2.5 U	2.5 U	2.50 U	1.00 U	R	R	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,1-Dichloroethane	**70**	2000	20000	100000	**6.5**	5.0 U	5.00 U	**3.06**	**2.9**	**2.8**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	5.0 U	5.0 U	5.00 U	2.00 UJ	1.0 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U
1,1-Dichloropropene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,2,3-Trichloropropane	NE	NE	NE	NE	2.5 U	5.0 U	5.00 U	2.00 U	0.50 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U
1,2,4-Trichlorobenzene	70	200	50000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	R	10.0 U	10.0 UJ	4.00 U	R	R	2.0 U	2.00 UJ	2.00 U	R	2.0 U	2.00 U
1,2-Dibromoethane	0.02	2	50000	100000	2.5 U	2.5 U	2.50 U	1.00 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,2-Dichloroethane	5	5	20000	100000	3.0 U	5.0 U	5.00 U	2.00 U	0.60 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U
1,2-Dichloropropane	5	3	50000	100000	3.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U
1,3-Dichlorobenzene	100	6000	50000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,3-Dichloropropane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,4-Dichlorobenzene	5	60	8000	80000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
1,4-Dioxane	**0.3**	6000	50000	100000	200 U	NS	100 U	40.0 U	40 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U
2,2-Dichloropropane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ
2-Butanone	4000	50000	50000	100000	R	50.0 U	10.0 U	4.00 U	R	R	10.0 U	2.00 U	2.00 U	R	**26.9**	**8.88**
2-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
2-Hexanone	NE	NE	NE	NE	25 U	50.0 U	10.0 U	4.00 U	R	R	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U
2-Phenylbutane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
4-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
4-Methyl-2-Pentanone	350	50000	50000	100000	25 U	50.0 U	10.0 U	4.00 U	R	R	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U
Acetone	6300	50000	50000	100000	R	50.0 U	50.0 U	20.0 U	R	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U
Benzene	5	1000	10000	100000	3.5 U	5.0 U	5.00 U	2.00 U	0.70 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U
Bromobenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Bromochloromethane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Bromodichloromethane	3	6	50000	100000	2.5 U	2.5 U	2.50 UJ	1.00 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	**0.8**	0.50 U
Bromoform	4	700	50000	100000	R	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	R	1.0 U	1.00 U
Bromomethane	10	7	800	8000	5.0 U	10.0 UJ	10.0 U	4.00 U	R	R	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U
Carbon Disulfide	NE	NE	NE	NE	25 U	10.0 U	10.0 U	4.00 U	5.0 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U
Carbon Tetrachloride	5	2	5000	50000	2.5 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U
Chlorobenzene	100	200	1000	10000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Chloroethane	NE	NE	NE	NE	5.0 U	10.0 U	10.0 U	4.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U
Chloroform	70	50	20000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**1.9**	1.00 U
Chloromethane	NE	NE	NE	NE	5.0 U	10.0 U	10.0 U	4.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**180**	**15.6**	**96.0**	**138**	**130**	**130**	**2.8**	**2.22**	**3.75**	**4.7**	1.0 U	1.00 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	2.5 U	2.5 U	2.50 U	1.00 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U
Cymene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Dibromochloromethane	2	20	50000	100000	2.5 UJ	2.5 U	2.50 UJ	1.00 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 UJ	**0.7**	0.50 U
Dibromomethane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	5.0 U	10.0 U	10.0 U	4.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U
Diethyl Ether	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Diisopropyl Ether	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U
Ethylbenzene	700	20000	5000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	2.5 U	2.5 U	2.50 U	1.00 U	0.40 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U
Isopropylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
M, P Xylenes	10000	3000	5000	100000	5.0 U	10.0 U	10.0 U	4.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U
Methylene Chloride	5	2000	50000	100000	5.0 U	10.0 U	10.0 U	4.00 U	1.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U
Naphthalene	140	700	20000	100000	5.0 U	5.0 UJ	5.00 U	4.00 U	1.0 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U
N-Butylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
N-Propylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
o-Xylene	10000	3000	5000	100000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Styrene	100	100	6000	60000	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Tert-Butylbenzene	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	5.0 U	5.0 U	5.00 UJ	2.00 U	1.0 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**18**	**41.6**	5.00 U	2.00 U	1.0 U	1.0 U	**10.6**	**2.36**	**1.04**	1.0 U	1.0 U	1.00 U
Tetrahydrofuran	NE	NE	NE	NE	13 U	20.0 U	10.0 U	4.00 U	R	R	5.0 U	2.00 U	2.00 U	2.5 U	2.0 U	2.00 U
Toluene	**1000**	50000	40000	100000	5.0 U	**18.1**	5.00 U	2.00 U	1.0 U	1.0 U	**3.4**	**1.48**	1.00 U	1.0 U	**238**	**1.13**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	5.0 U	5.0 U	5.00 U	2.00 U	**1.7**	**1.7**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	2.5 U	2.5 U	2.50 UJ	1.00 U	0.40 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 UJ	0.50 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**200**	**150**	**56.8**	**28.9**	**12 J**	**7.9 J**	**30.4**	**11.4**	**6.88**	**5.0**	1.0 U	1.00 U
Trichlorofluoromethane	NE	NE	NE	NE	5.0 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Vinyl Chloride	**2**	**2**	50000	100000	2.5 U	5.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U
Xylenes (Total)	10000	3000	5000	100000	**5**	10 U	10 U	**4**	**1**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U

Notes:
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)										
				Location ID:	AE110R-1	AE110R-1	AE110R-2	AE110R-2	AE110R-2	AE110R-2	AE110R-4	AE110R-4	AE110R-4	AE110R-4
				Sample ID:	18A-AE110R1-092518-1	19A-AE110R1-091319-1	16A-AE110R2-061716-1	17A-AE110R2-101117-1	18A-AE110R2-092518-1	19A-AE110R2-091319-1	16A-AE110R4-061716-1	17A-AE110R4-101117-1	18A-AE110R4-092518-1	19A-AE110R4-091319-1
				Sample Date:	9/25/2018	9/13/2019	6/17/2016	10/11/2017	9/25/2018	9/13/2019	6/17/2016	10/11/2017	9/25/2018	9/13/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	34 - 44 ft	34-44 ft	70 - 80 ft	70 - 80 ft	70 - 80 ft	70-80 ft	158 - 168 ft	158 - 168 ft	158 - 168 ft	158-168 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 UJ	40 U	20.0 U	20.0 U	**67.3 J**	40 U	20.0 U	20.0 U	20.0 UJ	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	**3.43**	R	**97.1**	**12.9**	**16.7**	R	10.0 U	**2.49**	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 UJ	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	R	10.0 U	10.0 U	**50.0**	R	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.50 U	**0.5**	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.00 U	R	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	R
Bromomethane	10	7	800	8000	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.00 U	1.0 U	**1.3**	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.50 U	**0.6**	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.00 U	1.0 UJ	2.0 U	2.00 U	2.00 U	1.0 UJ	2.0 U	2.00 U	2.00 U	1.0 UJ
Naphthalene	140	700	20000	100000	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.00 U	**15**	**3.4**	**2.07**	2.00 U	**30**	**5.8**	2.00 U	2.00 U	**15**
Toluene	**1000**	50000	40000	100000	1.00 U	1.0 U	**204**	1.00 U	**3.57**	1.0 U	**97.0**	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect A (continued)							
					Location ID:	AE110R-6	AE110R-6	AE110R-6	AE110R-6	EMW-10D	EMW-10D	EMW-10D	EMW-10D	EMW-10D
					Sample ID:	16A-AE110R6-061716-1	17A-AE110R6-101117-1	18A-AE110R6-092518-1	19A-AE110R6-091319-1	16A-EMW10D-061316-1	17A-EMW10D-101117-1	17A-EMW10D-101117-2	18A-EMW10D-092018-1	19A-EMW10D-093019-1
					Sample Date:	6/17/2016	10/11/2017	9/25/2018	9/13/2019	6/13/2016	10/11/2017	10/11/2017	9/20/2018	9/30/2019
					Sample Type:	N	N	N	N	N	N	FD	N	N
					Depth Interval:	190 - 200 ft	190 - 200 ft	190 - 200 ft	190-200 ft	19 - 29 ft	19 - 29 ft	19 - 29 ft	19 - 29 ft	19-29 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	R	
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	2.00 UJ	R	
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 UJ	40 U	20.0 U	20.0 U	20.0 U	20.0 UJ	40 U	
2,2-Dichloropropane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	
2-Butanone	4000	50000	50000	100000	**36.6 J+**	**12.2**	**2.71**	R	10.0 U	2.00 U	2.00 U	2.00 U	R	
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 U	2.00 U	R	
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	2.00 U	R	
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	**31.8**	R	10.0 U	10.0 U	10.0 U	10.0 UJ	R	
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 UJ	2.00 U	1.0 UJ	
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	2.00 U	5.0 U	
Carbon Tetrachloride	5	2	5000	50000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 UJ	2.00 UJ	1.0 U	
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	**3.99**	**1.5**	**9.8**	**17.9**	**18.5**	**15.0**	**16**	
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	1.0 UJ	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	2.00 U	1.0 U	
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	**2.61**	1.0 U	**9.5**	**71.4**	**71.2**	**76.1**	**99**	
Tetrahydrofuran	NE	NE	NE	NE	**6.7**	2.00 U	2.00 U	**9.1**	2.0 U	2.00 U	2.00 U	2.00 U	R	
Toluene	**1000**	50000	40000	100000	**89.8**	**1.28**	**1.59**	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 UJ	0.40 U	
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	**10.1**	1.0 U	**12.5**	**42.3**	**42.6**	**34.8**	**28**	
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	**1.78**	**1.70**	**1.75**	**2.1**	
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	2.0 U	**2**	**1**	

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)								
				Location ID:	EMW-10R	EMW-10R	EMW-10R	EMW-10R	EMW-10R	EMW-11D	EMW-11D	EMW-11D	EMW-11D
				Sample ID:	16A-EMW10R-061316-1	17A-EMW10R-101117-1	18A-EMW10R-092018-1	18A-EMW10R-092018-2	19A-EMW10R-093019-1	16A-EMW11D-061316-1	17A-EMW11D-101117-1	18A-EMW11D-092018-1	19A-EMW11D-091919-1
				Sample Date:	6/13/2016	10/11/2017	9/20/2018	9/20/2018	9/30/2019	6/13/2016	10/11/2017	9/20/2018	9/19/2019
				Sample Type:	N	N	N	FD	N	N	N	N	N
				Depth Interval:	42 - 52 ft	42 - 52 ft	42 - 52 ft	42 - 52 ft	42-52 ft	22 - 32 ft	22 - 32 ft	22 - 32 ft	22-32 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**									
Volatile Organic Compounds (µg/l)													
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**5.5**	**8.23**	**4.51 J**	**4.85 J**	**5.6**	**3.4**	**1.41**	1.00 UJ	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	**1.1**	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	R	2.0 U	2.00 U	2.00 UJ	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 UJ	20.0 UJ	40 U	20.0 U	20.0 U	20.0 UJ	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 UJ	2.00 UJ	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 UJ	2.00 UJ	R	10.0 U	2.00 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 UJ	2.00 UJ	R	10.0 U	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 UJ	10.0 UJ	R	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 UJ	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	R
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	2.00 UJ	2.00 UJ	R	2.0 U	2.00 U	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 UJ	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**37.2**	**56.4**	**38.4**	**41.8**	**29**	**75.1**	**22.4**	**13.1**	**4.6**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 UJ	0.50 UJ	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 UJ	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 UJ	2.00 UJ	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	**2.5**	**2.94**	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**2.0**	**24.9**	**9.29**	**11.5**	**8.0**	**7.5**	**1.26**	**1.92**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	2.00 UJ	R	2.0 U	2.00 U	2.00 U	2.5 U
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	**1.3**	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 UJ	0.50 UJ	0.40 U	0.5 U	0.50 U	0.50 UJ	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**5.9**	**63.0**	**29.3**	**34.5**	**23**	**60.9**	**6.92**	**7.66**	**2.5**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	**4.5**	**6.23**	**12.7 J-**	**14.8 J-**	**17**	**39.1**	**10.8**	**3.90**	**1.2**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	EMW-11R1	EMW-11R1	EMW-11R1	EMW-11R1	EMW-11R2	EMW-11R2	EMW-11R2	EMW-11R2	EMW-11R3	EMW-11R3	EMW-11R3	EMW-11R3
				Sample ID:	16A-EMW11R1-061316-1	17A-EMW11R1-101117-1	18A-EMW11R1-092418-1	19A-EMW11R1-091719-1	16A-EMW11R2-062116-1	17A-EMW11R2-101017-1	18A-EMW11R2-092418-1	19A-EMW11R2-091719-1	16A-EMW11R3-061316-1	17A-EMW11R3-101317-1	18A-EMW11R3-092418-1	19A-EMW11R3-091719-1
				Sample Date:	6/13/2016	10/11/2017	9/24/2018	9/17/2019	6/21/2016	10/10/2017	9/24/2018	9/17/2019	6/13/2016	10/13/2017	9/24/2018	9/17/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	79 - 89 ft	79 - 89 ft	79 - 89 ft	79-89 ft	104 - 114 ft	104 - 114 ft	104 - 114 ft	104-114 ft	158 - 168 ft	158 - 168 ft	158 - 168 ft	158-168 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 UJ	200 U	50 U	100 U	100 U	100 U	20 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 UJ	200 U	100 U	100 U	100 U	100 U	40 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	12.5 U	25.0 U	0.50 U	R	100 U	100 U	100 U	R	50.0 U	50.0 U	50.0 U	R
1,1,2-Trichloroethane	5	900	50000	100000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
1,1-Dichloroethane	**70**	2000	20000	100000	**50.0**	**54.5**	**95.5 J**	**64**	200 U	200 U	200 UJ	**130**	100 U	100 U	100 U	**100**
1,1-Dichloroethylene	**7**	**80**	30000	100000	25.0 U	50.0 U	**26.5 J**	**18**	200 U	200 U	200 UJ	50 U	100 U	100 U	100 U	**25**
1,1-Dichloropropene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	10 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
1,2,3-Trichloropropane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	10 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
1,2,4-Trichlorobenzene	70	200	50000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	70 U	100 U	100 U	100 U	40 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	56 U	100 U	100 U	100 U	40 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	50.0 U	100 U	2.00 U	R	400 U	400 UJ	400 U	R	200 UJ	200 U	200 U	R
1,2-Dibromoethane	0.02	2	50000	100000	12.5 U	25.0 U	0.50 UJ	10 U	100 U	100 U	100 UJ	50 U	50.0 U	50.0 U	50.0 U	20 U
1,2-Dichlorobenzene	600	8000	2000	80000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
1,2-Dichloroethane	5	5	20000	100000	25.0 U	50.0 U	1.00 UJ	10 U	200 U	200 U	200 UJ	50 U	100 U	100 U	100 U	20 U
1,2-Dichloropropane	5	3	50000	100000	25.0 U	50.0 U	1.00 UJ	10 U	200 U	200 U	200 UJ	50 U	100 U	100 U	100 U	20 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	60 U	100 U	100 U	100 U	40 U
1,3-Dichlorobenzene	100	6000	50000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	40 U
1,3-Dichloropropane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 U	40 U
1,4-Dichlorobenzene	5	60	8000	80000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
1,4-Dioxane	**0.3**	6000	50000	100000	500 U	1000 U	20.0 U	800 U	4000 UJ	4000 U	4000 U	4000 U	2000 U	2000 U	2000 U	1600 U
2,2-Dichloropropane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 UJ	200 UJ	100 U	100 U	100 U	100 U	40 U
2-Butanone	4000	50000	50000	100000	250 U	100 U	2.00 U	R	2000 U	400 U	400 U	R	1000 U	200 U	200 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
2-Hexanone	NE	NE	NE	NE	250 U	100 U	2.00 U	R	2000 U	400 U	400 U	R	1000 U	200 U	200 UJ	R
2-Phenylbutane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
4-Chlorotoluene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
4-Methyl-2-Pentanone	350	50000	50000	100000	250 U	100 U	2.00 UJ	R	2000 U	400 U	400 UJ	R	1000 U	200 U	200 U	R
Acetone	6300	50000	50000	100000	250 U	500 U	10.0 U	R	2000 U	2000 U	2000 U	R	1000 UJ	1000 U	1000 UJ	R
Benzene	5	1000	10000	100000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 U	200 U	50 U	100 U	100 U	100 U	20 U
Bromobenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	62 U	100 U	100 U	100 U	40 U
Bromochloromethane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	83 U	100 U	100 U	100 U	40 U
Bromodichloromethane	3	6	50000	100000	12.5 U	25.0 U	0.50 U	10 U	100 U	100 UJ	100 U	50 U	50.0 U	50.0 U	50.0 U	20 U
Bromoform	4	700	50000	100000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 UJ	200 U	50 U	100 U	100 U	100 U	20 U
Bromomethane	10	7	800	8000	50.0 U	100 U	2.00 U	10 UJ	400 UJ	400 U	400 U	R	200 U	200 UJ	200 U	R
Carbon Disulfide	NE	NE	NE	NE	50.0 U	100 U	2.00 UJ	100 U	400 U	400 U	400 UJ	500 U	200 U	200 U	200 U	200 U
Carbon Tetrachloride	5	2	5000	50000	25.0 U	50.0 U	1.00 U	10 U	200 U	200 UJ	200 U	50 U	100 U	100 U	100 U	20 U
Chlorobenzene	100	200	1000	10000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Chloroethane	NE	NE	NE	NE	50.0 U	100 U	2.00 UJ	20 U	400 U	400 U	400 UJ	100 U	200 U	200 U	200 U	40 U
Chloroform	70	50	20000	100000	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	50 U	100 U	100 U	100 U	40 U
Chloromethane	NE	NE	NE	NE	50.0 U	100 U	2.00 U	20 U	400 U	400 U	400 U	100 U	200 U	200 UJ	200 U	40 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**234**	**330**	**609**	**420**	**844**	**1320**	**1430 J**	**1500**	**242**	**429**	**432**	**840**
cis-1,3-Dichloropropene	NE	NE	NE	NE	12.5 U	25.0 U	0.50 U	10 U	100 U	100 U	100 U	50 U	50.0 UJ	50.0 U	50.0 U	20 U
Cymene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Dibromochloromethane	2	20	50000	100000	12.5 U	25.0 U	0.50 U	10 U	100 U	100 UJ	100 U	50 U	50.0 U	50.0 U	50.0 U	20 U
Dibromomethane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	10 U	200 U	200 U	200 UJ	50 U	100 U	100 U	100 U	20 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	50.0 U	100 U	**3.27 J**	20 U	400 U	400 U	400 UJ	100 U	200 U	200 U	200 U	40 U
Diethyl Ether	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 U	40 U
Diisopropyl Ether	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 U	40 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 UJ	200 UJ	100 U	100 U	100 U	100 U	40 U
Ethylbenzene	700	20000	5000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 U	40 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	12.5 U	25.0 U	0.50 U	10 U	100 U	100 U	100 U	50 U	50.0 U	50.0 U	50.0 U	20 U
Isopropylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
M, P Xylenes	10000	3000	5000	100000	50.0 U	100 U	2.00 U	20 U	400 U	400 U	400 U	100 U	200 U	200 U	200 U	40 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 UJ	200 UJ	70 U	100 U	100 U	100 U	40 U
Methylene Chloride	5	2000	50000	100000	50.0 U	100 UJ	2.00 UJ	10 U	400 U	400 U	400 UJ	50 U	200 U	200 U	200 U	20 U
Naphthalene	140	700	20000	100000	25.0 UJ	50.0 U	2.00 UJ	20 U	200 UJ	200 U	400 UJ	100 U	100 UJ	100 U	200 U	40 U
N-Butylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
N-Propylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
o-Xylene	10000	3000	5000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Styrene	100	100	6000	60000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Tert-Butylbenzene	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	25.0 U	50.0 U	1.00 U	20 U	200 U	200 UJ	200 U	100 U	100 U	100 U	100 U	40 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**1240**	**1450**	**1250**	**2400**	**4390**	**3200**	**4500**	**4200**	**3450**	**3180**	**2560**	**3300**
Tetrahydrofuran	NE	NE	NE	NE	50.0 U	100 U	2.00 U	R	400 U	400 U	400 U	R	200 U	200 U	200 U	R
Toluene	**1000**	50000	40000	100000	25.0 U	50.0 U	1.00 U	20 U	200 U	200 U	200 U	100 U	100 U	100 U	100 U	40 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	25.0 U	50.0 U	**15.3 J**	20 U	200 U	200 U	200 UJ	80 U	100 U	100 U	100 U	40 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	12.5 U	25.0 U	0.50 U	10 U	100 U	100 UJ	100 U	50 U	50.0 UJ	50.0 U	50.0 U	20 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**2780 J+**	**3400**	**3470**	**5300**	**8820**	**11500**	**12400**	**11000**	**4720**	**4410**	**4040**	**5100**
Trichlorofluoromethane	NE	NE	NE	NE	25.0 U	50.0 U	1.00 UJ	20 U	200 U	200 U	200 UJ	100 U	100 U	100 U	100 U	40 U
Vinyl Chloride	**2**	**2**	50000	100000	25.0 U	50.0 U	1.00 UJ	**71**	200 UJ	200 U	**234 J**	**140**	100 UJ	100 U	100 U	20 U
Xylenes (Total)	10000	3000	5000	100000	50 U	100 U	**2**	**20**	400 U	400 U	**400**	**100**	200 U	200 U	**200**	**40**

Notes:

ft = feet
mg/l = milligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect B										
					Location ID:	AE105D	AE105D	AE105D	AE105D	AE105R-1	AE105R-1	AE105R-1	AE105R-1	AE105R-2	AE105R-2	AE105R-2	AE105R-2
					Sample ID:	16A-AE105D-062216-1	17A-AE105D-101217-1	18A-AE105D-100318-1	19A-AE105D-091619-1	16A-AE105R1-062016-1	17A-AE105R1-101217-1	18A-AE105R1-100318-1	19A-AE105R1-091619-1	16A-AE105R2-062016-1	17A-AE105R2-101217-1	18A-AE105R2-100318-1	19A-AE105R2-091619-1
					Sample Date:	6/22/2016	10/12/2017	10/3/2018	9/16/2019	6/20/2016	10/12/2017	10/3/2018	9/16/2019	6/20/2016	10/12/2017	10/3/2018	9/16/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	73 - 78 ft	73 - 78 ft	73 - 78 ft	73-78 ft	90.5 - 95.5 ft	90.5 - 95.5 ft	90.5 - 95.5 ft	90.5-95.5 ft	98 - 103 ft	98 - 103 ft	98 - 103 ft	98-103 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**1.0**	1.00 U	**1.27**	1.0 U	5.0 U	5.00 U	5.00 U	**3.3**	5.0 U	**5.00**	5.00 U	**3.9**
1,1-Dichloroethylene	**7**	**80**	30000	100000	**1.1**	1.00 U	**1.07 J**	1.0 U	5.0 U	5.00 U	5.00 U	**2.3**	5.0 U	5.00 U	5.00 U	**2.8**
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	5.0 U	5.00 U	5.00 U	0.50 U	5.0 U	5.00 U	5.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	5.0 U	5.00 U	5.00 U	0.60 U	5.0 U	5.00 U	5.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 U	40 U	100 U	100 U	100 U	40 U	100 U	100 U	100 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	5.0 UJ	5.00 U	5.00 U	1.0 U	5.0 UJ	5.00 U	5.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	50.0 U	10.0 U	10.0 U	R	50.0 U	10.0 U	10.0 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 UJ	2.00 U	2.00 U	5.0 U	50.0 U	10.0 U	10.0 U	5.0 U	50.0 U	10.0 U	10.0 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 UJ	2.00 U	2.00 U	5.0 U	50.0 U	10.0 U	10.0 U	5.0 U	50.0 U	10.0 U	10.0 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 UJ	10.0 U	10.0 U	R	50.0 U	50.0 U	50.0 U	R	50.0 U	50.0 U	50.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	5.0 U	5.00 U	5.00 U	0.70 U	5.0 U	5.00 U	5.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	R	5.0 U	5.00 U	5.00 U	R	5.0 U	5.00 U	5.00 U	R
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 UJ	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	5.0 U	10.0 U	10.0 U	10.0 U	5.0 U	10.0 U	10.0 U	10.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U	10.0 UJ	10.0 U	10.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**50.1 J-**	**32.1**	**40.9**	**29**	**17.2**	**25.0**	**23.4**	**26**	**15.3**	**25.1**	**20.8**	**30**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U	2.5 U	2.50 U	2.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 UJ	5.0 U	5.00 U	5.00 U	1.0 UJ
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U	10.0 U	10.0 U	10.0 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 UJ	**1.83**	**1.81**	**2.6**	5.0 UJ	5.00 U	5.00 U	**1.8**	5.0 UJ	5.00 U	5.00 U	**2.3**
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	1.0 UJ	10.0 U	10.0 UJ	10.0 U	1.0 U	10.0 U	10.0 UJ	10.0 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 UJ	1.0 U	5.0 U	5.00 U	10.0 U	1.0 U	5.0 U	5.00 U	10.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	**41.2**	**50.6**	**28.7**	**34**	**46.0**	**70.5**	**28.0**	**52**
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.5 U	**12.2**	10.0 U	10.0 U	2.5 UJ	**10.0**	10.0 U	10.0 U	2.5 UJ
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U	2.5 U	2.50 U	2.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**5.4**	**8.61**	**27.6**	**12**	**132**	**192**	**143**	**140**	**130**	**246**	**120**	**170**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	**1.23**	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U	5.0 U	5.00 U	5.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	10 U	10 U	**10**	**1**	10 U	10 U	**10**	**1**

Notes:

ft = feet
mg/l = milligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B (continued)										
				Location ID:	AE105R-4	AE105R-4	AE105R-4	AE105R-4	AE105R-5	AE105R-5	AE105R-5	AE105S	AE105S	AE105S	AE105S
				Sample ID:	16A-AE105R4-062016-1	17A-AE105R4-101217-1	18A-AE105R4-100318-1	19A-AE105R4-091619-1	17A-AE105R5-101217-1	18A-AE105R5-100318-1	19A-AE105R5-091619-1	16A-AE105S-062216-1	17A-AE105S-101217-1	18A-AE105S-100318-1	19A-AE105S-091619-1
				Sample Date:	6/20/2016	10/12/2017	10/3/2018	9/16/2019	10/12/2017	10/3/2018	9/16/2019	6/22/2016	10/12/2017	10/3/2018	9/16/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	125 - 130 ft	125 - 130 ft	125 - 130 ft	125-130 ft	143 - 148 ft	143 - 148 ft	143-148 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35-40 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**											
Volatile Organic Compounds (µg/l)															
1,1,1,2-Tetrachloroethane	5	10	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	5.0 U	5.00 U	5.00 U	**3.9**	5.00 U	**2.07**	**3.7**	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	5.0 U	5.00 U	5.00 U	**2.7**	5.00 U	**1.36**	**3.0**	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	5.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	R	10.0 U	2.00 U	R	2.0 UJ	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	5.0 U	5.00 U	5.00 U	1.2 U	5.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	100 U	100 U	100 U	80 U	100 U	20.0 UJ	40 U	NS	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	5.0 UJ	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	50.0 U	10.0 U	10.0 U	R	10.0 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	50.0 U	10.0 U	10.0 U	10 U	10.0 U	2.00 U	5.0 U	10.0 UJ	2.00 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	50.0 U	10.0 U	10.0 U	10 U	10.0 U	2.00 U	5.0 U	10.0 UJ	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	50.0 U	50.0 U	50.0 U	R	50.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	5.0 U	5.00 U	5.00 U	1.4 U	5.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	5.0 U	5.00 U	5.00 U	R	5.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	R
Bromomethane	10	7	800	8000	10.0 U	10.0 U	10.0 U	2.0 U	10.0 U	2.00 UJ	1.0 U	2.0 UJ	2.00 U	2.00 UJ	1.0 U
Carbon Disulfide	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	10 U	10.0 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	10.0 UJ	10.0 U	10.0 U	2.0 U	10.0 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	10.0 UJ	10.0 U	10.0 U	2.0 U	10.0 U	**3.45**	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**20.0**	**24.0**	**32.0**	**37**	**18.8**	**18.4**	**41**	**17.7**	**11.1**	**10.2**	**13**
cis-1,3-Dichloropropene	NE	NE	NE	NE	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	2.0 U	10.0 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 UJ	5.00 U	1.00 U	1.0 UJ	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	10.0 U	10.0 U	10.0 U	2.0 U	10.0 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	5.0 UJ	5.00 U	5.00 U	**2.5**	5.00 U	1.00 U	**1.9**	1.0 UJ	**2.24**	**3.12**	**1.8**
Methylene Chloride	5	2000	50000	100000	10.0 U	10.0 UJ	10.0 U	2.0 U	10.0 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 UJ
Naphthalene	140	700	20000	100000	5.0 U	5.00 U	10.0 U	2.0 U	5.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U
N-Butylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**58.2**	**67.2**	**47.2**	**55**	**56.2**	**18.3**	**50**	1.0 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	5.0 UJ	10.0 U	2.00 U	2.5 UJ	2.0 U	2.00 U	2.00 U	**3.5**
Toluene	**1000**	50000	40000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	2.5 U	2.50 U	2.50 U	1.0 U	2.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**166**	**230**	**187**	**190**	**193**	**88.3**	**150**	1.0 U	1.00 U	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	5.0 U	5.00 U	5.00 U	2.0 U	5.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	10 U	10 U	**10**	**2**	10 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect B (continued)										
					Location ID:	AE106D	AE106D	AE106D	AE106D	AE106R-1	AE106R-1	AE106R-1	AE106R-1	AE106R-3	AE106R-3	AE106R-3	AE106R-3
					Sample ID:	16A-AE106D-062016-1	17A-AE106D-101217-1	18A-AE106D-100318-1	19A-AE106D-091719-1	16A-AE106R1-062016-1	17A-AE106R1-101217-1	18A-AE106R1-100318-1	19A-AE106R1-091619-1	16A-AE106R3-062016-1	17A-AE106R3-101217-1	18A-AE106R3-100318-1	19A-AE106R3-091619-1
					Sample Date:	6/20/2016	10/12/2017	10/3/2018	9/17/2019	6/20/2016	10/12/2017	10/3/2018	9/16/2019	6/20/2016	10/12/2017	10/3/2018	9/16/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	34 - 39 ft	34 - 39 ft	34 - 39 ft	34-39 ft	47 - 52 ft	47 - 52 ft	47 - 52 ft	47-52 ft	84 - 88 ft	84 - 88 ft	84 - 88 ft	84-88 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	**1.28**	**1.3**	**1.2**	**1.26**	**1.74**	**1.4**
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	R	2.0 U	2.00 U	2.00 UJ	R
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**3.1**	**1.75**	**1.56**	1.0 U	**5.5**	**4.98**	**18.0**	**28**	**13.9**	**14.2**	**41.8**	**33**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 UJ	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U	1.0 U	1.00 U	2.00 UJ	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**11.3**	**5.99**	**4.25**	**3.6**	**11.6**	**9.40**	**10.0**	**2.9**	**24.5**	**25.3**	**7.77**	**2.3**
Tetrahydrofuran	NE	NE	NE	NE	**7.5**	2.00 U	2.00 U	2.5 U	2.6 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	**1.1**	1.00 U	1.00 U	1.0 U	**8.6**	1.00 U	1.00 U	1.0 U	**8.9**	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**10.3**	**7.19**	**6.28**	**5.8**	**11.6**	**9.01**	**13.6**	**4.6**	**27.0**	**34.3**	**19.0**	**4.8**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	**1.25**	1.0 U	**1.7**	**1.54**	**1.32**	**1.6**
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet

mg/l = milligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B (continued)											
				Location ID:	AE106R-5	AE106R-5	AE106R-5	AE106S	AE106S	AE106S	AE106S	AE111R-1	AE111R-1	AE111R-1	AE111R-1	AE111R-1
				Sample ID:	17A-AE106R5-101217-1	18A-AE106R5-100318-1	19A-AE106R5-091619-1	16A-AE106S-062916-1	17A-AE106S-101217-1	18A-AE106S-100318-1	19A-AE106S-091619-1	16B-AE111R1-061716-1	17A-AE111R1-100517-1	17A-AE111R1-100517-2	18A-AE111R1-100218-1	19A-AE111R1-092519-1
				Sample Date:	10/12/2017	10/3/2018	9/16/2019	6/29/2016	10/12/2017	10/3/2018	9/16/2019	6/17/2016	10/5/2017	10/5/2017	10/2/2018	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N
				Depth Interval:	164 - 169 ft	164 - 169 ft	164-169 ft	12 - 17 ft	12 - 17 ft	12 - 17 ft	12-17 ft	44 - 54 ft	44 - 54 ft	44 - 54 ft	44 - 54 ft	44-54 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	**1.81**	**1.86**	**1.4**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 UJ	2.00 UJ	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	2.00 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	2.00 UJ	R
2-Phenylbutane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U
Bromomethane	10	7	800	8000	2.00 U	2.00 UJ	R	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 UJ	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 UJ	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 UJ	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**10.7**	**11.9**	**15**	**13.5**	**12.7**	**6.21**	**8.5**	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 UJ	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	**1.0**	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.00 UJ	1.0 U
Ethylbenzene	700	20000	5000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	**9.1**	**7.70**	**6.23**	**3.5**	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 UJ	2.0 U	2.00 UJ	2.00 UJ	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.00 U	2.00 UJ	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**5.79**	**3.02**	**1.6**	**6.2**	**3.48**	**11.6**	**12**	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	2.5 U	**9.9**	2.00 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	**65.6**	**1.30**	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**60.8**	**57.7**	**36**	**7.2**	**4.97**	**17.6**	**17**	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.00 U	1.00 U	1.0 U	**1.2 J**	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect B (continued)										
					Location ID:	AE111R-3	AE111R-3	AE111R-3	AE111R-3	AE111R-5	AE111R-5	AE111R-5	AE111R-5	AE111R-6	AE111R-6	AE111R-6	AE111R-6
					Sample ID:	16B-AE111R3-061716-1	17A-AE111R3-100517-1	18A-AE111R3-100218-1	19A-AE111R3-092519-1	16B-AE111R5-061716-1	17A-AE111R5-100517-1	18A-AE111R5-100218-1	19A-AE111R5-092519-1	16B-AE111R6-061716-1	17A-AE111R6-100517-1	18A-AE111R6-100218-1	19A-AE111R6-092519-1
					Sample Date:	6/17/2016	10/5/2017	10/2/2018	9/25/2019	6/17/2016	10/5/2017	10/2/2018	9/25/2019	6/17/2016	10/5/2017	10/2/2018	9/25/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	95 - 103 ft	95 - 103 ft	95 - 103 ft	95-103 ft	155 - 165 ft	155 - 165 ft	155 - 165 ft	155-165 ft	168 - 173 ft	168 - 173 ft	168 - 173 ft	168-173 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	R	2.0 U	2.00 UJ	2.00 U	R	2.0 U	2.00 UJ	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	2.00 U	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	1.0 UJ	2.0 U	2.00 U	2.00 U	1.0 UJ	2.0 U	2.00 U	2.00 U	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 UJ	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U	0.5 U	0.50 UJ	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	**5.5**	2.00 U	2.00 U	R	**4.6**	2.00 U	2.00 U	R	**4.2**	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	**9.5**	**15.8**	**18.4**	**8.6**	**13.5**	**1.61**	**3.69**	**3.4**	**8.2**	1.00 U	1.00 U	**1.5**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	**1.23**	1.00 U	1.0 U	1.0 U	**1.10**	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B (continued)								Transect B-1/2			
				Location ID:	TRC-301R-2	TRC-301R-2	TRC-301R-2	TRC-301R-2	TRC-301R-4	TRC-301R-4	TRC-301R-4	TRC-301R-4	AE112D	AE112D	AE112D	AE112D
				Sample ID:	16A-TRC301R2-062216-1	17A-TRC301R2-102317-1	18A-TRC301R2-092718-1	19A-TRC301R2-091719-1	16A-TRC301R4-062216-1	17A-TRC301R4-102317-1	18A-TRC301R4-092718-1	19A-TRC301R4-091719-1	16B-AE112D-062716-1	17A-AE112D-101717-1	18A-AE112D-092618-1	19A-AE112D-091319-1
				Sample Date:	6/22/2016	10/23/2017	9/27/2018	9/17/2019	6/22/2016	10/23/2017	9/27/2018	9/17/2019	6/27/2016	10/17/2017	9/26/2018	9/13/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	81.5 - 85.5 ft	81.5 - 85.5 ft	81.5 - 85.5 ft	81.5-85.5 ft	65.5 - 69.5 ft	65.5 - 69.5 ft	65.5 - 69.5 ft	65.5-69.5 ft	24.5 - 29.5 ft	24.5 - 29.5 ft	24.5 - 29.5 ft	24.5-29.5 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**												
Volatile Organic Compounds (µg/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	2.5 U	2.50 U	2.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	5.0 U	5.00 U	5.00 U	**2.9**	**1.5**	**1.56**	**1.65**	**1.2**	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	5.0 U	5.00 U	5.00 U	**1.6**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	5.0 U	5.00 UJ	5.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	5.0 U	10.0 U	5.00 U	1.0 U	1.0 U	2.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	R	2.0 UJ	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	2.5 U	2.50 U	2.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	5.0 U	5.00 U	5.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	100 U	100 U	100 U	40 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	50.0 U	10.0 UJ	10.0 UJ	R	10.0 U	2.00 UJ	2.00 UJ	R	10.0 U	2.00 U	2.00 UJ	R
2-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	50.0 U	10.0 U	10.0 UJ	5.0 U	10.0 UJ	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 UJ	R
2-Phenylbutane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	50.0 U	10.0 U	10.0 UJ	5.0 U	10.0 UJ	2.00 U	2.00 UJ	5.0 U	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	50.0 U	50.0 U	50.0 UJ	R	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	5.0 U	5.00 U	5.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	2.5 U	2.50 U	2.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	5.0 U	5.00 U	5.00 U	R	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	1.0 U
Bromomethane	10	7	800	8000	10.0 U	10.0 U	10.0 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	10.0 U	10.0 UJ	10.0 U	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 UJ	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	5.0 U	5.00 UJ	5.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	10.0 U	10.0 U	10.0 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	10.0 UJ	10.0 U	10.0 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 UJ	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	**22.2**	**26.0**	**18.8**	**17**	**17.3**	**21.7**	**19.2**	**14**	1.0 U	1.00 U	1.00 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	2.5 U	2.50 U	2.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	2.5 U	2.50 U	2.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	10.0 U	10.0 U	10.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	5.0 UJ	5.00 U	5.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	5.0 U	5.00 UJ	5.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	2.5 U	2.50 UJ	2.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 UJ	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	10.0 U	10.0 U	10.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	5.0 UJ	**6.50**	5.00 U	**5.6**	**4.8 J**	**5.36**	**5.10**	**5.8**	1.0 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	10.0 U	10.0 U	10.0 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	5.0 U	10.0 U	10.0 U	1.0 U	1.0 U	2.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	5.0 UJ	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**50.6**	**56.2 J**	**41.2**	**43**	**15.6**	**12.9 J**	**14.1**	**13**	1.0 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	10.0 U	10.0 U	10.0 UJ	2.5 U	2.0 U	2.00 U	2.00 UJ	2.5 U	2.0 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	5.0 U	5.00 U	5.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	2.5 UJ	2.50 U	2.50 U	0.40 U	0.5 UJ	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**102**	**144**	**101**	**110**	**35.1**	**35.5**	**36.3**	**27**	1.0 U	1.00 U	1.00 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	5.0 U	5.00 UJ	5.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 UJ	1.00 UJ	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	5.0 U	5.00 U	5.00 U	**1.9**	**5.9**	**9.11**	**6.75**	**7.9**	1.0 UJ	1.00 U	1.00 U	1.0 UJ
Xylenes (Total)	10000	3000	5000	100000	10 U	10 U	**10**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B-1/2 (continued)							
				Location ID:	AE112R-1	AE112R-1	AE112R-1	AE112R-1	AE112R-3	AE112R-3	AE112R-3	AE112R-3
				Sample ID:	16B-AE112R1-062116-1	17A-AE112R1-101717-1	18A-AE112R1-092618-1	19A-AE112R1-091319-1	16B-AE112R3-062116-1	17A-AE112R3-101717-1	18A-AE112R3-092618-1	19A-AE112R3-091319-1
				Sample Date:	6/21/2016	10/17/2017	9/26/2018	9/13/2019	6/21/2016	10/17/2017	9/26/2018	9/13/2019
				Sample Type:	N	N	N	N	N	N	N	N
				Depth Interval:	41 - 50 ft	41 - 50 ft	41 - 50 ft	41 - 50 ft	91 - 101 ft	91 - 101 ft	91 - 101 ft	91-101 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**								
Volatile Organic Compounds (µg/l)												
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 UJ	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	R
Bromomethane	10	7	800	8000	2.0 UJ	2.00 U	2.00 UJ	1.0 U	2.0 UJ	2.00 UJ	2.00 UJ	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 UJ	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	**1.9**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 UJ	1.0 UJ	2.0 U	2.00 U	2.00 UJ	1.0 UJ
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	**6.6**	2.0 U	2.00 U	2.00 U	**4.4**
Toluene	**1000**	50000	40000	100000	**5.0**	1.00 U	1.00 U	1.0 U	**11.8**	**1.13**	**1.55**	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	**1.32**	**1.5**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B-1/2 (continued)									
				Location ID:	AE112R-5	AE112R-5	AE112R-5	AE112R-5	AE112R-5	AE112R-6	AE112R-6	AE112R-6	AE112R-6	AE112R-6
				Sample ID:	16B-AE112R5-062116-1	17A-AE112R5-101717-1	17A-AE112R5-101717-2	18A-AE112R5-092618-1	19A-AE112R5-091319-1	16B-AE112R6-062116-1	17A-AE112R6-101717-1	18A-AE112R6-092618-1	18A-AE112R6-092618-2	19A-AE112R6-091319-1
				Sample Date:	6/21/2016	10/17/2017	10/17/2017	9/26/2018	9/13/2019	6/21/2016	10/17/2017	9/26/2018	9/26/2018	9/13/2019
				Sample Type:	N	N	FD	N	N	N	N	N	FD	N
				Depth Interval:	136 - 146 ft	136 - 146 ft	136 - 146 ft	136 - 146 ft	136-146 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153-163 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U	1.0 U	1.00 U	1.00 U	1.00 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	0.60 U	1.0 U	1.00 UJ	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	20.0 U	20.0 UJ	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	R	10.0 U	**4.09**	2.00 U	**3.51 J**	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	2.00 UJ	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	5.0 U	10.0 U	2.00 U	2.00 U	2.00 UJ	5.0 U
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 U	10.0 U	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	R	1.0 U	1.00 U	1.00 U	1.00 UJ	R
Bromomethane	10	7	800	8000	2.0 UJ	2.00 UJ	2.00 UJ	2.00 UJ	1.0 U	2.0 UJ	2.00 UJ	2.00 UJ	2.00 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 UJ	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 U	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	**3.57**	**3.31**	**11.6**	**14**	1.0 U	**1.96**	**7.03**	**7.00**	**8.6**
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 UJ	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 U	2.00 U	2.00 UJ	1.0 UJ	2.0 U	2.00 U	2.00 UJ	2.00 U	1.0 UJ
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	2.00 U	2.00 UJ	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	**16.8**	**6.50**	**6.52**	1.00 U	1.0 U	**9.0**	**5.59**	1.00 U	**1.01**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	**3.5**	2.0 U	2.00 U	2.00 U	2.00 U	**5.3**
Toluene	**1000**	50000	40000	100000	**1.8**	1.00 U	1.00 U	1.00 U	1.0 U	**34.2**	**13.7**	**4.05**	**3.18**	**1.5**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	**2.4**	**8.08**	**7.81**	**3.62**	**3.9**	**1.6**	**4.05**	**2.63**	**2.24**	**1.9**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 UJ	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	1.00 U	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.00 U	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**2**	**1**

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect C										
					Location ID:	STM-3D	STM-3D	STM-3D	STM-3D	STM-8D	STM-8D	STM-8D	STM-8D	STM-8R	STM-8R	STM-8R	STM-8R
					Sample ID:	16A-STM3D-062716-1	17A-STM3D-101317-1	18A-STM3D-092818-1	19A-STM3D-092619-1	16A-STM8D-063016-1	17A-STM8D-101117-1	18A-STM8D-092818-1	19A-STM8D-092619-1	16A-STM8R-063016-1	17A-STM8R-101117-1	18A-STM8R-092818-1	19A-STM8R-092619-1
					Sample Date:	6/27/2016	10/13/2017	9/28/2018	9/26/2019	6/30/2016	10/11/2017	9/28/2018	9/26/2019	6/30/2016	10/11/2017	9/28/2018	9/26/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	49.8 - 54.8 ft	49.8 - 54.8 ft	49.8 - 54.8 ft	49.8-54.8 ft	34.7 - 39.7 ft	34.7 - 39.7 ft	34.7 - 39.7 ft	34.7-39.7 ft	46.5 - 51.5 ft	46.5 - 51.5 ft	46.5 - 51.5 ft	46.5-51.5 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**													
Volatile Organic Compounds (µg/l)																	
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 U	0.50 U	0.50 U	R	0.5 U	0.50 U	0.50 UJ	R	0.5 U	0.50 U	0.50 U	R
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	1.00 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	20.0 U	20.0 U	20.0 U	40 U	NS	20.0 U	20.0 U	40 U	NS	20.0 U	20.0 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R	10.0 U	2.00 U	2.00 U	R
Acetone	6300	50000	50000	100000	10.0 UJ	10.0 U	10.0 UJ	R	10.0 U	10.0 U	10.0 U	R	10.0 U	10.0 U	10.0 UJ	R
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	1.00 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 UJ	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 UJ	0.50 U
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Bromomethane	10	7	800	8000	2.0 U	2.00 UJ	2.00 UJ	1.0 UJ	2.0 UJ	2.00 UJ	2.00 U	1.0 UJ	2.0 UJ	2.00 UJ	2.00 UJ	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	5.0 U	2.0 U	2.00 U	2.00 UJ	5.0 U	2.0 U	2.00 U	2.00 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 UJ	1.00 U	1.00 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	2.00 UJ	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Chloromethane	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 UJ	2.00 UJ	1.0 U	2.0 U	2.00 UJ	2.00 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	**17.9**	**15.7**	**15.4**	**10**	**7.5**	**6.61**	**5.06**	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.0 U	**4.0**	**4.14**	**3.40**	**2.9**	**1.3**	**1.28**	1.00 U	1.0 U
Methylene Chloride	5	2000	50000	100000	2.0 UJ	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	2.00 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U	1.0 U	1.00 U	2.00 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	1.00 UJ	1.0 U
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.0 U	**1.7**	**1.71**	**1.50**	**1.3**	**3.1**	**3.29**	1.00 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R	2.0 U	2.00 U	2.00 U	R
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U	0.5 U	0.50 U	0.50 U	0.40 U
Trichloroethene	**5**	**5**	**5000**	**50000**	1.0 U	1.00 U	1.00 U	1.0 U	**1.7**	**1.54**	**1.59**	**1.3**	**14.1**	**13.7**	**6.69**	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	1.00 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	1.0 U	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	1.00 UJ	1.0 U
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**2**	**1**

Notes:

ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
Detects are bolded
Criteria exceedances are highlighted

Table 5-6
Summary of 2016 - 2019 Groundwater Analytical Results for Volatile Organic Compounds
Former GE Facility, 50 Fordham Road, Wilmington, MA

					Location Group:	Transect C (continued)					Upgradient			
					Location ID:	STM-8R1	STM-8R1	STM-8R1	STM-8R1	STM-8R1	GZA-12	GZA-12	GZA-12	GZA-12
					Sample ID:	16A-STM8R1-062816-1	17A-STM8R1-101717-1	17A-STM8R1-101717-2	18A-STM8R1-100218-1	19A-STM8R1-092619-1	16A-GZA12-061416-1	17A-GZA12-101017-1	18A-GZA12-100118-1	19A-GZA12-092619-1
					Sample Date:	6/28/2016	10/17/2017	10/17/2017	10/2/2018	9/26/2019	6/14/2016	10/10/2017	10/1/2018	9/26/2019
					Sample Type:	N	N	FD	N	N	N	N	N	N
					Depth Interval:	85 - 90 ft	85 - 90 ft	85 - 90 ft	85 - 90 ft	85-90 ft	9.5 - 24.5 ft	9.5 - 24.5 ft	9.5 - 24.5 ft	9.5-24.5 ft
Analyte	**MCP Method 1 GW-1 Stds**	**MCP Method 1 GW-2 Stds**	**MCP Method 1 GW-3 Stds**	**Upper Concentration Limit (UCL)**										
Volatile Organic Compounds (µg/l)														
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,1,1-Trichloroethane	**200**	4000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.5 UJ	0.50 U	0.50 U	0.50 U	R	0.5 U	0.50 U	3.50 U	R	
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,1-Dichloroethane	**70**	2000	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,1-Dichloroethylene	**7**	**80**	30000	100000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	7.00 UJ	1.0 U	
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2,4-Trichlorobenzene	70	200	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	R	2.0 UJ	2.00 U	14.0 U	R	
1,2-Dibromoethane	0.02	2	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	3.50 U	0.50 U	
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,2-Dichloroethane	5	5	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.60 U	1.0 U	1.00 U	7.00 U	0.60 U	
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
1,4-Dioxane	**0.3**	6000	50000	100000	NS	20.0 U	20.0 U	20.0 U	40 U	20.0 U	20.0 U	140 U	40 U	
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 UJ	7.00 U	1.0 U	
2-Butanone	4000	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	14.0 U	R	
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
2-Hexanone	NE	NE	NE	NE	10.0 U	2.00 U	2.00 U	2.00 UJ	R	10.0 U	2.00 U	14.0 U	R	
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
4-Methyl-2-Pentanone	350	50000	50000	100000	10.0 U	2.00 U	2.00 U	2.00 U	R	10.0 U	2.00 U	14.0 U	R	
Acetone	6300	50000	50000	100000	10.0 U	10.0 U	10.0 U	10.0 UJ	R	10.0 U	10.0 U	70.0 U	R	
Benzene	5	1000	10000	100000	1.0 U	1.00 U	1.00 U	1.00 U	0.70 U	1.0 U	1.00 U	7.00 U	0.70 U	
Bromobenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Bromodichloromethane	3	6	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	3.50 U	0.50 U	
Bromoform	4	700	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Bromomethane	10	7	800	8000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 UJ	2.0 U	2.00 U	14.0 UJ	1.0 UJ	
Carbon Disulfide	NE	NE	NE	NE	2.0 U	2.00 UJ	2.00 UJ	2.00 U	5.0 U	2.0 U	2.00 U	14.0 U	5.0 U	
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Chlorobenzene	100	200	1000	10000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Chloroethane	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	14.0 U	1.0 U	
Chloroform	70	50	20000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Chloromethane	NE	NE	NE	NE	2.0 UJ	2.00 U	2.00 U	2.00 UJ	1.0 U	2.0 U	2.00 U	14.0 U	1.0 U	
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	3.50 U	0.40 U	
Cymene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Dibromochloromethane	2	20	50000	100000	0.5 U	0.50 U	0.50 U	0.50 U	0.50 U	0.5 U	0.50 U	3.50 U	0.50 U	
Dibromomethane	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	14.0 U	1.0 U	
Diethyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Diisopropyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.00 UJ	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Ethylbenzene	700	20000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.00 UJ	1.00 UJ	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Hexachloro-1,3-Butadiene	0.6	50	3000	3000	0.5 U	0.50 UJ	0.50 UJ	0.50 U	0.40 U	0.5 U	0.50 U	3.50 U	0.40 U	
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
M, P Xylenes	10000	3000	5000	100000	2.0 U	2.00 U	2.00 U	2.00 U	1.0 U	2.0 U	2.00 U	14.0 U	1.0 U	
Methyl Tert-Butyl Ether	NE	NE	NE	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Methylene Chloride	5	2000	50000	100000	2.0 U	2.00 UJ	2.00 UJ	2.00 U	1.0 U	2.0 U	2.00 U	14.0 U	1.0 U	
Naphthalene	140	700	20000	100000	1.0 UJ	1.00 U	1.00 U	2.00 U	1.0 U	1.0 UJ	1.00 U	14.0 UJ	1.0 U	
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
o-Xylene	10000	3000	5000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Styrene	100	100	6000	60000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Tetrachloroethene	**5**	**50**	**30000**	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Tetrahydrofuran	NE	NE	NE	NE	2.0 U	2.00 U	2.00 U	2.00 U	R	2.0 U	2.00 U	14.0 U	R	
Toluene	**1000**	50000	40000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	1.0 U	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.5 U	0.50 U	0.50 U	0.50 U	0.40 U	0.5 UJ	0.50 U	3.50 U	0.40 U	
Trichloroethene	**5**	**5**	**5000**	**50000**	**1.8**	**2.29**	**2.26**	**2.02**	**1.9**	1.0 U	1.00 U	7.00 U	1.0 U	
Trichlorofluoromethane	NE	NE	NE	NE	1.0 UJ	1.00 U	1.00 U	1.00 U	1.0 U	1.0 U	1.00 U	7.00 U	1.0 U	
Vinyl Chloride	**2**	**2**	50000	100000	1.0 UJ	1.00 U	1.00 U	1.00 UJ	1.0 U	1.0 UJ	1.00 U	7.00 U	1.0 U	
Xylenes (Total)	10000	3000	5000	100000	2.0 U	2.0 U	2.0 U	**2**	**1**	2.0 U	2.0 U	**14**	**1**	

Notes:

ft = feet

mg/l = miligrams per liter

µg/l = micrograms per liter

NE = not established

U - Non-detect at laboratory detection limit

J = Estimated Value, J+ = biased high, J- = biased low, R = rejected

Detects are bolded

Criteria exceedances are highlighted

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE04	Vinyl Chloride	8	3	-8	-8	8	Downward Trend	12	Not Significant
AE100R-1	cis-1,2-Dichloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE100R-1	Tetrachloroethene	6	4	-2	-2	7	Not Significant	9	Not Significant
AE100R-1	Toluene	6	5	-11	-11	7	Downward Trend	9	Downward Trend
AE100R-1	Trichloroethene	6	4	-2	-2	7	Not Significant	9	Not Significant
AE100R-1	Vinyl Chloride	6	4	7	7	7	Upward Trend	9	Not Significant
AE100R-3	Tetrachloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE100R-3	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE100R-3	1,4-Dioxane	5	5	6	6	6	Upward Trend	8	Not Significant
AE100R-4	cis-1,2-Dichloroethene	6	3	11	11	7	Upward Trend	9	Upward Trend
AE100R-4	Tetrachloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE100R-4	Trichloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE100R-4	1,4-Dioxane	4	4	6	6	4	Upward Trend	6	Upward Trend
AE100R-5	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE100R-5	Tetrachloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE100R-5	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE100R-6	cis-1,2-Dichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE100R-6	Tetrachloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE100R-6	Trichloroethene	6	6	15	15	7	Upward Trend	9	Upward Trend
AE100R-6	1,4-Dioxane	5	5	5	5	6	Not Significant	8	Not Significant
AE101D	cis-1,2-Dichloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE101D	Tetrachloroethene	6	4	-8	-8	7	Downward Trend	9	Not Significant
AE101D	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE101R-1	cis-1,2-Dichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
AE101R-1	Tetrachloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE101R-1	Trichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE101R-1	Vinyl Chloride	6	3	7	7	7	Upward Trend	9	Not Significant
AE101R-2	cis-1,2-Dichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE101R-2	Tetrachloroethene	6	6	-9	-9	7	Downward Trend	9	Downward Trend
AE101R-2	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE101R-2	Vinyl Chloride	6	4	3	3	7	Not Significant	9	Not Significant
AE101R-2	1,4-Dioxane	5	5	2	2	6	Not Significant	8	Not Significant
AE101R-3	cis-1,2-Dichloroethene	6	6	-7	-7	7	Downward Trend	9	Not Significant
AE101R-3	Tetrachloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE101R-3	Trichloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE101R-3	Vinyl Chloride	6	4	1	1	7	Not Significant	9	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE101R-3	1,4-Dioxane	4	4	0	0		No Trend		No Trend
AE101R-5	cis-1,2-Dichloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE101R-5	Tetrachloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE101R-5	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE101R-5	1,4-Dioxane	4	4	1	1	4	Not Significant	6	Not Significant
AE101R-6	cis-1,2-Dichloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE101R-6	Tetrachloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE101R-6	Trichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE101R-6	Vinyl Chloride	6	3	9	9	7	Upward Trend	9	Upward Trend
AE101R-6	1,4-Dioxane	5	5	8	8	6	Upward Trend	8	Upward Trend
AE101S	cis-1,2-Dichloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE101S	Tetrachloroethene	6	3	-2	-2	7	Not Significant	9	Not Significant
AE101S	Trichloroethene	6	5	-5	-5	7	Not Significant	9	Not Significant
AE102D	cis-1,2-Dichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE102D	Tetrachloroethene	6	4	-14	-14	7	Downward Trend	9	Downward Trend
AE102D	Trichloroethene	6	6	-11	-11	7	Downward Trend	9	Downward Trend
AE102D	Vinyl Chloride	6	5	-7	-7	7	Downward Trend	9	Not Significant
AE102D	1,4-Dioxane	5	5	-2	-2	6	Not Significant	8	Not Significant
AE102M	cis-1,2-Dichloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE102M	Tetrachloroethene	6	6	-7	-7	7	Downward Trend	9	Not Significant
AE102M	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE102M	Vinyl Chloride	6	5	5	5	7	Not Significant	9	Not Significant
AE102M	1,4-Dioxane	4	3	6	6	4	Upward Trend	6	Upward Trend
AE102RR-2	cis-1,2-Dichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
AE102RR-2	Tetrachloroethene	6	6	3	3	7	Not Significant	9	Not Significant
AE102RR-2	Trichloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE102RR-2	Vinyl Chloride	6	3	8	8	7	Upward Trend	9	Not Significant
AE102RR-2	1,4-Dioxane	5	5	4	4	6	Not Significant	8	Not Significant
AE102RR-4	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE102RR-4	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE102RR-4	Trichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE102RR-4	1,4-Dioxane	4	4	4	4	4	Upward Trend	6	Not Significant
AE102RR-5	cis-1,2-Dichloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE102RR-5	Tetrachloroethene	6	6	4	4	7	Not Significant	9	Not Significant
AE102RR-5	Trichloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE102RR-6	cis-1,2-Dichloroethene	6	5	5	5	7	Not Significant	9	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE102RR-6	Tetrachloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE102RR-6	Trichloroethene	6	6	-4	-4	7	Not Significant	9	Not Significant
AE102RR-6	1,4-Dioxane	5	5	8	8	6	Upward Trend	8	Upward Trend
AE103D	cis-1,2-Dichloroethene	6	6	-7	-7	7	Downward Trend	9	Not Significant
AE103D	Tetrachloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE103D	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE103D	1,4-Dioxane	5	4	-3	-3	6	Not Significant	8	Not Significant
AE103R-1	cis-1,2-Dichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-1	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE103R-1	Trichloroethene	6	6	-11	-11	7	Downward Trend	9	Downward Trend
AE103R-1	Vinyl Chloride	6	4	-6	-6	7	Not Significant	9	Not Significant
AE103R-1	1,4-Dioxane	5	5	-10	-10	6	Downward Trend	8	Downward Trend
AE103R-3	cis-1,2-Dichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-3	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-3	Trichloroethene	6	6	-9	-9	7	Downward Trend	9	Downward Trend
AE103R-3	Vinyl Chloride	6	4	2	2	7	Not Significant	9	Not Significant
AE103R-4	cis-1,2-Dichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE103R-4	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-4	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE103R-4	1,4-Dioxane	5	5	4	4	6	Not Significant	8	Not Significant
AE103R-5	cis-1,2-Dichloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE103R-5	Tetrachloroethene	6	6	3	3	7	Not Significant	9	Not Significant
AE103R-5	Trichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-5	1,4-Dioxane	5	5	6	6	6	Upward Trend	8	Not Significant
AE103R-7	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE103R-7	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE103R-7	Trichloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE103S	cis-1,2-Dichloroethene	6	4	-8	-8	7	Downward Trend	9	Not Significant
AE103S	Vinyl Chloride	6	4	-8	-8	7	Downward Trend	9	Not Significant
AE104D	cis-1,2-Dichloroethene	6	3	-10	-10	7	Downward Trend	9	Downward Trend
AE104D	Tetrachloroethene	6	5	-13	-13	7	Downward Trend	9	Downward Trend
AE104D	Trichloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE104D	1,4-Dioxane	5	4	8	8	6	Upward Trend	8	Upward Trend
AE104R-1	cis-1,2-Dichloroethene	6	6	15	15	7	Upward Trend	9	Upward Trend
AE104R-1	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE104R-1	Trichloroethene	6	6	3	3	7	Not Significant	9	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE104R-1	1,4-Dioxane	5	5	4	4	6	Not Significant	8	Not Significant
AE104R-3	cis-1,2-Dichloroethene	6	5	-1	-1	7	Not Significant	9	Not Significant
AE104R-3	Tetrachloroethene	6	6	-11	-11	7	Downward Trend	9	Downward Trend
AE104R-3	Trichloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE104R-3	1,4-Dioxane	5	5	-1	-1	6	Not Significant	8	Not Significant
AE104R-4	cis-1,2-Dichloroethene	6	5	13	13	7	Upward Trend	9	Upward Trend
AE104R-4	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE104R-4	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE104R-4	1,4-Dioxane	5	5	3	3	6	Not Significant	8	Not Significant
AE104R-5	cis-1,2-Dichloroethene	6	5	13	13	7	Upward Trend	9	Upward Trend
AE104R-5	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE104R-5	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE104R-6	cis-1,2-Dichloroethene	6	5	15	15	7	Upward Trend	9	Upward Trend
AE104R-6	Tetrachloroethene	6	6	1	1	7	Not Significant	9	Not Significant
AE104R-6	Trichloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE104R-6	1,4-Dioxane	5	5	3	3	6	Not Significant	8	Not Significant
AE104S	cis-1,2-Dichloroethene	6	4	-12	-12	7	Downward Trend	9	Downward Trend
AE104S	Tetrachloroethene	6	4	-14	-14	7	Downward Trend	9	Downward Trend
AE104S	Trichloroethene	6	4	-14	-14	7	Downward Trend	9	Downward Trend
AE105D	cis-1,2-Dichloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE105D	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE105D	1,4-Dioxane	4	4	1	1	4	Not Significant	6	Not Significant
AE105R-1	cis-1,2-Dichloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE105R-1	Tetrachloroethene	6	6	4	4	7	Not Significant	9	Not Significant
AE105R-1	Trichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
AE105R-2	cis-1,2-Dichloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE105R-2	Tetrachloroethene	6	6	3	3	7	Not Significant	9	Not Significant
AE105R-2	Trichloroethene	6	6	0	0		No Trend		No Trend
AE105R-2	1,4-Dioxane	4	4	2	2	4	Not Significant	6	Not Significant
AE105R-4	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE105R-4	Tetrachloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE105R-4	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE105R-5	cis-1,2-Dichloroethene	5	5	5	5	6	Not Significant	8	Not Significant
AE105R-5	Tetrachloroethene	5	5	4	4	6	Not Significant	8	Not Significant
AE105R-5	Trichloroethene	5	5	2	2	6	Not Significant	8	Not Significant
AE105S	cis-1,2-Dichloroethene	6	6	-7	-7	7	Downward Trend	9	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE106D	cis-1,2-Dichloroethene	6	5	-15	-15	7	Downward Trend	9	Downward Trend
AE106D	Tetrachloroethene	6	6	-15	-15	7	Downward Trend	9	Downward Trend
AE106D	Trichloroethene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE106R-1	cis-1,2-Dichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
AE106R-1	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE106R-1	Toluene	6	3	-12	-12	7	Downward Trend	9	Downward Trend
AE106R-1	Trichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE106R-3	cis-1,2-Dichloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE106R-3	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE106R-3	Toluene	6	3	-8	-8	7	Downward Trend	9	Not Significant
AE106R-3	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE106R-3	Vinyl Chloride	6	6	3	3	7	Not Significant	9	Not Significant
AE106R-5	cis-1,2-Dichloroethene	5	5	10	10	6	Upward Trend	8	Upward Trend
AE106R-5	Tetrachloroethene	5	5	-4	-4	6	Not Significant	8	Not Significant
AE106R-5	Trichloroethene	5	5	2	2	6	Not Significant	8	Not Significant
AE106R-5	1,4-Dioxane	4	3	0	0		No Trend		No Trend
AE106S	cis-1,2-Dichloroethene	6	6	0	0		No Trend		No Trend
AE106S	Tetrachloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE106S	Trichloroethene	6	6	0	0		No Trend		No Trend
AE108R-1	cis-1,2-Dichloroethene	6	6	13	13	7	Upward Trend	9	Upward Trend
AE108R-1	Tetrachloroethene	6	3	-12	-12	7	Downward Trend	9	Downward Trend
AE108R-1	Toluene	6	6	-13	-13	7	Downward Trend	9	Downward Trend
AE108R-1	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE108R-3	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE108R-3	Tetrachloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE108R-3	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE108R-5	cis-1,2-Dichloroethene	6	6	11	11	7	Upward Trend	9	Upward Trend
AE108R-5	Tetrachloroethene	6	6	9	9	7	Upward Trend	9	Upward Trend
AE108R-5	Toluene	6	3	-10	-10	7	Downward Trend	9	Downward Trend
AE108R-5	Trichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE109D	1,4-Dioxane	4	3	4	4	4	Upward Trend	6	Not Significant
AE109R-1	cis-1,2-Dichloroethene	4	4	0	0		No Trend		No Trend
AE109R-1	Trichloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-2	cis-1,2-Dichloroethene	4	4	6	6	4	Upward Trend	6	Upward Trend
AE109R-2	Trichloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-3	cis-1,2-Dichloroethene	4	3	0	0		No Trend		No Trend

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE109R-3	Trichloroethene	4	4	-4	-4	4	Downward Trend	6	Not Significant
AE109R-4	cis-1,2-Dichloroethene	4	4	0	0		No Trend		No Trend
AE109R-4	Trichloroethene	4	4	-4	-4	4	Downward Trend	6	Not Significant
AE109R-5	cis-1,2-Dichloroethene	4	4	4	4	4	Upward Trend	6	Not Significant
AE109R-5	Tetrachloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-5	Trichloroethene	4	4	-4	-4	4	Downward Trend	6	Not Significant
AE109R-5	1,4-Dioxane	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-6	cis-1,2-Dichloroethene	4	4	6	6	4	Upward Trend	6	Upward Trend
AE109R-6	Tetrachloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-6	Trichloroethene	4	4	-4	-4	4	Downward Trend	6	Not Significant
AE109R-7	cis-1,2-Dichloroethene	4	4	4	4	4	Upward Trend	6	Not Significant
AE109R-7	Trichloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-7	1,4-Dioxane	4	4	-3	-3	4	Not Significant	6	Not Significant
AE109R-8	cis-1,2-Dichloroethene	4	4	4	4	4	Upward Trend	6	Not Significant
AE109R-8	Tetrachloroethene	4	3	-6	-6	4	Downward Trend	6	Downward Trend
AE109R-8	Trichloroethene	4	4	-6	-6	4	Downward Trend	6	Downward Trend
AE110R-6	Toluene	4	3	-4	-4	4	Downward Trend	6	Not Significant
AE110R-6	1,4-Dioxane	4	4	-5	-5	4	Downward Trend	6	Not Significant
AE111R-1	Toluene	5	3	-7	-7	6	Downward Trend	8	Not Significant
AE111R-3	Toluene	5	5	-4	-4	6	Not Significant	8	Not Significant
AE111R-5	Toluene	5	5	-4	-4	6	Not Significant	8	Not Significant
AE111R-6	Toluene	5	3	-3	-3	6	Not Significant	8	Not Significant
AE112R-3	Toluene	5	4	-8	-8	6	Downward Trend	8	Downward Trend
AE112R-5	cis-1,2-Dichloroethene	5	3	9	9	6	Upward Trend	8	Upward Trend
AE112R-5	Tetrachloroethene	5	3	-7	-7	6	Downward Trend	8	Not Significant
AE112R-5	Trichloroethene	5	5	4	4	6	Not Significant	8	Not Significant
AE112R-6	cis-1,2-Dichloroethene	5	3	9	9	6	Upward Trend	8	Upward Trend
AE112R-6	Tetrachloroethene	5	4	-10	-10	6	Downward Trend	8	Downward Trend
AE112R-6	Toluene	5	5	-10	-10	6	Downward Trend	8	Downward Trend
AE112R-6	Trichloroethene	5	5	2	2	6	Not Significant	8	Not Significant
AE23R	Tetrachloroethene	8	8	12	12	8	Upward Trend	12	Upward Trend
AE23R	Toluene	8	6	13	13	8	Upward Trend	12	Upward Trend
AE23R	Trichloroethene	8	8	18	18	8	Upward Trend	12	Upward Trend
AE23R	1,4-Dioxane	8	8	3	3	8	Not Significant	12	Not Significant
AE24	Tetrachloroethene	7	7	1	1	7	Not Significant	11	Not Significant
AE24	1,4-Dioxane	4	3	2	2	4	Not Significant	6	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
AE26R-1	cis-1,2-Dichloroethene	5	5	8	8	6	Upward Trend	8	Upward Trend
AE26R-1	Tetrachloroethene	5	5	0	0		No Trend		No Trend
AE26R-1	Trichloroethene	5	5	2	2	6	Not Significant	8	Not Significant
AE26R-1	1,4-Dioxane	5	5	4	4	6	Not Significant	8	Not Significant
AE26R-2	cis-1,2-Dichloroethene	5	5	6	6	6	Upward Trend	8	Not Significant
AE26R-2	Tetrachloroethene	5	4	-6	-6	6	Downward Trend	8	Not Significant
AE26R-2	Trichloroethene	5	5	-8	-8	6	Downward Trend	8	Downward Trend
AE26R-5	cis-1,2-Dichloroethene	5	5	10	10	6	Upward Trend	8	Upward Trend
AE26R-5	Tetrachloroethene	5	5	-6	-6	6	Downward Trend	8	Not Significant
AE26R-5	Trichloroethene	5	5	4	4	6	Not Significant	8	Not Significant
AE26R-5	1,4-Dioxane	5	5	4	4	6	Not Significant	8	Not Significant
AE26S	cis-1,2-Dichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
AE26S	Tetrachloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
AE26S	Trichloroethene	6	6	-1	-1	7	Not Significant	9	Not Significant
AE28R-1	cis-1,2-Dichloroethene	5	3	8	8	6	Upward Trend	8	Upward Trend
AE28R-1	Tetrachloroethene	5	5	-2	-2	6	Not Significant	8	Not Significant
AE28R-1	Trichloroethene	5	5	6	6	6	Upward Trend	8	Not Significant
AE28R-2	Tetrachloroethene	5	5	0	0		No Trend		No Trend
AE28R-2	Trichloroethene	5	5	8	8	6	Upward Trend	8	Upward Trend
AE28R-2	1,4-Dioxane	5	5	5	5	6	Not Significant	8	Not Significant
AE28R-3	cis-1,2-Dichloroethene	5	3	9	9	6	Upward Trend	8	Upward Trend
AE28R-3	Tetrachloroethene	5	5	-10	-10	6	Downward Trend	8	Downward Trend
AE28R-3	Trichloroethene	5	5	0	0		No Trend		No Trend
AE28R-4	cis-1,2-Dichloroethene	5	4	10	10	6	Upward Trend	8	Upward Trend
AE28R-4	Tetrachloroethene	5	5	2	2	6	Not Significant	8	Not Significant
AE28R-4	Trichloroethene	5	5	6	6	6	Upward Trend	8	Not Significant
AE29R-1	Trichloroethene	5	4	-8	-8	6	Downward Trend	8	Downward Trend
AE29R-3	cis-1,2-Dichloroethene	5	5	1	1	6	Not Significant	8	Not Significant
AE29R-3	Trichloroethene	5	5	-2	-2	6	Not Significant	8	Not Significant
AE29R-5	cis-1,2-Dichloroethene	5	5	4	4	6	Not Significant	8	Not Significant
AE29R-5	Trichloroethene	5	5	-2	-2	6	Not Significant	8	Not Significant
AE29R-6	cis-1,2-Dichloroethene	6	6	5	5	7	Not Significant	9	Not Significant
AE29R-6	Toluene	6	4	-8	-8	7	Downward Trend	9	Not Significant
AE29R-6	Trichloroethene	6	6	-9	-9	7	Downward Trend	9	Downward Trend
AE29R-6	1,4-Dioxane	5	5	8	8	6	Upward Trend	8	Upward Trend
EMW-10D	cis-1,2-Dichloroethene	19	18	-52	-1.785	0.8416	Downward Trend	1.282	Downward Trend

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
EMW-10D	Tetrachloroethene	19	18	16	0.5251	0.8416	Not Significant	1.282	Not Significant
EMW-10D	Trichloroethene	19	18	-13	-0.4216	0.8416	Not Significant	1.282	Not Significant
EMW-10D	Vinyl Chloride	19	11	20	0.6786	0.8416	Not Significant	1.282	Not Significant
EMW-10R	cis-1,2-Dichloroethene	12	12	34	2.263	0.8416	Upward Trend	1.282	Upward Trend
EMW-10R	Tetrachloroethene	12	8	0	0		No Trend		No Trend
EMW-10R	Trichloroethene	12	12	4	0.2057	0.8416	Not Significant	1.282	Not Significant
EMW-10R	Vinyl Chloride	19	9	112	4.125	0.8416	Upward Trend	1.282	Upward Trend
EMW-11D	cis-1,2-Dichloroethene	17	17	3	0.08260	0.8416	Not Significant	1.282	Not Significant
EMW-11D	Tetrachloroethene	17	16	-10	-0.3714	0.8416	Not Significant	1.282	Not Significant
EMW-11D	Trichloroethene	17	17	10	0.3714	0.8416	Not Significant	1.282	Not Significant
EMW-11D	Vinyl Chloride	17	17	-14	-0.5364	0.8416	Not Significant	1.282	Not Significant
EMW-11R1	cis-1,2-Dichloroethene	22	21	67	1.863	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R1	Tetrachloroethene	22	22	62	1.721	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R1	Trichloroethene	22	22	43	1.185	0.8416	Upward Trend	1.282	Not Significant
EMW-11R1	Vinyl Chloride	22	7	-6	-0.1416	0.8416	Not Significant	1.282	Not Significant
EMW-11R1	1,4-Dioxane	4	4	5	5	4	Upward Trend	6	Not Significant
EMW-11R2	cis-1,2-Dichloroethene	21	21	77	2.296	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R2	Tetrachloroethene	21	18	87	2.600	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R2	Trichloroethene	21	21	59	1.752	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R2	Vinyl Chloride	21	17	32	0.9370	0.8416	Upward Trend	1.282	Not Significant
EMW-11R2	1,4-Dioxane	6	5	-4	-4	7	Not Significant	9	Not Significant
EMW-11R3	cis-1,2-Dichloroethene	13	12	36	2.135	0.8416	Upward Trend	1.282	Upward Trend
EMW-11R3	Tetrachloroethene	13	12	-3	-0.1222	0.8416	Not Significant	1.282	Not Significant
EMW-11R3	Trichloroethene	13	13	-4	-0.1837	0.8416	Not Significant	1.282	Not Significant
EMW-11R3	Vinyl Chloride	13	7	4	0.1846	0.8416	Not Significant	1.282	Not Significant
GZA-101R	cis-1,2-Dichloroethene	27	8	-32	-0.6557	0.8416	Not Significant	1.282	Not Significant
GZA-101R	Tetrachloroethene	31	31	22	0.3571	0.8416	Not Significant	1.282	Not Significant
GZA-101R	Toluene	21	8	-113	-3.417	0.8416	Downward Trend	1.282	Downward Trend
GZA-101R	Trichloroethene	31	31	-160	-2.703	0.8416	Downward Trend	1.282	Downward Trend
GZA-101R	1,4-Dioxane	5	4	-3	-3	6	Not Significant	8	Not Significant
GZA-102S	cis-1,2-Dichloroethene	15	10	-26	-1.242	0.8416	Downward Trend	1.282	Not Significant
GZA-102S	Tetrachloroethene	20	14	-99	-3.181	0.8416	Downward Trend	1.282	Downward Trend
GZA-102S	Trichloroethene	20	12	-86	-2.801	0.8416	Downward Trend	1.282	Downward Trend
GZA-102S	Vinyl Chloride	20	9	-89	-2.867	0.8416	Downward Trend	1.282	Downward Trend
GZA-105D	cis-1,2-Dichloroethene	23	21	7	0.1586	0.8416	Not Significant	1.282	Not Significant
GZA-105D	Tetrachloroethene	24	22	-14	-0.3227	0.8416	Not Significant	1.282	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
GZA-105D	Trichloroethene	24	23	4	0.07446	0.8416	Not Significant	1.282	Not Significant
GZA-105D	Vinyl Chloride	24	23	-110	-2.705	0.8416	Downward Trend	1.282	Downward Trend
GZA-105D	1,4-Dioxane	6	6	-3	-3	7	Not Significant	9	Not Significant
GZA-105R	cis-1,2-Dichloroethene	23	18	77	2.009	0.8416	Upward Trend	1.282	Upward Trend
GZA-105R	Tetrachloroethene	31	31	123	2.074	0.8416	Upward Trend	1.282	Upward Trend
GZA-105R	Toluene	30	3	-5	-0.07216	0.8416	Not Significant	1.282	Not Significant
GZA-105R	Trichloroethene	31	31	94	1.581	0.8416	Upward Trend	1.282	Upward Trend
GZA-105R	Vinyl Chloride	33	13	-26	-0.3889	0.8416	Not Significant	1.282	Not Significant
IP-01R2	cis-1,2-Dichloroethene	11	8	-8	-0.5466	0.8416	Not Significant	1.282	Not Significant
IP-01R2	Tetrachloroethene	11	11	15	1.090	0.8416	Upward Trend	1.282	Not Significant
IP-01R2	Trichloroethene	11	11	-5	-0.3114	0.8416	Not Significant	1.282	Not Significant
IP-01R2	1,4-Dioxane	6	6	1	1	7	Not Significant	9	Not Significant
MW-4	cis-1,2-Dichloroethene	9	8	0	0		No Trend		No Trend
MW-4	Vinyl Chloride	12	8	26	1.759	0.8416	Upward Trend	1.282	Upward Trend
MW-4	1,4-Dioxane	5	5	0	0		No Trend		No Trend
MW-5	cis-1,2-Dichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
MW-7	cis-1,2-Dichloroethene	7	7	3	3	7	Not Significant	11	Not Significant
MW-7	Trichloroethene	7	7	3	3	7	Not Significant	11	Not Significant
MW-7	Vinyl Chloride	14	6	25	1.382	0.8416	Upward Trend	1.282	Upward Trend
PS-1D	cis-1,2-Dichloroethene	15	15	11	0.4961	0.8416	Not Significant	1.282	Not Significant
PS-1D	Tetrachloroethene	15	15	-75	-3.671	0.8416	Downward Trend	1.282	Downward Trend
PS-1D	Trichloroethene	15	15	-96	-4.719	0.8416	Downward Trend	1.282	Downward Trend
PS-1D	Vinyl Chloride	20	8	-49	-1.597	0.8416	Downward Trend	1.282	Downward Trend
PS-1S	cis-1,2-Dichloroethene	10	9	-3	-3	11	Not Significant	17	Not Significant
PS-1S	Trichloroethene	11	10	-41	-3.114	0.8416	Downward Trend	1.282	Downward Trend
PS-1S	Vinyl Chloride	11	5	-15	-1.106	0.8416	Downward Trend	1.282	Not Significant
PS-5D	cis-1,2-Dichloroethene	10	8	12	12	11	Upward Trend	17	Not Significant
PS-5D	Vinyl Chloride	13	7	-8	-0.4287	0.8416	Not Significant	1.282	Not Significant
STM-8D	cis-1,2-Dichloroethene	14	10	35	1.874	0.8416	Upward Trend	1.282	Upward Trend
STM-8D	Tetrachloroethene	10	10	-13	-13	11	Downward Trend	17	Not Significant
STM-8D	Trichloroethene	11	10	-24	-1.796	0.8416	Downward Trend	1.282	Downward Trend
STM-8D	1,4-Dioxane	4	4	0	0		No Trend		No Trend
STM-8R	cis-1,2-Dichloroethene	16	12	11	0.4528	0.8416	Not Significant	1.282	Not Significant
STM-8R	Tetrachloroethene	16	11	-41	-1.811	0.8416	Downward Trend	1.282	Downward Trend
STM-8R	Trichloroethene	16	15	-39	-1.713	0.8416	Downward Trend	1.282	Downward Trend
STM-8R	1,4-Dioxane	4	3	-2	-2	4	Not Significant	6	Not Significant

Table 5-7
Groundwater Mann Kendall Trend Tests for Chlorinated Volatile Organic Compounds
Former GE Facility, Wilmington, MA

Well	Parameter	Sample Size	Number Detects	S-Statistics	Test Statistic*	80% Confidence		90% Confidence	
						Critical Value	Conclusion	Critical Value	Conclusion
STM-8R1	Trichloroethene	6	6	-9	-9	7	Downward Trend	9	Downward Trend
STM-8R1	1,4-Dioxane	4	3	2	2	4	Not Significant	6	Not Significant
TRC-102	cis-1,2-Dichloroethene	5	4	-3	-3	6	Not Significant	8	Not Significant
TRC-201R	cis-1,2-Dichloroethene	8	8	12	12	8	Upward Trend	12	Upward Trend
TRC-201R	Tetrachloroethene	8	3	-2	-2	8	Not Significant	12	Not Significant
TRC-201R	Trichloroethene	8	8	-6	-6	8	Not Significant	12	Not Significant
TRC-301R-2	cis-1,2-Dichloroethene	6	6	-3	-3	7	Not Significant	9	Not Significant
TRC-301R-2	Tetrachloroethene	6	6	5	5	7	Not Significant	9	Not Significant
TRC-301R-2	Trichloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
TRC-301R-2	Vinyl Chloride	6	3	-4	-4	7	Not Significant	9	Not Significant
TRC-301R-4	cis-1,2-Dichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
TRC-301R-4	Tetrachloroethene	6	6	7	7	7	Upward Trend	9	Not Significant
TRC-301R-4	Trichloroethene	6	6	-5	-5	7	Not Significant	9	Not Significant
TRC-301R-4	Vinyl Chloride	6	6	-7	-7	7	Downward Trend	9	Not Significant
TRC-401R	cis-1,2-Dichloroethene	9	8	-5	-5	10	Not Significant	14	Not Significant
TRC-401R	Tetrachloroethene	8	8	4	4	8	Not Significant	12	Not Significant
TRC-401R	Trichloroethene	8	8	-4	-4	8	Not Significant	12	Not Significant

Notes:
Datasets presented for wells that were included in the sampling program in September 2019.
Field duplicates assigned the maximum value for the purposes of the trend test.
The detection limit was used for non-detect concentrations for the purposes of the trend test.
Trend test results were interpreted using a confidence level of 80% and 90%. If the absolute value of the statistic is equal to or greater than the critical value, a significant trend is concluded. The direction of the trend is determined by the sign of the statistic with positive statistics indicating an upward trend and negative statistics indicating a downward trend.
* When sample size > 10, the normal approximation is used and calculated per box 4-9 in Data Quality Assessment: Statistical Methods for Practitioners, EPA QA/G-9S. When the normal approximation is used, the critical value is the standard normal distribution.
When S is 0, no critical value is calculated and a conclusion of no trend is made.
NA = The Mann-Kendall trend test was not performed because there were less than 4 samples.
ND = The Mann-Kendall trend test was not performed because there were less than 3 detected concentrations.
- Analyte results not available for location.

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Downgradient Wetland													
				Location ID:	GZA-14A	GZA-14A	GZA-14A	GZA-14A	GZA-14A	MW-4	MW-4	MW-4	MW-4	MW-4	MW-4A	MW-4A	MW-4A	MW-4A
				Sample ID:	16A-GZA14A-061716-1	16A-GZA14A-061716-2	17A-GZA14A-102017-1	18A-GZA14A-092818-1	19A-GZA14A-093019-1	16A-MW4-062416-1	17A-MW4-101817-1	18A-MW4-100418-1	19A-MW4-091919-1	19A-MW4-091919-2	16A-MW4A-062416-1	17A-MW4A-101817-1	18A-MW4A-100418-1	19A-MW4A-091919-1
				Sample Date:	6/17/2016	6/17/2016	10/20/2017	9/28/2018	9/30/2019	6/24/2016	10/18/2017	10/4/2018	9/19/2019	9/19/2019	6/24/2016	10/18/2017	10/4/2018	9/19/2019
				Sample Type:	N	FD	N	N	N	N	N	N	N	FD	N	N	N	N
				Depth Interval:	0 - 15 ft	0 - 15 ft	0 - 15 ft	0 - 15 ft	0-15 ft	18 - 28 ft	18 - 28 ft	18 - 28 ft	18-28 ft	18-28 ft	38 - 48 ft	38 - 48 ft	38 - 48 ft	38-48 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**															
Dissolved Gases (ug/l)																		
Acetylene	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Conventional Parameters (ug/l)																		
Chloride	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)																		
Iron	NE	NE	NE	**7040**	**7100**	**8150**	**4040**	**8030**	**21900**	**25700**	**30000**	**24200**	**24100**	**23100 J**	**34100**	**36100**	**27000**
Manganese	NE	NE	NE	**2110**	**2080**	**2290**	**1160**	**1650**	**1180 J**	**1330**	**1400**	**1190**	**1160**	**1100**	**1530**	**1420**	**1080**
Total Metals (ug/l)																		
Iron	NE	NE	NE	**7340**	**7490**	**8100**	**4520**	**8950**	**22900**	**25900 J**	**29000**	**24800**	**24700**	**20700 J**	**35900 J**	**34700**	**28000**
Manganese	NE	NE	NE	**2240**	**2240**	**2160**	**1300**	**1710**	**1050 J**	**1340**	**1460**	**1230**	**1230**	**1090**	**1590**	**1450**	**1140**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Downgradient Wetland (continued)		Building 1_TankF									
				Location ID:	PS-8D	PS-8D	AE26R-1	AE26R-1	AE26R-1	AE26R-1	AE26S	AE26S	AE28R-2	AE28R-2	AE28R-2	AE28R-2
				Sample ID:	18A-PS8D-100218-1	19A-PS8D-091719-1	16B-AE26R1-062316-1	17A-AE26R1-100417-1	18A-AE26R1-091818-1	19A-AE26R1-092319-1	18A-AE26S-092518-1	19A-AE26S-092319-1	16B-AE28R2-062316-1	17A-AE28R2-100417-1	18A-AE28R2-091818-1	19A-AE28R2-092319-1
				Sample Date:	10/2/2018	9/17/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019	9/25/2018	9/23/2019	6/23/2016	10/4/2017	9/18/2018	9/23/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	51.8 - 56.8 ft	51.8-56.8 ft	50 - 56 ft	50 - 56 ft	50 - 56 ft	50-56 ft	25 - 30 ft	25-30 ft	75 - 85 ft	75 - 85 ft	75 - 85 ft	75-85 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**													
Dissolved Gases (ug/l)																
Acetylene	NE	NE	NE	NS	NS	**0.44 J**	**0.29 J**	**0.17 J**	**0.25 J**	NS	NS	**15**	**0.99**	**1.1**	**0.90**
Ethane	NE	NE	NE	NS	NS	**2.2**	**1.1**	**1.4**	**1.0**	NS	NS	**11**	**11**	**10**	**7.7**
Ethene	NE	NE	NE	NS	NS	**3.4**	**1.6**	**1.3**	**1.3**	NS	NS	**23**	**17**	**13**	**11**
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	**42**	**28**	**20**	NS	NS	NS	**7.3**	**240**	**220**
Methane	NE	NE	NE	NS	NS	**65**	**250**	**160**	**190 J-**	NS	NS	**67**	**160**	**200**	**190 J-**
Propane	NE	NE	NE	NS	NS	**0.23**	**0.16**	**0.19**	**0.11**	NS	NS	**0.87**	**1.1**	**1.0**	**0.74**
Conventional Parameters (ug/l)																
Chloride	NE	NE	NE	NS	NS	**121000**	**122000**	**127000**	**133000**	NS	NS	**326000**	**354000**	**373000 J-**	**422000**
Nitrate	NE	NE	NE	NS	NS	100 U	100 U	100 U	50 U	NS	NS	100 U	100 U	100 U	50 U
Nitrite as N	NE	NE	NE	NS	NS	100 U	100 U	100 U	4 U	NS	NS	1300 U	100 U	200 U	40 U
Sulfate	NE	NE	NE	NS	NS	**9970**	**15300**	**15700**	**17500**	NS	NS	**33800**	**37600**	**34500**	**39400**
Sulfide	NE	NE	NE	NS	NS	100 U	100 U	100 U	**170**	NS	NS	100 U	100 U	100 U	**300**
Total Organic Carbon	NE	NE	NE	NS	NS	**10800**	**2290**	5000 U	1000 U	NS	NS	**1600**	**1200**	10000 U	1000 U
Dissolved Metals (ug/l)																
Iron	NE	NE	NE	**1050**	**761**	15.0 U	**131**	250 U	**58**	125 U	**11**	**1510**	**1140**	**931**	**823**
Manganese	NE	NE	NE	**16.2 J**	**7**	**16.4**	**518**	**524 J**	**636**	**426**	**440**	**1710**	**1810**	**1800**	**1870**
Total Metals (ug/l)																
Iron	NE	NE	NE	**2390**	**5380**	**195**	**265**	250 U	**243**	125 U	**57**	**1550**	**1110**	**907**	**892**
Manganese	NE	NE	NE	**13.2 J**	**31**	**331**	**451**	**357 J**	**667**	**430**	**437**	**1750**	**1750**	**1800**	**1920**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

			Location Group:	**Building 1_TankF (continued)**							
			Location ID:	**AE29R-6**	**AE29R-6**	**AE29R-6**	**AE29R-6**	**GZA-101R**	**GZA-101R**	**GZA-101R**	**GZA-101R**
			Sample ID:	16B-AE29R6-062816-1	17A-AE29R6-101717-1	18A-AE29R6-091818-1	19A-AE29R6-092419-1	16A-GZA101R-061416-1	17A-GZA101R-101017-1	18A-GZA101R-091818-1	19A-GZA101R-092619-1
			Sample Date:	6/28/2016	10/17/2017	9/18/2018	9/24/2019	6/14/2016	10/10/2017	9/18/2018	9/26/2019
			Sample Type:	N	N	N	N	N	N	N	N
			Depth Interval:	140 - 146 ft	140 - 146 ft	140 - 146 ft	140-146 ft	36.5 - 38 ft	36.5 - 38 ft	36.5 - 38 ft	36.5-38 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**								
Dissolved Gases (ug/l)											
Acetylene	NE	NE	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE	**0.80**	**0.88**	**0.86**	**0.26**	**4.6**	**2.2**	**0.95**	**0.59**
Ethene	NE	NE	NE	**0.64**	**1.2**	**1.4**	**0.90**	**0.035 J**	**0.049 J**	**0.12**	0.10 U
Hydrogen (nM)	NE	NE	NE	NS	**320**	**100**	**180**	NS	**20**	**33**	**22**
Methane	NE	NE	NE	**7.1**	**580**	**1300**	**1100 J-**	**61**	**27**	**15**	**11 J-**
Propane	NE	NE	NE	**0.29**	**0.31**	**0.34**	**0.14**	**0.71**	**0.39**	**0.17**	**0.17**
Conventional Parameters (ug/l)											
Chloride	NE	NE	NE	**1220000**	**442000**	**420000**	**424000**	**907000**	**1060000**	**1150000**	**1370000**
Nitrate	NE	NE	NE	**3020**	100 U	100 U	50 U	100 U	100 U	100 U	50 U
Nitrite as N	NE	NE	NE	600 U	200 U	200 U	40 U	500 U	NS R	500 U	100 U
Sulfate	NE	NE	NE	**49200**	**49200**	**45200**	**46300**	**46300**	**49400**	**50000**	**52800**
Sulfide	NE	NE	NE	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U
Total Organic Carbon	NE	NE	NE	**1000**	**1490 J+**	10000 U	1000 U	NS	NS	NS	NS
Dissolved Metals (ug/l)											
Iron	NE	NE	NE	**1030**	**1340**	**1080**	**1280**	**12800**	**15200**	**17600**	**17200**
Manganese	NE	NE	NE	**4190**	**847**	**876**	**974**	**7020**	**7390**	**8440**	**8200**
Total Metals (ug/l)											
Iron	NE	NE	NE	**1040**	**1370**	**1120**	**1210**	**11600**	**14500**	**17000**	**19600**
Manganese	NE	NE	NE	**4270**	**860**	**874**	**886**	**7040**	**7780**	**8540**	**8020**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL											
				Location ID:	AE03	AE03	AE03	AE03	AE03	AE03	AE03	GZA-105S	GZA-105S	GZA-105S	GZA-105S	GZA-105S
				Sample ID:	16A-AE03-062816-1	16A-AE03-062816-2	17A-AE03-100917-1	18A-AE03-092418-1	18A-AE03-092418-2	19A-AE03-091219-1	19A-AE03-091219-2	16A-GZA105S-061516-1	17A-GZA105S-100917-1	17A-GZA105S-100917-2	18A-GZA105S-092518-1	19A-GZA105S-091819-1
				Sample Date:	6/28/2016	6/28/2016	10/9/2017	9/24/2018	9/24/2018	9/12/2019	9/12/2019	6/15/2016	10/9/2017	10/9/2017	9/25/2018	9/18/2019
				Sample Type:	N	FD	N	N	FD	N	FD	N	N	FD	N	N
				Depth Interval:	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3-13 ft	3-13 ft	4 - 14 ft	4 - 14 ft	4 - 14 ft	4 - 14 ft	4-14 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**													
Dissolved Gases (ug/l)																
Acetylene	NE	NE	NE	0.50 U	0.50 U	0.50 U	NS	NS	NS	NS	NS	0.50 U	0.50 UJ	NS	NS	
Ethane	NE	NE	NE	**1.1**	**0.81**	**1.6**	NS	NS	NS	NS	NS	**1.8 J**	**1.2 J**	NS	NS	
Ethene	NE	NE	NE	**0.073 J**	**0.055 J**	**0.045 J**	NS	NS	NS	NS	NS	**0.038 J**	**0.032 J**	NS	NS	
Hydrogen (nM)	NE	NE	NE	NS	NS	**4.3**	NS	NS	NS	NS	NS	**5.6**	NS	NS	NS	
Methane	NE	NE	NE	**3200 J**	**2200 J**	**4700**	NS	NS	NS	NS	NS	**3700 J**	**2300 J**	NS	NS	
Propane	NE	NE	NE	**0.029 J**	0.10 U	**0.064 J**	NS	NS	NS	NS	NS	**0.035 J**	**0.014 J**	NS	NS	
Conventional Parameters (ug/l)																
Chloride	NE	NE	NE	**172000**	**164000**	**260000**	NS	NS	NS	NS	**184000 J+**	**244000**	**247000**	NS	NS	
Nitrate	NE	NE	NE	100 U	100 U	100 U	NS	NS	NS	NS	100 U	100 U	100 U	NS	NS	
Nitrite as N	NE	NE	NE	100 U	100 U	100 U	NS	NS	NS	NS	100 U	100 U	100 U	NS	NS	
Sulfate	NE	NE	NE	1000 U	1000 U	1000 U	NS	NS	NS	NS	1000 UJ	1000 U	1000 U	NS	NS	
Sulfide	NE	NE	NE	100 U	100 U	100 U	NS	NS	NS	NS	100 U	100 U	100 U	NS	NS	
Total Organic Carbon	NE	NE	NE	**6000**	**6000**	**7180**	NS	NS	NS	NS	**6900**	**11600**	**12400**	NS	NS	
Dissolved Metals (ug/l)																
Iron	NE	NE	NE	**25600**	NS	**26700**	**15200**	**15200**	**10900**	**10800**	**45300**	**43500**	**41400**	**29900**	**28500**	
Manganese	NE	NE	NE	**2300**	NS	**2630**	**1710**	**1710**	**1430**	**1430**	**3810 J-**	**2730**	**2630**	**1690**	**1800**	
Total Metals (ug/l)																
Iron	NE	NE	NE	**25700**	NS	**26600**	**15200**	**15400**	**10300**	**10400**	**45300**	**43800**	**42200**	**29800**	**28800**	
Manganese	NE	NE	NE	**2140**	NS	**2590**	**1700**	**1730**	**1490**	**1470**	**3440**	**2760**	**2630**	**1670**	**1830**	

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	EPL (continued)			Tank Farm			-Sitewide_Former Tank	Transect A				
				Location ID:	TRC-102	TRC-102	TRC-102	AE100R-5	AE100R-5	AE100R-5	AE100R-5	AE102M	AE102M	AE102M	AE102M	AE102M
				Sample ID:	16A-TRC102-062716-1	17A-TRC102-100217-1	18A-TRC102-092418-1	16A-AE100R5-061516-1	17A-AE100R5-100417-1	18A-AE100R5-091918-1	19A-AE100R5-092319-1	16A-AE102M-061316-1	17A-AE102M-100217-1	18A-AE102M-100118-1	19A-AE102M-092519-1	19A-AE102M-092519-2
				Sample Date:	6/27/2016	10/2/2017	9/24/2018	6/15/2016	10/4/2017	9/19/2018	9/23/2019	6/13/2016	10/2/2017	10/1/2018	9/25/2019	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	FD
				Depth Interval:	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25 - 12.25 ft	2.25-12.25 ft	88 - 93 ft	88 - 93 ft	88 - 93 ft	88-93 ft	23 - 28 ft	23 - 28 ft	23 - 28 ft	23-28 ft	23-28 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**													
Dissolved Gases (ug/l)																
Acetylene	NE	NE	NE	NS	NS	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE	NS	NS	NS	NS	**2.3**	**2.3**	**2.7**	**2.4**	**1.8**	**2.0**	**2.9**	**6.3**	**6.3**
Ethene	NE	NE	NE	NS	NS	NS	NS	**88**	**8.2**	**4.2**	**5.4**	**3.2**	**2.5**	**0.47**	**1.4**	**1.4**
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	NS	NS	**2.9**	**3.8**	**2.4**	NS	**2.8**	**29**	**2.3**	NS
Methane	NE	NE	NE	NS	NS	NS	NS	**920 J**	**320**	**170**	**99 J-**	**140**	**910**	**490**	**260 J-**	**260 J-**
Propane	NE	NE	NE	NS	NS	NS	NS	**0.060 J**	**0.19**	**0.23**	**0.19**	**0.066 J**	**0.090 J**	**0.095 J**	**0.052 J**	**0.052 J**
Conventional Parameters (ug/l)																
Chloride	NE	NE	NE	NS	NS	NS	NS	**269000 J+**	**316000**	**325000**	**368000**	**499000**	**641000**	**526000**	**530000**	**532000**
Nitrate	NE	NE	NE	NS	NS	NS	NS	**191**	**402**	**464**	**680**	100 U	100 U	100 U	50 U	50 U
Nitrite as N	NE	NE	NE	NS	NS	NS	NS	100 U	100 U	1300 U	40 U	100 U	100 U	300 U	40 U	40 U
Sulfate	NE	NE	NE	NS	NS	NS	NS	**27600 J-**	**29600**	**28200**	**31000**	**22600**	**18700**	**13400**	**7600**	**7500**
Sulfide	NE	NE	NE	NS	NS	NS	NS	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	50 U
Total Organic Carbon	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**1000**	**3160**	**2730**	**1600**	**1600**
Dissolved Metals (ug/l)																
Iron	NE	NE	NE	**15000**	**19100**	**23600**	**22500**	335 U	40.0 U	250 U	**76**	**3190**	**3550**	**824**	**1810**	NS
Manganese	NE	NE	NE	**1990**	**3870**	**3750**	**3180**	**1210 J-**	**120**	**720**	**675**	**11500**	**17600**	**10900**	**10800**	NS
Total Metals (ug/l)																
Iron	NE	NE	NE	**14200**	**19500**	**24000**	**23700**	**377**	**150**	250 U	**76**	**3340**	**3710**	**906**	**1870**	NS
Manganese	NE	NE	NE	**2210**	**3920**	**3720**	**3260**	**1220**	**383**	**765**	**642**	**11700**	**17900**	**10800**	**11100**	NS

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE102RR-6	AE102RR-6	AE102RR-6	AE102RR-6	AE103D	AE103D	AE103D	AE103D	AE103D	AE103R-1	AE103R-1	AE103R-1	AE103R-1
				Sample ID:	16A-AE102RR6-061416-1	17A-AE102RR6-100317-1	18A-AE102RR6-091918-1	19A-AE102RR6-092419-1	16A-AE103D-061316-1	17A-AE103D-100317-1	18A-AE103D-092418-1	18A-AE103D-092418-2	19A-AE103D-091919-1	16A-AE103R1-061516-1	17A-AE103R1-100217-1	18A-AE103R1-092518-1	19A-AE103R1-091819-1
				Sample Date:	6/14/2016	10/3/2017	9/19/2018	9/24/2019	6/13/2016	10/3/2017	9/24/2018	9/24/2018	9/19/2019	6/15/2016	10/2/2017	9/25/2018	9/18/2019
				Sample Type:	N	N	N	N	N	N	N	FD	N	N	N	N	N
				Depth Interval:	153 - 158 ft	153 - 158 ft	153 - 158 ft	153-158 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35-40 ft	48 - 53 ft	48 - 53 ft	48 - 53 ft	48-53 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**														
Dissolved Gases (ug/l)																	
Acetylene	NE	NE	NE		**0.076 J**	**0.035 J**	0.50 U	**0.073 J**	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE		**1.5**	**0.86**	**0.83**	**0.81**	**2.3**	**1.3**	**0.49**	**0.55**	**0.54**	**1.6**	**1.3**	**0.84**	**0.98**
Ethene	NE	NE	NE		**3.3**	**1.8**	**3.5**	**7.5**	**0.78**	**0.050 J**	**0.066 J**	**0.078 J**	**0.044 J**	**17**	**8.4**	**5.9**	**12**
Hydrogen (nM)	NE	NE	NE		NS	**2.7**	**3.3**	**3.7**	NS	**2.4**	**2.1**	NS	**2.1**	NS	**3.2**	**2.5**	**1.6**
Methane	NE	NE	NE		**65**	**52**	**58**	**55 J-**	**150**	**130 J+**	**36**	**42**	**25**	**97**	**110**	**75**	**190**
Propane	NE	NE	NE		**0.14**	**0.066 J**	**0.073 J**	**0.052 J**	**0.27**	**0.16**	**0.083 J**	**0.085 J**	**0.16**	**0.10**	**0.098 J**	**0.075 J**	**0.15**
Conventional Parameters (ug/l)																	
Chloride	NE	NE	NE		**115000**	**128000 J-**	**140000**	**163000**	**818000**	**842000 J-**	**818000**	**816000**	**42000**	**390000 J+**	**680000**	**643000**	**667000**
Nitrate	NE	NE	NE		100 U	100 U	100 U	50 U	**3280**	**3980**	**3840**	**4250**	50 U	**1650**	**3020 J**	**3390**	**2990**
Nitrite as N	NE	NE	NE		100 U	100 U	600 U	4 U	3300 U	100 U	3200 UJ	3200 UJ	4 U	200 U	100 U	2600 U	40 U
Sulfate	NE	NE	NE		**23600**	**25900**	**24400**	**26600**	**31600**	**33400**	**30100**	**30300**	**7600**	**28200 J-**	**28500**	**27500**	**29800**
Sulfide	NE	NE	NE		100 U	100 U	100 U	50 U	100 U	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U
Total Organic Carbon	NE	NE	NE		1000 U	1000 U	1000 U	1000 U	1000 U	**1630**	**1750**	**1840**	**1400**	1000 U	**1310**	**1120**	**1100**
Dissolved Metals (ug/l)																	
Iron	NE	NE	NE		**423**	**546**	**7940 J**	**645**	**1080**	**411**	125 U	125 U	11 U	**1120**	**455**	**628**	**648**
Manganese	NE	NE	NE		**453**	**546**	**576**	**636**	**3420**	**3240**	**2550**	**2570**	**1990**	**2020 J-**	**2770**	**2660**	**2480**
Total Metals (ug/l)																	
Iron	NE	NE	NE		**422**	**556**	**4490 J**	**594**	**1550**	**420**	125 U	125 U	**165**	**1200**	**461**	**660**	**786**
Manganese	NE	NE	NE		**538**	**611**	**588**	**595**	**3390**	**3250**	**2520**	**2480**	**1900**	**1970**	**2580**	**2710**	**2210**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)											
				Location ID:	AE103R-5	AE103R-5	AE103R-5	AE103S	AE103S	AE103S	AE103S	AE104R-4	AE108R-1	AE108R-1	AE108R-1	AE108R-1	AE108R-1
				Sample ID:	17A-AE103R5-100217-1	18A-AE103R5-092518-1	19A-AE103R5-091819-1	16A-AE103S-061516-1	17A-AE103S-100317-1	18A-AE103S-092418-1	19A-AE103S-091919-1	16A-AE104R4-061416-1	16A-AE108R1-061616-1	16A-AE108R1-061616-2	17A-AE108R1-100917-1	18A-AE108R1-091918-1	19A-AE108R1-092419-1
				Sample Date:	10/2/2017	9/25/2018	9/18/2019	6/15/2016	10/3/2017	9/24/2018	9/19/2019	6/14/2016	6/16/2016	6/16/2016	10/9/2017	9/19/2018	9/24/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	FD	N	N	N
				Depth Interval:	122 - 128 ft	122 - 128 ft	122-128 ft	15 - 20 ft	15 - 20 ft	15 - 20 ft	15-20 ft	128 - 133 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5 - 43.5 ft	36.5-43.5 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**														
Dissolved Gases (ug/l)																	
Acetylene	NE	NE	NE		**0.051 J**	0.50 U	**0.057 J**	NS	NS	NS	NS	**0.048 J**	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE		**1.5**	**1.4**	**1.6**	NS	NS	NS	NS	**0.46**	**0.91**	**0.84**	**0.94**	**0.65**	**0.32**
Ethene	NE	NE	NE		**39**	**67**	**120**	NS	NS	NS	NS	**2.4**	**0.21**	**0.17**	**0.11**	**0.23**	**0.48**
Hydrogen (nM)	NE	NE	NE		**2.7**	**2.7**	**1.7**	NS	NS	NS	NS	NS	NS	NS	**12**	**3.8**	**2.6**
Methane	NE	NE	NE		**120**	**130**	**150**	NS	NS	NS	NS	**72**	**190**	**180**	**500**	**640**	**2200 J-**
Propane	NE	NE	NE		**0.095 J**	**0.077 J**	**0.13**	NS	NS	NS	NS	**0.036 J**	**0.26**	**0.24**	**0.30**	**0.21**	**0.19**
Conventional Parameters (ug/l)																	
Chloride	NE	NE	NE		**184000**	**201000**	**233000**	NS	NS	NS	NS	**211000**	**274000**	**275000**	**234000**	**929000**	**1330000**
Nitrate	NE	NE	NE		100 U	100 U	50 U	NS	NS	NS	NS	100 U	100 U	100 U	100 U	**238**	**60**
Nitrite as N	NE	NE	NE		100 U	100 U	20 U	NS	NS	NS	NS	100 U	100 U	100 U	100 U	3600 U	4 U
Sulfate	NE	NE	NE		**36900**	**34400**	**35800**	NS	NS	NS	NS	**31000**	**11000**	**10900**	**10300**	**16200**	**11200**
Sulfide	NE	NE	NE		100 U	100 U	50 U	NS	NS	NS	NS	100 U	100 U	100 U	100 U	100 U	50 U
Total Organic Carbon	NE	NE	NE		1000 U	**1080**	1000 U	NS	NS	NS	NS	1000 U	**5000 J**	**7000 J**	**5560**	**6540**	**4600**
Dissolved Metals (ug/l)																	
Iron	NE	NE	NE		**391**	**373**	**430**	**19000 J**	**33800**	**8280**	**9080**	**52.0**	**686 J**	**316 J**	**485**	**485**	**5300**
Manganese	NE	NE	NE		**578**	**665**	**813**	**3160**	**6300**	**1530**	**1560**	**318**	**883 J**	**855**	**794**	**3550 J**	**2450**
Total Metals (ug/l)																	
Iron	NE	NE	NE		**463**	**433**	**458**	**17400**	**32600**	**9960**	**9360**	**58.8**	**1020**	**1340**	**1340**	**581**	**6880**
Manganese	NE	NE	NE		**511**	**678**	**822**	**3110**	**6330**	**1580**	**1560**	**345**	**768 J**	**875**	**860**	**2460 J**	**2910**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect A (continued)								
				Location ID:	AE109D	AE109D	AE109R-5	AE109R-5	AE109R-5	AE109R-5	EMW-11R2	EMW-11R2	EMW-11R2	EMW-11R2
				Sample ID:	18A-AE109D-092618-1	19A-AE109D-092019-1	16A-AE109R5-061616-1	17A-AE109R5-101017-1	18A-AE109R5-100218-1	19A-AE109R5-091819-1	16A-EMW11R2-062116-	17A-EMW11R2-101017-	18A-EMW11R2-092418-	19A-EMW11R2-091719-1
				Sample Date:	9/26/2018	9/20/2019	6/16/2016	10/10/2017	10/2/2018	9/18/2019	6/21/2016	10/10/2017	9/24/2018	9/17/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	18 - 23 ft	18-23 ft	183 - 189 ft	183 - 189 ft	183 - 189 ft	183-189 ft	104 - 114 ft	104 - 114 ft	104 - 114 ft	104-114 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**											
Dissolved Gases (ug/l)														
Acetylene	NE	NE	NE	NS	NS	**0.85**	0.50 U	0.50 U	0.50 U	0.50 U	**0.12 J**	0.50 U	0.50 U	
Ethane	NE	NE	NE	NS	NS	**1.2**	**0.93**	**0.97**	**0.70**	**9.7**	**14**	**5.7**	**7.6**	
Ethene	NE	NE	NE	NS	NS	**2.3**	**1.9**	**1.8**	**1.6**	**9.9**	**12**	**28**	**35**	
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	**2.9**	**2.3**	**1.7**	NS	**2.3**	**2.7**	**1.6**	
Methane	NE	NE	NE	NS	NS	**7.5**	**140**	**520**	**480**	**1000**	**1300**	**640**	**630**	
Propane	NE	NE	NE	NS	NS	**0.48**	**0.16**	**0.21**	**0.18**	**0.037 J**	**0.064 J**	0.10 U	**0.073 J**	
Conventional Parameters (ug/l)														
Chloride	NE	NE	NE	NS	NS	**55400**	**44900**	**52700**	**63400**	**136000**	**183000**	**223000**	**225000**	
Nitrate	NE	NE	NE	NS	NS	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	
Nitrite as N	NE	NE	NE	NS	NS	100 U	100 U	100 U	4 U	100 U	100 U	100 U	20 U	
Sulfate	NE	NE	NE	NS	NS	**9360**	**9660**	**8400**	**10100**	**31100**	1000 U	**34700**	**36800**	
Sulfide	NE	NE	NE	NS	NS	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U	
Total Organic Carbon	NE	NE	NE	NS	NS	**3100 J**	1000 U	1000 U	1000 U	1000 U	**1760**	1000 U	1000 U	
Dissolved Metals (ug/l)														
Iron	NE	NE	NE	125 U	**14**	**594 J**	**110**	**151**	**122**	**955**	**1510**	**1290**	**914**	
Manganese	NE	NE	NE	**839**	**1180**	**181**	**155**	**163**	**162**	**732 J**	**704**	**682**	**626**	
Total Metals (ug/l)														
Iron	NE	NE	NE	125 U	**55**	**345 J**	**111**	**129**	**127**	**967**	**1910**	**1650**	**1090**	
Manganese	NE	NE	NE	**938**	**1830**	**172**	**165**	**144**	**149**	**628 J**	**740**	**683**	**667**	

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B												
				Location ID:	AE105R-2	AE105R-2	AE105R-2	AE105R-2	AE105S	AE105S	AE105S	AE105S	AE105S	AE106D	AE106D	AE106D	AE106D
				Sample ID:	16A-AE105R2-062016-1	17A-AE105R2-101217-1	18A-AE105R2-100318-1	19A-AE105R2-091619-1	16A-AE105S-061516-1	16A-AE105S-062216-1	17A-AE105S-101217-1	18A-AE105S-100318-1	19A-AE105S-091619-1	16A-AE106D-062016-1	17A-AE106D-101217-1	18A-AE106D-100318-1	19A-AE106D-091719-1
				Sample Date:	6/20/2016	10/12/2017	10/3/2018	9/16/2019	6/15/2016	6/22/2016	10/12/2017	10/3/2018	9/16/2019	6/20/2016	10/12/2017	10/3/2018	9/17/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	98 - 103 ft	98 - 103 ft	98 - 103 ft	98-103 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35 - 40 ft	35-40 ft	34 - 39 ft	34 - 39 ft	34 - 39 ft	34-39 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**														
Dissolved Gases (ug/l)																	
Acetylene	NE	NE	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE	**0.19**	**0.29**	**0.30**	**0.32**	**7.5**	**0.010 J**	**0.010 J**	0.10 U	**0.011 J**	**0.18**	**0.074 J**	**0.048 J**	**0.078 J**
Ethene	NE	NE	NE	**0.41**	**0.090 J**	**0.088 J**	**0.072 J**	**0.30**	**0.11**	**0.27**	**0.064 J**	**0.16**	**0.039 J**	**0.079 J**	**0.013 J**	**0.016 J**
Hydrogen (nM)	NE	NE	NE	NS	**6.7**	**30**	**1.0**	NS	NS	**2.5**	**2.4**	**1.3**	NS	**2.2**	**3.1**	**1.6**
Methane	NE	NE	NE	**94**	**120**	**120**	**140**	**6400**	**97**	**130**	**63**	**92**	**16**	**14**	**18**	**3.1**
Propane	NE	NE	NE	**0.082 J**	**0.13**	**0.16**	**0.14**	0.10 U	0.10 U	**0.022 J**	**0.028 J**	**0.020 J**	0.10 U	**0.010 J**	**0.014 J**	**0.045 J**
Conventional Parameters (ug/l)																	
Chloride	NE	NE	NE	**41200**	**45600**	**52700 J-**	**51900**	NS	**111000**	**167000**	**252000**	**218000**	**580000**	**680000**	**658000**	**688000**
Nitrate	NE	NE	NE	100 U	100 U	NS R	50 U	NS	100 U	100 U	100 U	50 U	**2300**	**2800**	**3070**	**3380**
Nitrite as N	NE	NE	NE	100 U	100 U	NS R	4 U	NS	100 U	100 U	100 U	4 U	300 U	2700 U	2600 U	20 U
Sulfate	NE	NE	NE	**14700**	**17200**	**17500**	**15300**	NS	**15700**	**16800**	**15800**	**15300**	**26300**	**25900**	**24900**	**28400**
Sulfide	NE	NE	NE	100 U	100 U	100 U	50 U	NS	100 U	100 U	100 U	50 U	100 U	100 U	100 U	50 U
Total Organic Carbon	NE	NE	NE	1000 U	1000 U	1000 U	1000 U	NS	**1500**	**1320**	**1100**	**1300**	1000 U	**1300**	**1330**	**1200**
Dissolved Metals (ug/l)																	
Iron	NE	NE	NE	**87.6**	**48.0**	125 U	**53**	NS	**23200**	**27300**	**36500**	**36900**	20.0 U	15.0 U	125 U	11 U
Manganese	NE	NE	NE	**164**	**121**	**107**	**121**	NS	**979**	**1080**	**1210**	**1410**	**2940**	**3570**	**2860**	**3290**
Total Metals (ug/l)																	
Iron	NE	NE	NE	**66.2**	**57.6**	125 U	**52**	NS	**25400**	**30200**	**37100**	**38300**	20.0 U	**18.4**	125 U	**66**
Manganese	NE	NE	NE	**191**	**132**	**126**	**129**	NS	**1010**	**1170**	**1400**	**1460**	**3140**	**3860**	**3090**	**3320**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B (continued)										Transect B-1/2		
				Location ID:	AE106R-3	AE106R-3	AE106R-3	AE106R-3	TRC-301R-2	TRC-301R-2	TRC-301R-4	TRC-301R-4	TRC-301R-4	TRC-301R-4	AE112D	AE112D	AE112D
				Sample ID:	16A-AE106R3-062016-1	17A-AE106R3-101217-1	18A-AE106R3-100318-1	19A-AE106R3-091619-1	18A-TRC301R2-092718-	19A-TRC301R2-091719-	16A-TRC301R4-062216-	17A-TRC301R4-102317-	18A-TRC301R4-092718-	19A-TRC301R4-091719-	17A-AE112D-101717-1	18A-AE112D-092618-1	19A-AE112D-091319-1
				Sample Date:	6/20/2016	10/12/2017	10/3/2018	9/16/2019	9/27/2018	9/17/2019	6/22/2016	10/23/2017	9/27/2018	9/17/2019	10/17/2017	9/26/2018	9/13/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	84 - 88 ft	84 - 88 ft	84 - 88 ft	84-88 ft	81.5 - 85.5 ft	81.5-85.5 ft	65.5 - 69.5 ft	65.5 - 69.5 ft	65.5 - 69.5 ft	65.5-69.5 ft	24.5 - 29.5 ft	24.5 - 29.5 ft	24.5-29.5 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**														
Dissolved Gases (ug/l)																	
Acetylene	NE	NE	NE		0.50 U	0.50 U	0.50 U	0.50 U	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	NS	NS	NS
Ethane	NE	NE	NE		**0.77**	**0.54**	**0.25**	**0.16**	NS	NS	**0.61**	**1.0**	**1.1**	**1.3**	NS	NS	NS
Ethene	NE	NE	NE		**0.32**	**0.24**	**0.36**	**2.7**	NS	NS	**1.3**	**2.2**	**1.8**	**2.0**	NS	NS	NS
Hydrogen (nM)	NE	NE	NE		NS	**2.7**	**3.0**	**2.2**	NS	NS	NS	**7.2**	**6.1**	**3.9**	NS	NS	NS
Methane	NE	NE	NE		**3.1**	**50**	**400**	**560**	NS	NS	**140**	**270**	**250**	**390**	NS	NS	NS
Propane	NE	NE	NE		**0.15**	**0.096 J**	**0.072 J**	**0.048 J**	NS	NS	**0.34**	**0.76**	**0.95**	**1.2**	NS	NS	NS
Conventional Parameters (ug/l)																	
Chloride	NE	NE	NE		**391000**	**418000**	**139000**	**112000**	NS	NS	**112000**	**121000**	**129000**	**137000**	NS	NS	NS
Nitrate	NE	NE	NE		**1050**	**1120**	**303**	**130**	NS	NS	100 U	500 U	100 U	50 U	NS	NS	NS
Nitrite as N	NE	NE	NE		200 U	1700 U	100 U	4 U	NS	NS	100 U	500 U	100 UJ	4 U	NS	NS	NS
Sulfate	NE	NE	NE		**23300**	**25300**	**13000**	**11900**	NS	NS	**17100**	**17300**	**16400**	**15200**	NS	NS	NS
Sulfide	NE	NE	NE		100 U	100 U	100 U	50 U	NS	NS	100 U	100 U	100 U	**130**	NS	NS	NS
Total Organic Carbon	NE	NE	NE		1000 U	**1010**	**1230**	1000 U	NS	NS	**1100**	**1380**	**1840**	**1300**	NS	NS	NS
Dissolved Metals (ug/l)																	
Iron	NE	NE	NE		20.0 U	15.0 U	125 U	**81**	**401**	**431**	**4750 J**	**4280**	**5670**	**6870**	15.0 U	125 U	11 U
Manganese	NE	NE	NE		**78.6**	**77.2**	**72.4**	**139**	**532**	**540**	**1250**	**1250**	**1500**	**1610**	**31.8**	**110**	**18**
Total Metals (ug/l)																	
Iron	NE	NE	NE		20.0 U	15.0 U	**136**	**91**	**431**	**490**	**4210 J**	**4330**	**5500**	**7030**	**194**	**128**	**55**
Manganese	NE	NE	NE		**85.5**	**79.5**	**77.3**	**147**	**520**	**583**	**1230**	**1230**	**1440**	**1650**	**34.4**	**137**	**45**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Transect B-1/2 (continued)						Transect C				
				Location ID:	AE112R-1	AE112R-1	AE112R-6	AE112R-6	AE112R-6	AE112R-6	STM-8R1	STM-8R1	STM-8R1	STM-8R1	STM-8R1
				Sample ID:	18A-AE112R1-092618-1	19A-AE112R1-091319-1	16B-AE112R6-062116-1	17A-AE112R6-101717-1	18A-AE112R6-092618-1	18A-AE112R6-092618-2	16A-STM8R1-062816-1	17A-STM8R1-101717-1	17A-STM8R1-101717-2	18A-STM8R1-100218-1	19A-STM8R1-092619-1
				Sample Date:	9/26/2018	9/13/2019	6/21/2016	10/17/2017	9/26/2018	9/26/2018	6/28/2016	10/17/2017	10/17/2017	10/2/2018	9/26/2019
				Sample Type:	N	N	N	N	N	FD	N	N	FD	N	N
				Depth Interval:	41 - 50 ft	41-50 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153 - 163 ft	153-163 ft	85 - 90 ft	85 - 90 ft	85 - 90 ft	85 - 90 ft	85-90 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**												
Dissolved Gases (ug/l)															
Acetylene	NE	NE	NE	NS	NS	0.50 U	0.50 U	NS	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Ethane	NE	NE	NE	NS	NS	**1.7**	**1.4**	NS	NS	NS	**0.0099 J**	**0.014 J**	**0.013 J**	**0.0097 J**	0.10 U
Ethene	NE	NE	NE	NS	NS	**0.21**	**0.22**	NS	NS	NS	**0.11**	**0.27**	**0.27**	**0.050 J**	0.10 U
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	**7500**	NS	NS	NS	NS	**4.7**	NS	**3.5**	**7.9**
Methane	NE	NE	NE	NS	NS	**14**	**810**	NS	NS	NS	**0.74**	**0.96**	**0.96**	**0.79**	**0.51 J-**
Propane	NE	NE	NE	NS	NS	**0.47**	**0.48**	NS	NS	NS	0.10 U	**0.012 J**	**0.013 J**	**0.019 J**	0.10 U
Conventional Parameters (ug/l)															
Chloride	NE	NE	NE	NS	NS	**261000**	**260000**	NS	NS	NS	**62100**	**68500**	**67200**	**73400**	**78600**
Nitrate	NE	NE	NE	NS	NS	100 U	100 U	NS	NS	NS	**138**	100 U	100 U	100 U	**180**
Nitrite as N	NE	NE	NE	NS	NS	100 U	100 U	NS	NS	NS	100 U	100 U	100 U	100 U	4 U
Sulfate	NE	NE	NE	NS	NS	**12300**	**11500**	NS	NS	NS	**49700**	**50600**	**50500**	**48600**	**40600**
Sulfide	NE	NE	NE	NS	NS	100 U	100 U	NS	NS	NS	100 U	100 U	100 U	100 U	50 U
Total Organic Carbon	NE	NE	NE	NS	NS	**2500**	**1740 J+**	NS	NS	NS	1000 U	1000 U	1000 U	1000 U	1000 U
Dissolved Metals (ug/l)															
Iron	NE	NE	NE	**956**	**815**	**3290**	**2940**	**3240**	**3580**	**3690**	15.0 U	**30.4**	**20.7**	125 U	**12**
Manganese	NE	NE	NE	**2310**	**2280**	**1420**	**1390**	**1380**	**1430**	**1330**	**314**	**259**	**258**	**187**	**140**
Total Metals (ug/l)															
Iron	NE	NE	NE	**904**	**835**	**3020**	**2760**	**3340**	**3480**	**3790**	**79.3 J+**	**153 J**	**87.2 J**	125 U	**69**
Manganese	NE	NE	NE	**2360**	**2080**	**1400**	**1390**	**1370**	**1390**	**1360**	**314**	**355**	**338**	**205**	**156**

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

Table 5-8
Summary of 2016 - 2019 Groundwater Analytical Results for Monitored Natural Attenuation Parameters
Former GE Facility, 50 Fordham Road, Wilmington, MA

				Location Group:	Upgradient							
				Location ID:	GZA-06	GZA-06	GZA-10	GZA-10	GZA-12	GZA-12	GZA-12	GZA-12
				Sample ID:	18A-GZA6-100118-1	19A-GZA6-092019-1	18A-GZA10-100118-1	19A-GZA10-092619-1	16A-GZA12-061416-1	17A-GZA12-101017-1	18A-GZA12-100118-1	19A-GZA12-092619-1
				Sample Date:	10/1/2018	9/20/2019	10/1/2018	9/26/2019	6/14/2016	10/10/2017	10/1/2018	9/26/2019
				Sample Type:	N	N	N	N	N	N	N	N
				Depth Interval:	8 - 18 ft	8 - 18 ft	13 - 38 ft	13 - 38 ft	9.5 - 24.5 ft	9.5 - 24.5 ft	9.5 - 24.5 ft	9.5-24.5 ft
Analyte	**MCP Method 1 GW-1 Standards**	**MCP Method 1 GW-2 Standards**	**MCP Method 1 GW-3 Standards**									
Dissolved Gases (ug/l)												
Acetylene	NE	NE	NE	NS	NS	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	
Ethane	NE	NE	NE	NS	NS	NS	NS	**0.0091 J**	**0.0065 J**	0.10 U	0.10 U	
Ethene	NE	NE	NE	NS	NS	NS	NS	**0.014 J**	**0.010 J**	**0.0071 J**	0.10 U	
Hydrogen (nM)	NE	NE	NE	NS	NS	NS	NS	NS	**4.1**	**2.8**	**1.8**	
Methane	NE	NE	NE	NS	NS	NS	NS	**0.69**	**0.46 J**	**0.28 J**	**0.30 J-**	
Propane	NE	NE	NE	NS	NS	NS	NS	0.10 U	0.10 U	0.10 U	0.10 U	
Conventional Parameters (ug/l)												
Chloride	NE	NE	NE	NS	NS	NS	NS	**1190000**	**1220000**	**1190000**	**1140000**	
Nitrate	NE	NE	NE	NS	NS	NS	NS	**9910**	**10900 J**	**10900**	**9290**	
Nitrite as N	NE	NE	NE	NS	NS	NS	NS	600 U	NS R	500 U	20 U	
Sulfate	NE	NE	NE	NS	NS	NS	NS	**33900**	**36500**	**33200**	**36800**	
Sulfide	NE	NE	NE	NS	NS	NS	NS	100 U	100 U	100 U	50 U	
Total Organic Carbon	NE	NE	NE	NS	NS	NS	NS	1000 U	**1080**	**1690**	**1400**	
Dissolved Metals (ug/l)												
Iron	NE	NE	NE	**870**	**1500**	**10900**	**6820**	30.0 U	**50.8**	125 U	11 U	
Manganese	NE	NE	NE	**71.6**	**143**	**1020**	**1170**	**2410**	**2080**	**1540**	**1340**	
Total Metals (ug/l)												
Iron	NE	NE	NE	**1010**	**1590**	**12200**	**7000**	**96.4**	**21.8**	125 U	**56**	
Manganese	NE	NE	NE	**86.4**	**147**	**1090**	**1130**	**2620**	**2170**	**1770**	**1320**	

U - Non-detect at laboratory detection limit
J = Estimated Value, J+ = biased high, J- = biased low, R = rejected
ft = feet
mg/l = miligrams per liter
µg/l = micrograms per liter
NE = not established
NS = not sampled
Detects are bolded

APPENDICES

Appendix A—Groundwater Sampling Field Records

Appendix B—LNAPL Monitoring Record Field Records

Appendix C—Waste Manifests

Appendix D—Activity and Use Limitation

Appendix E—Laboratory Analytical and Data Validation Reports – Groundwater

Appendix F—Groundwater Concentration Trend Graphs

Appendix G—Public Notification Documentation

APPENDIX A – GROUNDWATER SAMPLING FIELD RECORDS

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather: | Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments	
MW-1	4/23	1034	3.10	78.81	78.81	0.0	
MW-4		~~947~~	~~1.54~~ 2.29	77.23	77.23	SW= 0.3 PID 2.01	
MW-4A		947	1.59	76.46	76.46	SW= 0.3 PID 1.19	
MW-5		1543	3.31	78.99	78.99	SW= 2.99 PID=0	
MW-7		1630	4.59	80.33	80.33		Too wet for PID
GZA-14		11		82.64	82.64		
GZA-14A				82.31	82.31		
PS-1S		1130	CNM	79.21	79.21	SW= 3.7 0.0	
PS-1M		1131	1.69	77.30	77.30	SW= 1.9 0.0	
PS-1D		1132	0.70	76.51	76.51	SW= 0.9 1.0	
PS-2S		1150	1.76	77.71	77.71	SW= 2.22 0.3	obstruction @ 1.95
PS-2M		1151	1.55	77.61	77.61	SW= 2.20 0.4	
PS-2D		1152	1.42	76.91	76.91	SW= 1.50 0.8	
PS-3		1007	0.67	76.64	76.64	0.0	PS-3D X
PS-4		~~935~~ 935	2.63	78.66	78.66	0.0 R=2.63	
PS-5S		1000	4.42	80.49	80.49	0.0	
PS-5D		1003	3.76	79.68	79.68	0.0	
PS-8S		1032	7.08	83.37	83.37	0.0	
PS-8M		1033	6.69	82.53	82.53	0.0	
PS-8D		1034	6.31	82.77	82.77	0.0	
GZA-1		1506	4.69	79.05	79.05	SW= Dry+firm PID=0	
GZA-2	R	1452	3.28	79.12	79.12	SW= Dry+firm PID=0	Casing comes off
GZA-3		1449	4.07	79.93	79.93	SW= PID=0 NO SW	Dry+firm
GZA-4		1457	7.16	83.37	83.37	PID=0 R=7.16	
STM-?		1715	4.56	75.57	75.57	NM	
AE-112R-1 (41-51)				81.76	81.76		
AE-112R-2 (62-72)				81.78	81.78		
AE-112R-3 (91-101)				81.78	81.78		
AE-112R-4 (113-123)				81.80	81.80		
AE-112R-5 (136-146)				81.75	81.75		
AE-112R-6 (153-163)				81.73	81.73		
AE-112R-7 (168-175)				81.74	81.74		
AE-112D				82.66	82.66		
HOW-2 (MW-2)				84.35	84.35	no plug, damaged vault	
HOW-3 (MW-3)				81.83	81.83	no plug, damaged vault	
# 3 Furbish Pond Ln		1627	47.73	103.21	103.21	0.0 DS/AB -S/N 324	

Notes: R = replicate field measurement

Water level meter make/model/SN: 0770

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
MW-1				78.81	78.81	
MW-4				77.23	77.23	SW=
MW-4A				76.46	76.46	SW=
MW-5				78.99	78.99	SW=
MW-7				80.33	80.33	
GZA-14				82.64	82.64	
GZA-14A				82.31	82.31	
PS-1S				79.21	79.21	SW=
PS-1M				77.30	77.30	SW=
PS-1D				76.51	76.51	SW=
PS-2S				77.71	77.71	SW=
PS-2M				77.61	77.61	SW=
PS-2D				76.91	76.91	SW=
PS-3				76.64	76.64	
PS-4				78.66	78.66	
PS-5S				80.49	80.49	
PS-5D				79.68	79.68	
PS-8S				83.37	83.37	
PS-8M				82.53	82.53	
PS-8D				82.77	82.77	
GZA-1				79.05	79.05	SW=
GZA-2				79.12	79.12	SW=
GZA-3				79.93	79.93	SW=
GZA-4				83.37	83.37	
STM-?				75.57	75.57	
AE-112R-1 (41-51)	10-2-19	11:35	6.53	81.76	81.76	0.1
AE-112R-2 (62-72)	10-2-19	11:37	6.50	81.78	81.78	0.1
AE-112R-3 (91-101)	10-2-19	11:38	6.49	81.78	81.78	0.2 R 6.49
AE-112R-4 (113-123)	10-2-19	11:40	6.54	81.80	81.80	0.3
AE-112R-5 (136-146)	10-2-19	11:41	6.55	81.75	81.75	0.1
AE-112R-6 (153-163)	10-2-19	11:43	6.47	81.73	81.73	0.3
AE-112R-7 (168-175)	10-2-19	11:45	6.46	81.74	81.74	0.1
AE-112D	10-2-19	11:48	7.05	82.66	82.66	16.5
HOW-2 (MW-2)	10-2-19	11:56	9.12	84.35	84.35	no plug, damaged vault 0.1 new Asphalt around it
HOW-3 (MW-3)	10-2-19	11:21	6.85	81.83	81.83	no plug, damaged vault 0.1
# 3 Furbish Pond Ln				103.21	103.21	

Notes: R = replicate field measurement

Water level meter make/model/SN: Solinst 102 / 2505048 | PID MiniRAE 3000 / 592-000715

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water (Vac gauge)	TOC Ref Elev	Calc'ed Elevation	Comments	Vac sight glass
AE-26R-1 (50-56)	10/2/19	0955	11.65	85.84	85.84	GW elevations calculated from measurements taken with vacuum water level gauge at shallow water FLUTes (AE-26R, -28R, -29R) TOC reference elevation for these calculations is the Rim elevation.	330"
AE-26R-2 (72-78)		1000	11.49	85.84	85.84		4.30"
AE-26R-3 (81-88)		1007	11.41	85.84	85.84		3.50"
AE-26R-4 (104-114)		1014	11.50	85.84	85.84		4.60
AE-26R-5 (123-132)		1022	11.61	85.84	85.84		5.28"
AE-28R-1 (45-51)		0913	11.66	85.88	85.88		2.6"
AE-28R-2 (75-85)		0925	11.53	85.88	85.88		2.65"
AE-28R-3 (98-108)		0934	11.75	85.88	85.88	Actually 28R-4	5.10"
AE-28R-4 (132-142)		0940	11.56	85.88	85.88	Actually 28R-3	3.20"
AE-29R-1 (37-44)		1138	12.55	86.97	86.97		1.8"
AE-29R-2 (47-54)		1142	12.65	86.97	86.97		3.3"
AE-29R-3 (70-76)		1145	12.76	86.97	86.97		3.6"
AE-29R-4 (90-96)		1151	10.21	86.97	86.97	Air bubbles	0.9"
AE-29R-5 (113-119)		1156	12.70	86.97	86.97		4.1"
AE-29R-6 (140-146)		1201	12.85	86.97	86.97		5.65"
AE-109R-1 (38-43)				80.20	80.20		
AE-109R-2 (66-76)				80.17	80.17		
AE-109R-3 (126-136)				80.19	80.19		
AE-109R-4 (174-180.5)				80.17	80.17		
AE-109R-5 (183-189)				80.18	80.18		
AE-109R-6 (196-201)				80.15	80.15		
AE-109R-7 (204-214)				80.17	80.17		
AE-109R-8 (245-250)				80.20	80.20		
AE-109D				80.79	80.79		
AE-110R-1 (34-44)				80.67	80.67		
AE-110R-2 (70-80)				80.68	80.68		
AE-110R-3 (128-138)				80.64	80.64		
AE-110R-4 (158-168)				80.62	80.62		
AE-110R-5 (171-182)				80.62	80.62		
AE-110R-6 (190-200)				80.62	80.62		
AE-110R-7 (224-234)				80.64	80.64		
AE-111R-1 (44-54)				89.03	89.03		
AE-111R-2 (66-74)				89.01	89.01		
AE-111R-3 (95-103)				89.02	89.02		
AE-111R-4 (140-150)				89.02	89.02		
AE-111R-5 (155-165)				89.05	89.05		
AE-111R-6 (168-173)				89.04	89.04		
AE-111R-7 (181-191)				89.06	89.06		

4.04' TOP RIM to Gauge

3.2' = Top Rim to gauge

4.14' = Top Rim to gauge

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments / PID
AE-26R-1 (50-56)				85.84	85.84	GW elevations calculated from measurements taken with vacuum water level gauge at shallow water FLUTes (AE-26R, -28R, -29R) TOC reference elevation for these calculations is the Rim elevation.
AE-26R-2 (72-78)				85.84	85.84	
AE-26R-3 (81-88)				85.84	85.84	
AE-26R-4 (104-114)				85.84	85.84	
AE-26R-5 (123-132)				85.84	85.84	
AE-28R-1 (45-51)				85.88	85.88	
AE-28R-2 (75-85)				85.88	85.88	
AE-28R-3 (98-108)				85.88	85.88	
AE-28R-4 (132-142)				85.88	85.88	
AE-29R-1 (37-44)				86.97	86.97	
AE-29R-2 (47-54)				86.97	86.97	
AE-29R-3 (70-76)				86.97	86.97	
AE-29R-4 (90-96)				86.97	86.97	
AE-29R-5 (113-119)				86.97	86.97	
AE-29R-6 (140-146)				86.97	86.97	
AE-109R-1 (38-43)	10-2-19	0929	4.33	80.20	80.20	0.3
AE-109R-2 (66-76)	10-2-19	0931	4.32	80.17	80.17	0.0
AE-109R-3 (126-136)	10-2-19	0932	4.34	80.19	80.19	0.0
AE-109R-4 (174-180 5)	10-2-19	0934	4.35	80.17	80.17	0.1
AE-109R-5 (183-189)	10-2-19	0936	4.32	80.18	80.18	0.4 R 4.33
AE-109R-6 (196-201)	10-2-19	0938	4.35	80.15	80.15	0.4
AE-109R-7 (204-214)	10-2-19	0939	4.33	80.17	80.17	0.1
AE-109R-8 (245-250)	10-2-19	0941	4.34	80.20	80.20	0.1
AE-109D	10-2-19	0923	4.59	80.79	80.79	12.0
AE-110R-1 (34-44)	10-2-19	0947	4.32	80.67	80.67	0.2
AE-110R-2 (70-80)	10-2-19	0949	4.42	80.68	80.68	0.3
AE-110R-3 (128-138)	10-2-19	0950	4.46	80.64	80.64	0.1
AE-110R-4 (158-168)	10-2-19	0952	4.43	80.62	80.62	0.1 R 4.43
AE-110R-5 (171-182)	10-2-19	0954	4.44	80.62	80.62	0.1
AE-110R-6 (190-200)	10-2-19	0956	4.45	80.62	80.62	0.2
AE-110R-7 (224-234)	10-2-19	0958	4.43	80.64	80.64	0.1 4.43 DTW
AE-111R-1 (44-54)	10-2-19	1012	13.47	89.03	89.03	0.2
AE-111R-2 (66-74)	10-2-19	1014	13.42	89.01	89.01	0.7 R 13.42
AE-111R-3 (95-103)	10-2-19	1016	13.46	89.02	89.02	0.8
AE-111R-4 (140-150)	10-2-19	1017	13.35	89.02	89.02	0.3
AE-111R-5 (155-165)	10-2-19	1019	13.33	89.05	89.05	0.1
AE-111R-6 (168-173)	10-2-19	1021	13.33	89.04	89.04	0.1
AE-111R-7 (181-191)	10-2-19	1024	13.37	89.06	89.06	0.1

Center DTW 1.50 added 4gal

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments	
MW-1R	10-2-19	10 53	14.07	89.48	89.48	0.1	YRC
MW-4N-R1				88.05	88.05		YRC
MW-4N-R2				88.02	88.02		YRC
MW-4N-R3				88.07	88.07		YRC
MW-4N-R4				88.06	88.06		YRC
MW-6N-R1				90.61	90.61		YRC
MW-6N-R2				90.40	90.40		YRC
MW-6N-R3				90.73	90.73		YRC
MW-6N-R4				90.51	90.51		YRC
MW-6N-R5				90.51	90.51		YRC
MW-13R	10-2-19	11:00	14.59	90.19	90.19	0.0	YRC
MW-14N-R1				91.09	91.09		YRC
MW-14N-R2				91.14	91.14		YRC
MW-14N-R3				91.26	91.26		YRC
MW-14N-R4				91.39	91.39		YRC
MW-12R	10-2-19	11:07	16.85			0.1	
IP1-R1	10-2-19	13:53	5.95			31.4	
IP1-R2	10-2-19	13:56	5.79			133.8	
IP1-R3	10-2-19	13:59	4.70			456.0	
IP2-R1	10-2-19	14:05	6.15			35.5	R. 6.15
IP2-R2	10-2-19	14:07	5.90			304.1	
IP2-R3	10-2-19	14:10	5.93			10.6	
IP2-R4	10-2-19	14:12	6.02			20.0	
IP3-R1	10-2-19	14:18	4.91			3.3	
IP3-R2	10-2-19	14:20	4.24			201.6	
IP4-R1	10-2-19	14:30	4.79			6.2	
IP4-R2	10-2-19	14:35	4.84			662.0	
IP4-R3	10-2-19	14:38	4.78			45.2	
~~GZA-14S~~	"						
~~GZA-14D~~	"						
GZA-14	"	1510	6.64			0.3	
GZA-14A	"	1520	6.94			0.3	

Notes: R = replicate field measurement

Water level meter make/model/SN: for IP1-4, GZA-14 Heron H-01L 01-7659

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-23S				85.62	85.62	
AE-23R				85.54	85.54	
AE-24				85.63	85.63	
AE-25S				85.49	85.49	
AE-25D				85.38	85.38	
AE-25R				85.35	85.35	
AE-26S				85.49	85.49	
AE-26D				85.25	85.25	
AE-27R				85.48	76.92	Well is on 25° angle
AE-3				82.41	82.41	
AE-4				82.03	82.03	
IP-12				84.06	84.06	
IP-13				84.30	84.30	
IP-14				84.06	84.06	
IP-15				83.74	83.74	
DP-1				80.01	80.01	
DP-2				79.75	79.75	
CW-1				80.94	80.94	
CW-2				80.73	80.73	
PZ-8R				79.04	-	Abandoned
GZA-5				80.03	80.03	
GZA-6				80.46	80.46	
GZA-10				80.39	80.39	
STM-3S	10-2-19	12:04	10.85	82.97	82.97	0.3
STM-3D	10-2-19	12:06	8.76	82.93	82.93	0.3
STM-3R	10-2-19	12:12	.84	82.94	82.94	0.3
STM-8S	10-2-19	12:15	5.94	78.91	78.91	0.3
STM-8M	10-2-19	12:18	5.91	78.87	78.87	0.3
STM-8D	10-2-19	12:20	5.99	78.86	78.86	0.3
STM-8R	10-2-19	12:28	5.97	78.78	78.78	0.1
STM-8R1	10-2-19	12:38	6.88	79.08	79.08	0.1
STM-10S	10-2-19	12:48	20.60	95.70	~~dry~~	0.1
STM-10R1	10-2-19	12:50	20.72	95.79	95.79	0.1 R-20.72
STM-10R2	10-2-19	12:55	20.74	95.79	95.79	0.1
TRC-402 (Reading)				97.47	97.47	
TRC-403 (Reading)				97.73	97.73	

$\cos(25^0) \times 9.45' = 8.56'$

(49.01 OTB) Blocking e Dirt

Plug to Big Cap PVC

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-23S	10/2/19	1035	8.92	85.62	85.62	PID = 10 TD = 19.49
AE-23R		1053	15.57	85.54	85.54	PID = 2532 TD = 53.76
AE-24		1057	8.92	85.63	85.63	PID = 217.1 TD = 15.2
AE-25S		1047	8.89	85.49	85.49	PID = 1.2 TD = 31.50
AE-25D		1049	8.81	85.38	85.38	PID = 1.0 TD = 39.56
AE-25R Rep		~~1043~~ 1049	~~8.75~~ 8.75	85.35	85.35	~~PID = 1.0 TD = 43.87~~ PID = 1.0 TD = 45.87
AE-26S		0956	8.99	85.49	85.49	PID = 5.4, TD = 32.09
AE-26D		1001	8.78	85.25	85.25	PID = 0.5, TD = 39.88
AE-27R		1028	9.75	85.48	76.92	Well is on 25° angle $\cos(25^0) \times 9.45' = 8.56'$
AE-3		1233	6.45	82.41	82.41	PID = 50.7 TD = 12.6
AE-4		1410	3.94	82.03	82.03	0.0
IP-12				84.06	84.06	
IP-13				84.30	84.30	
IP-14				84.06	84.06	
IP-15				83.74	83.74	
DP-1		1335	3.97	80.01	80.01	0.0
DP-2		1330	3.61	79.75	79.75	0.0
CW-1		1325	4.86	80.94	80.94	
CW-2		1326	5.30	80.73	80.73	583.6
PZ-8R				79.04	-	Abandoned
~~GZA-5~~ GZA-6		1431	4.61	80.03	80.03	0.4
GZA-6 GZA-5		1441	4.09	80.46	80.46	0.4
GZA-10 GZA-10		1450	4.53	80.39	80.39	0.0
STM-3S				82.97	82.97	
STM-3D				82.93	82.93	
STM-3R				82.94	82.94	
STM-8S				78.91	78.91	
STM-8M				78.87	78.87	
STM-8D				78.86	78.86	
STM-8R				78.78	78.78	
STM-8R1				79.08	79.08	
STM-10S				95.70	dry	
STM-10R1				95.79	95.79	
STM-10R2				95.79	95.79	
TRC-402 (Reading)		1340	26.85	97.47	97.47	PID = 1.6
TRC-403 (Reading)		1341	27.06	97.73	97.73	PID = 0.4

PID = 2.2
TD = 60.26

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
TRC-101		1410	6.21	82.18	82.18	78.7ppm
TRC-102		1404	7.40	81.21	81.21	0.2ppm R
TRC-103		1415	10.63	82.02	82.02	2.3
TRC-201R		1428	8.47	85.02	85.02	0ppm
TRC-202R		UNKNOWN WELL		78.53	-	Borehole sealed with blank FLUTe liner
GZA-102S		1420	6.80	82.38	82.38	0ppm
GZA-102R1		1421	5.36	85.18	85.18	0
GZA-102R2		1422	9.05	85.18	85.18	0
PZ-2S		1424	7.22	82.77	82.77	57.6ppm R
TRC-401R		1350	5.67	82.00	82.00	7.8
GZA-105S		1347	5.91	81.89	81.89	577.7ppm R
GZA-105D		1348	5.87	81.82	81.82	0ppm
GZA-105R		1348	5.52	81.80	81.80	0ppm
WE-105R2		1357	4.96	82.05	82.05	2.6ppm
BRW-1R2		1027	4.87	78.77	78.77	0 ppm R
BRW-1R3		1027	4.60	78.55	78.55	5.5
BRW-1R4		1028	4.69	78.66	78.66	3.5
EMW-10S		1042	5.01	78.56	78.56	0ppm
EMW-10D		1043	4.89	78.41	78.41	0
EMD-10R		1043	8.08	78.11	78.11	0 R
EMW-11S		0944	4.29	79.25	79.25	0.0 ppm R
EMW-11D		0944	4.35	79.39	79.39	0.0
EMW-11R1		0942	4.89	79.43	79.43	0.2
EMW-11R2		0943	4.77	79.44	79.44	7.6
EMW-11R3		0943	4.79	79.45	79.45	2.7 ppm
IP-1R1		1353	5.95	82.12	82.12	31.4ppm ADAM/Bobby
IP-1R2		1356	5.79	82.07	82.07	133.8
IP-1R3		1359	4.70	82.04	82.04	456.0
IP-2R1		1405	6.15	82.17	82.17	35.5 R
IP-2R2		1407	5.90	82.14	82.14	304.1ppm
IP-2R3		1410	5.93	82.12	82.12	101.6
IP-2R4		1412	6.02	82.08	82.08	20.0
IP-3R1		1418	4.91	81.02	81.02	3.3
IP-3R2		1420	4.24	80.98	80.98	301.6ppm
IP-4R1		1430	4.79	80.84	80.84	6.2
IP-4R2		1435	4.84	80.79	80.79	667.0
IP-4R3		1438	4.78	80.77	80.77	45.2ppm

Notes: R = replicate field measurement NA = Not Applicable

Water level meter make/model/SN: Solinst 102

SN# 1022324

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-104S				79.30	79.30	
AE-104M				79.28	79.28	
AE-104D				79.30	79.30	
AE-108R-1 (36.5-43.5)				78.81	78.81	
AE-108R-2 (68-73)				78.85	78.85	
AE-108R-3 (84-89)				78.82	78.82	
AE-108R-4 (145-150)				78.79	78.79	
AE-108R-5 (163-168)				78.80	78.80	
AE-105R-1 (90.5-95.5)				79.81	79.81	
AE-105R-2 (98-103)				79.89	79.89	
AE-105R-3 (107.5-112.5)				79.87	79.87	
AE-105R-4 (125-130)				79.83	79.83	
AE-105R-5 (143-148)				79.81	79.81	
AE-105R-6 (156-161)				79.87	79.87	
AE-105S				79.39	79.39	
AE-105M				79.35	79.35	
AE-105D				79.42	79.42	
AE-106R-1 (47-52)				79.15	79.15	SW=
AE-106R-2 (69.5-74.5)				79.12	79.12	
AE-106R-3 (84-88)				79.13	79.13	
AE-106R-4 (144.5-150.5)				79.15	79.15	
AE-106R-5 (164-169)				79.14	79.14	
AE-106S				78.42	78.42	
AE-106M				78.44	78.44	
AE-106D				78.41	78.41	
TRC-301R-1 (96.5-100.5)				78.57	78.57	SW=
TRC-301R- 2 (81.5-85.5)				78.57	78.57	
TRC-301R-3 (75.5-79.5)				78.57	78.57	
TRC-301R-4 (65.5-69.5)				78.57	78.57	
PZ-9S				82.28	82.28	
PZ-9D				82.25	82.25	
PZ-9R				82.37	82.37	
GZA-12		10.82 K	1115	87.62	87.62	PID=2.6 TD=24.15
GZA-101R		1400	13,60	87.41	87.41	PID = 0.5
AE-1S		1125	9.49	86.26	86.26	PID = 0.8 TD = 16.73
AE-1I		1119	9.90	86.68	86.68	PID=1.2, TD=22.94
AE-2R		1214	8.53	85.23	85.23	PID=5 TD=30.9
AE-2I Rep	10/2/19	~~1216~~ 1217	~~8.71~~ 8.71	85.39	85.39	PID=0.5 TD=17.22

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments / PID
AE-104S				79.30	79.30	
AE-104M				79.28	79.28	
AE-104D				79.30	79.30	
AE-108R-1 (36.5-43.5)				78.81	78.81	
AE-108R-2 (68-73)				78.85	78.85	
AE-108R-3 (84-89)				78.82	78.82	
AE-108R-4 (145-150)				78.79	78.79	
AE-108R-5 (163-168)				78.80	78.80	
AE-105R-1 (90.5-95.5)				79.81	79.81	
AE-105R-2 (98-103)				79.89	79.89	
AE-105R-3 (107.5-112.5)				79.87	79.87	
AE-105R-4 (125-130)				79.83	79.83	
AE-105R-5 (143-148)				79.81	79.81	
AE-105R-6 (156-161)				79.87	79.87	
AE-105S				79.39	79.39	
AE-105M				79.35	79.35	
AE-105D				79.42	79.42	
AE-106R-1 (47-52)				79.15	79.15	SW=
AE-106R-2 (69.5-74.5)				79.12	79.12	
AE-106R-3 (84-88)				79.13	79.13	
AE-106R-4 (144.5-150.5)				79.15	79.15	
AE-106R-5 (164-169)				79.14	79.14	
AE-106S				78.42	78.42	
AE-106M				78.44	78.44	
AE-106D				78.41	78.41	
TRC-301R-1 (96.5-100.5)				78.57	78.57	SW=
TRC-301R- 2 (81.5-85.5)				78.57	78.57	
TRC-301R-3 (75.5-79.5)				78.57	78.57	
TRC-301R-4 (65.5-69.5)				78.57	78.57	
PZ-9S	10-2-19	0911	6.40	82.28	82.28	0.0
PZ-9D	10-2-19	0912	5.99	82.25	82.25	0.0
PZ-9R	10-2-19	0913	6.10	82.37	82.37	0.1
GZA-12				87.62	87.62	
GZA-101R				87.41	87.41	
AE-1S				86.26	86.26	
AE-1I				86.68	86.68	
AE-2R				85.23	85.23	
AE-2I				85.39	85.39	

Notes: R = replicate field measurement

Water level meter make/model/SN:

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments	
AE-104S				79.30	79.30		
AE-104M				79.28	79.28		
AE-104D				79.30	79.30		
AE-108R-1 (36.5-43.5)				78.81	78.81		
AE-108R-2 (68-73)				78.85	78.85		
AE-108R-3 (84-89)				78.82	78.82		
AE-108R-4 (145-150)				78.79	78.79		
~~AE-108R-5~~ (163-168)				78.80	78.80		
108R-1 ~~AE-105R-1~~ (90.5-95.5)		1114	3.59	79.81	79.81	SW=3.50	0.0
108R-2 ~~AE-105R-2~~ (98-103)		1115	3.72	79.89	79.89		0.0
105R-3 ~~AE-105R-3~~ (107.5-112.5)		1116	3.69	79.87	79.87		0.0
105R-4 ~~AE-105R-4~~ (125-130)		1117	3.60	79.83	79.83		0.0
105R-5 ~~AE-105R-5~~ (143-148)		1116	3.40	79.81	79.81	tag=26.39	0.0
AE-105R-6 (156-161)		1102	3.91	79.87	79.87		
AE-105S		1051	3.72	79.39	79.39	4.1 PID	
AE-105M		1052	3.66	79.35	79.35	0.4 PID	
AE-105D		1053	3.74	79.42	79.42	3.0 PID	
105R-1 ~~AE-106R-1~~ (47-52)		1057	3.97	79.15	79.15	~~SW=~~ tag=11.89	0.0
105R-2 ~~AE-106R-2~~ (69.5-74.5)		1058	3.92	79.12	79.12		0.0
105R-3 ~~AE-106R-3~~ (84-88)		1059	3.93	79.13	79.13		0.0
105R-4 ~~AE-106R-4~~ (144.5-150.5)		1100	3.95	79.15	79.15		0.0
105R-5 ~~AE-106R-5~~ (164-169)		1101	3.94	79.14	79.14	R=3.94	0.0
AE-106S		1110	2.95	78.42	78.42	0.2 SW=3.02	
AE-106M		1111	2.95	78.44	78.44	0.2	
AE-106D		1112	2.93	78.41	78.41	0.0	
TRC-301R-1 (96.5-100.5)		1118	2.96	78.57	78.57	SW=2.90	0.0
TRC-301R-2 (81.5-85.5)		1119	2.91	78.57	78.57		0.0
TRC-301R-3 (75.5-79.5)		1120	2.92	78.57	78.57		0.0
TRC-301R-4 (65.5-69.5)		1121	2.90	78.57	78.57		0.1
PZ-9S				82.28	82.28		
PZ-9D				82.25	82.25		
PZ-9R				82.37	82.37		
GZA-12				87.62	87.62		
GZA-101R				87.41	87.41		
AE-1S				86.26	86.26		
AE-1I				86.68	86.68		
AE-2R				85.23	85.23		
AE-2I				85.39	85.39		

inside = 1.70

inside = 0.52

R-5 0.1
R-6 0.1

Notes: R = replicate field measurement

Water level meter make/model/SN: 0770

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments / PID
AE-104S		0917	3.35	79.30	79.30	0.5 ppm
AE-104M		0917	3.32	79.28	79.28	0.0
AE-104D		0917	3.34	79.30	79.30	0.1
AE-108R-1 (36.5-43.5)		1049	2.91	78.81	78.81	0ppm R
AE-108R-2 (68-73)		1049	2.91	78.85	78.85	0
AE-108R-3 (84-89)		1050	2.93	78.82	78.82	0
AE-108R-4 (145-150)		1050	2.97	78.79	78.79	0
AE-108R-5 (163-168)		1051	3.03	78.80	78.80	0
AE-105R-1 (90.5-95.5)				79.81	79.81	
AE-105R-2 (98-103)				79.89	79.89	
AE-105R-3 (107.5-112.5)				79.87	79.87	
AE-105R-4 (125-130)				79.83	79.83	
AE-105R-5 (143-148)				79.81	79.81	
AE-105R-6 (156-161)				79.87	79.87	
AE-105S				79.39	79.39	
AE-105M				79.35	79.35	
AE-105D				79.42	79.42	
AE-106R-1 (47-52)				79.15	79.15	SW=
AE-106R-2 (69.5-74.5)				79.12	79.12	
AE-106R-3 (84-88)				79.13	79.13	
AE-106R-4 (144.5-150.5)				79.15	79.15	
AE-106R-5 (164-169)				79.14	79.14	
AE-106S				78.42	78.42	
AE-106M				78.44	78.44	
AE-106D				78.41	78.41	
TRC-301R-1 (96.5-100.5)				78.57	78.57	SW=
TRC-301R- 2 (81.5-85.5)				78.57	78.57	
TRC-301R-3 (75.5-79.5)				78.57	78.57	
TRC-301R-4 (65.5-69.5)				78.57	78.57	
PZ-9S				82.28	82.28	
PZ-9D				82.25	82.25	
PZ-9R				82.37	82.37	
GZA-12				87.62	87.62	
GZA-101R				87.41	87.41	
AE-1S				86.26	86.26	
AE-1I				86.68	86.68	
AE-2R				85.23	85.23	
AE-2I				85.39	85.39	

Notes: R = replicate field measurement

Water level meter make/model/SN: Solinst 102
S/N # 1022324

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather: | Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments / PID
AE-100R-1 (18-24)		1101	7.27	87.87	87.87	0.6 ppm R
AE-100R-2 (43-48)		1102	7.37	87.95	87.95	0.4
AE-100R-3 (50-56)		1102	7.29	87.92	87.92	2.0 C=0.40
AE-100R-4 (63-68)		1103	7.31	87.89	87.89	3.8 ppm
AE-100R-5 (88-93)		1103	7.33	87.86	87.86	1.9
AE-100R-6 (108.5-113.5)		1104	7.29	87.84	87.84	2.1
AE-101R-1 (30.5-35.5)		1038	3.27	79.07	79.07	0 ppm R
AE-101R-2 (55-60)		1038	3.28	79.07	79.07	0
AE-101R-3 (80-85)		1039	3.22	79.07	79.07	0
AE-101R-4 (153-158)		1039	3.23	79.07	79.07	0 ppm C=0.55
AE-101R-5 (175-180)		1040	3.21	79.07	79.07	0
AE-101R-6 (227-232)		1040	3.22	79.07	79.07	0
AE-101S		1036	3.41	79.34	79.34	1.2 ppm
AE-101D		1036	3.45	79.37	79.37	8.7
AE-102RR-1 (43-48)		1013	3.98	79.83	79.83	0 ppm C=0.81
AE-102RR-2 (75-80)		1013	3.90	79.84	79.84	0 R
AE-102RR-3 (111-116)		1014	3.90	79.89	79.89	0.
AE-102RR-4 (125-130)		1014	3.84	79.84	79.84	0.6 ppm
AE-102RR-5 (141-146)		1015	3.85	79.82	79.82	1.1
AE-102RR-6 (153-158)		1015	3.87	79.83	79.83	3.9
AE-102S		1016	4.23	80.12	80.12	0 ppm
AE-102M		1016	4.24	80.17	80.17	1.2
AE-102D		1016	4.30	80.16	80.16	9.7
AE-103R-1 (48-53)		0930	3.04	78.99	78.99	1.2 ppm R
AE-103R-2 (62-67)		0930	3.13	78.99	78.99	8.7
AE-103R-3 (70-76)		0931	3.02	79.01	79.01	3.1
AE-103R-4 (98-105)		0931	2.96	79.00	79.00	3.7 ppm
AE-103R-5 (122-128)		0932	3.00	79.08	79.08	5.9
AE-103R-6 (138-144)		0932	3.04	79.00	79.00	5.9
AE-103R-7 (162.5-168)		0933	3.02	78.99	78.99	9.1 ppm C=0.30
AE-103S		0936	3.49	79.43	79.43	1.5
AE-103M		0937	3.48	79.42	79.42	5.3
AE-103D		0937	3.47	79.42	79.42	6.0
AE-104R-1 (48-54)		0914	2.98	78.90	78.90	2.6 ppm R
AE-104R-2 (62-68)		0914	3.12	78.85	78.85	1.0
AE-104R-3 (97-102)		0913	2.90	78.86	78.86	3.1
AE-104R-4 (128-133)		0913	2.92	78.86	78.86	6.0
AE-104R-5 (156-162)		0912	2.98	78.86	78.86	1.1 ppm
AE-104R-6 (168-174)		0911	3.06	78.85	78.85	3.9 C=0.72

Notes: R = replicate field measurement

Water level meter make/model/SN: Solinst/102/1022324

C = Center

AECOM

Lockheed Martin Corporation
Former GE Site - Wilmington, MA
Water Level Measurements

Weather:

Recorders: D.Potter, A.Borden, B.Maye, B. Hoch, B. MacDonald, A. Grossman, F. Burton, R. Salvatore

Well	Date	Time	Depth to Water	TOC Ref Elev	Calc'ed Elevation	Comments
AE-106S				78.42	78.42	
AE-106R-1 (47-52)				79.15	79.15	
TRC-301R-1 (96.5-100.5)				78.57	78.57	
MW-4				77.23	77.23	
MW-4A				76.46	76.46	
MW-5				78.99	78.99	
PS-1S				79.21	79.21	
PS-1M				77.30	77.30	
PS-1D				76.51	76.51	
PS-2S				77.71	77.71	
PS-2M				77.61	77.61	
PS-2D				76.91	76.91	
GZA-2 (wwtp)				79.12	79.12	
SG-1		1620	0.09	75.78	75.78	' above the 0.00 ref. mark
SG-2		1700	-0.03	70.82	70.82	' above the 0.00 ref. mark
Concord Street Pond		1600	~~1.75~~ 0.99'	75.91	75.91	Ref Elev is top of 2nd outfall pipe into Pond, west of Fordham Rd

Notes: R = replicate field measurement

Water level meter make/model/SN:

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LML		
Field Activity	Gws	Manufacture/Model:	YSI 600XL
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	97E0508AB
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/17/19
Air temperature:	AM 60's	PM 60's	Calibration Initials: AG
Solution Temperature:	AM	PM	Time: 720
Inst. Barometric Press.(mmHg):	AM 763.4	PM 762.8	Calibration Check Initials: AG
Pressure Corrected / Source:	AM /	PM /	Time: ~~1700~~ 1630 @

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.08	10.0	10.25	10.35	NA	NA	NA	NA	NA	NA	NA	NA	0 NA	NA	0 mg/L	15.45	NA	0.22	Cal or Ck (circle)
pH	S.U.	7.00	15.02	7.04	7.10	7.04	4.00	15.04	4.00	3.49	4.00	10.00	14.71	~~10.13~~	10.1/10.03	10.10	NA	NA	NA	NA	NA
ORP*	mV	238	15.14	—	234.4	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.23	NA	1016	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	15.62	NA	2	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	16.76	9.8	10.53	
DO	mg/L	0	17.51	NA	0.21	0
pH	S.U.	7.0	16.85	7.03	7.21	
ORP	mV	238	16.58	—	227.6	
Sp. EC	µs/cm	1000	16.52	NA	986	
Sp. EC	µs/cm	0	~~15~~ 0	NA	3	

0 ~~16.52~~ 17.52

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	GW SAMPLES	Manufacture/Model:	YSI 556
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	14F100066
Date & Result of Last Temp. Check	9/12/19 - NA	CALIBRATION DATE:	9/12/19
Air temperature:	AM	PM	Calibration Initials: FB
Solution Temperature:	AM	PM	Time: 0945
Inst. Barometric Press.(mmHg):	AM 764.8	PM	Calibration Check Initials: FB
Pressure Corrected / Source:	AM NA	PM /	Time: 1630

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	20.51	9.1	9.08	9.08	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	20.42	NA	0.30	Cal or Ck (circle)
pH	S.U.	7.00	22.03	25.0	7.16	7.00	4.00	21.47	25.0	3.93	4.00	10.00	21.54	25.0	9.90	9.98	NA	NA	NA	NA	NA
ORP*	mV		20.69	—	239.3	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	21.89	NA	981	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	21.47	NA	23	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	19.56	9.1	9.06	0.02
DO	mg/L	0	19.94	NA	0.28	0.02
pH	S.U.	7.0	19.41	25°C	6.98	0.02
ORP	mV	238	19.85	~~238~~	239.8	1.8
Sp. EC	µs/cm	1000	19.82	NA	1000	0
Sp. EC	µs/cm	0	19.87	NA	29	6

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	Lockheed Martin
Field Activity	Gw Sampling
Fieldwork Dates	9/12-14 to 10/1/14
Date & Result of Last Temp. Check	—
Air temperature:	AM 70's PM 60's
Solution Temperature:	AM PM
Inst. Barometric Press.(mmHg):	AM 764.8 PM 765.7
Pressure Corrected / Source:	AM — PM —
Manufacture/Model:	YSI 600XL
Serial Number:	97B0504AB
CALIBRATION DATE:	9/12/14
Calibration Initials:	AG
Calibration Time:	1100
Calibration Check Initials:	AG
Calibration Check Time:	1515

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	~~21.45~~ 20-13	9.1	9.07	9.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	21.42	NA	0.11	Cal or Ck (circle)
pH	S.U.	7.00	21.88	7.01	7.00	7.01	4.00	21.42	4.00	3.86	4.00	10.00	21.36	10.04	9.95	10.02	NA	NA	NA	NA	NA
ORP*	mV	~~207~~ 238	21.66	—	234.7	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	20.89	NA	966	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	20.85	NA	2	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	14.48		8.95	0.25
DO	mg/L	0	14.47	NA	0.28	0
pH	S.U.	7.0	14.33	7.02	6.96	~~7~~0.04
ORP	mV	238	~~21~~14.32	—	243.2	
Sp. EC	µs/cm	1000	14.27	NA	992	8
Sp. EC	µs/cm	0	14.06	NA	3	0

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC				
Field Activity	GWS		Manufacture/Model:	YSI	
Fieldwork Dates	9/12 - 10/1		Serial Number:	14F1000066	
Date & Result of Last Temp. Check	NA		CALIBRATION DATE:	9/13/19	
Air temperature:	AM	PM	Calibration	Initials:	FB
Solution Temperature:	AM	PM		Time:	0830
Inst. Barometric Press.(mmHg):	AM 766.3	PM	Calibration Check	Initials:	
Pressure Corrected / Source:	AM /	PM /		Time:	

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.87	10.4	9.95	10.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	13.93	NA	14	Cal or Ck (circle)
pH	S.U.	7.00	14.04	—	6.96	7.00	4.00	14.13	—	3.86	4.00	10.00	13.98	—	9.80	9.97	NA	NA	NA	NA	NA
ORP*	mV		13.41	246	244.2	246.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	13.55	NA	995	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	13.28	NA	7	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	19.62	—	9.90	0.05
DO	mg/L	0	19.55	NA	16	2
pH	S.U.	7.0	19.96	—	7.01	0.01
ORP	mV		20.23	—	245.1	0.9
Sp. EC	µs/cm	1000	19.81	NA	998	2
Sp. EC	µs/cm	0	19.76	NA	9	2

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044		
Field Activity	G.W. Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	03D0903AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/13/19
Air temperature:	AM 13.67 PM 18.11	Calibration Initials:	MB
Solution Temperature:	AM 14.80 PM 19.34	Time:	0830
Inst. Barometric Press.(mmHg):	AM 773.2 PM 774.4	Calibration Check Initials:	MB
Pressure Corrected / Source:	AM / PM /	Time:	1530

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	13.67	10.51	10.66	10.51	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L		NA		Cal or Ck (circle)
pH	S.U.	7.00	14.80	7.00	7.07	7.00	4.00	15.00	4.00	3.94	4.00	10.00	14.81	10.12	9.94	10.09	NA	NA	NA	NA	NA
ORP*	mV	231.0	13.35	246.0	249.8	245.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.54	NA	931	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.18	NA	82	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	18.11	9.45	9.57	0.12
DO	mg/L	0	~~19.34~~	NA	~~22~~	~~22~~
pH	S.U.	7.0	18.71	7.03	7.07	004
ORP	mV	231.0	18.67	~~245~~ 239	235.60	3.4
Sp. EC	µs/cm	1000	18.15	NA	1006	6
Sp. EC	µs/cm	0	19.34	NA	22	22

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	Lockheed Martin
Field Activity	Gw 3
Fieldwork Dates	4/12-10/1 2014
Date & Result of Last Temp. Check	
Air temperature:	AM 55°F PM
Solution Temperature:	AM PM
Inst. Barometric Press.(mmHg):	AM 723.5 PM 7232
Pressure Corrected / Source:	AM — / — PM — / —

Manufacture/Model:	YSI 650 MDS
Serial Number:	97E 0504 8
CALIBRATION DATE:	4/13/14
Calibration Initials:	AG
Calibration Time:	820
Calibration Check Initials:	AG
Calibration Check Time:	1600

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	13.70	10.6	10.99	10.56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	15.54	NA	0.31	Cal or Ck (circle)
pH	S.U.	7.00	13.81	7.05	7.03	7.05	4.00	13.85	3.96	4.20	4.00	10.00	13.98	10.12	10.05	10.11	NA	NA	NA	NA	NA
ORP*	mV	238	14.27	—	248	238	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	13.66	NA	990	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
																	0 µs/cm	13.12	NA	2	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	22.44	8.7	9.00	0.3
DO	mg/L	0	22.03	NA	0.31	0
pH	S.U.	7.0	21.26	7.02	7.05 / 6.45	6.45
ORP	mV	238	26.34	—	212.6	
Sp. EC	µs/cm	1000	20.32	NA	998	2
Sp. EC	µs/cm	0	25.10	NA	6	0

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC
Field Activity	G.W. Sampling
Fieldwork Dates	9/12/19 – 10/1/19
Date & Result of Last Temp. Check	
Air temperature:	AM 17.10 PM 15.20
Solution Temperature:	AM 17.09 PM 14.51
Inst. Barometric Press.(mmHg):	AM 762.8 PM 763.0
Pressure Corrected / Source:	AM / PM /

Manufacture/Model:	YSI 650 MDS
Serial Number:	03D0903AD
CALIBRATION DATE:	9/16/19
Calibration Initials:	
Calibration Time:	0800
Calibration Check Initials:	
Calibration Check Time:	1805

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	16.68	9.8	10.03	9.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L		NA		Cal or Ck (circle)
pH	S.U.	7.00	17.45	7.03	7.09	7.03	4.00	17.51	4.00	3.94	4.00	10.00	17.25	10.09	9.97	10.07	NA	NA	NA	NA	NA
ORP*	mV	231.0	16.43	~~242.5~~ 241.0	235.7	~~242.4~~ 240.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	17.04	NA	994	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	17.09	NA	40	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	15.24	10.05	10.34	0.29
DO	mg/L	0		NA		
pH	S.U.	7.0	14.46	7.06	7.08	0.02
ORP	mV	231.0	14.45	244.0	243.8	0.2
Sp. EC	µs/cm	1000	14.15	NA	1010	10
Sp. EC	µs/cm	0	15.80	NA	14	14

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	CMC Wilmington	Manufacture/Model:	YSI Pro Plus
Field Activity	GW sampling	Serial Number:	10E100237
Fieldwork Dates	9/12 - 10/2	CALIBRATION DATE:	9/16
Date & Result of Last Temp. Check		Calibration Initials:	DP
Air temperature:	AM 17.9 PM	Calibration Time:	0645
Solution Temperature:	AM PM	Calibration Check Initials:	DP
Inst. Barometric Press.(mmHg):	AM 763.8 PM	Calibration Check Time:	1600
Pressure Corrected / Source:	AM / PM /		

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	17.8	9.5	9.91	9.55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	18.4	NA	0.11	Cal or Ck (circle)
pH	S.U.	7.00	18.4	7.03	7.03	7.03	4.00	18.4	4.00	3.96	4.00	10.00	18.1	10.04	10.14	10.08	NA	NA	NA	NA	NA
ORP*	mV	238	17.9	241	235.6	241.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	18.5	NA	969	1001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	18.6	NA	37.1	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	23.7	8.5	8.48	0.02
DO	mg/L	0	22.2	NA	0.06	0.06
pH	S.U.	7.0	23.4	7.01	7.05	0.04
ORP	mV	238	21.5	235	233.8	1.2
Sp. EC	µs/cm	1000	23.2	NA	982	18
Sp. EC	µs/cm	0	22.7	NA	14.2	14.2

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails critera

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC			Manufacture/Model:	YSI 6000XL
Field Activity	GWS			Serial Number:	97F0508AB
Fieldwork Dates	9/12/14 - 10/1/14			CALIBRATION DATE:	9/16/14
Date & Result of Last Temp. Check				Calibration Initials:	AG
Air temperature:	AM 62°F	PM		Time:	2440 750
Solution Temperature:	AM	PM			
Inst. Barometric Press.(mmHg):	AM 762.8	PM 763.5		Calibration Check Initials:	AG
Pressure Corrected / Source:	AM /	PM /		Time:	~~1630~~ 1730

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	16.76	9.8	10.53	4.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	17.51	NA	0.21	Cal or Ck (circle)
pH	S.U.	7.00	16.85	7.03	7.21	7.07	4.00	16.78	4.00	4.00	4.00	10.00	16.41	10.00	10.02	10.08	NA	NA	NA	NA	NA
ORP*	mV	238	16.58	—	227.6	234.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	16.52	NA	986	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	17.52	NA	3	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	14.08	10.4	10.75	
DO	mg/L	0	15.45	NA	0.22	
pH	S.U.	7.0	15.02	7.04	7.10	
ORP	mV	238	15.14	—	239.4	
Sp. EC	µs/cm	1000	14.23	NA	1016	
Sp. EC	µs/cm	0	15.62	NA	2	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC
Field Activity	GWS
Fieldwork Dates	9/12 - 10/1
Date & Result of Last Temp. Check	
Air temperature:	AM PM
Solution Temperature:	AM PM
Inst. Barometric Press.(mmHg):	AM 762.8 PM
Pressure Corrected / Source:	AM / PM /

Manufacture/Model:	YSI
Serial Number:	14F100066
CALIBRATION DATE:	9/17/19
Calibration Initials:	FWB
Calibration Time:	0745
Calibration Check Initials:	
Calibration Check Time:	

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	13.83	10.4	10.47	10.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	13.50	NA	0.19	Cal or Ck (circle)
pH	S.U.	7.00	14.52	7.04	7.05	7.04	4.00	14.35	4.00	4.01	4.00	10.00	14.26	10.11	10.04	10.10	NA	NA	NA	NA	NA
ORP*	mV		13.99	239.0	240.8	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.05	NA	1016	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.13	NA	6	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	15.26	10.4	10.43	0.03
DO	mg/L	0	16.22	NA	0.22	0.03
pH	S.U.	7.0	15.16	7.04	7.06	2
ORP	mV	238	15.01	238	238.7	0.07
Sp. EC	µs/cm	1000	15.21	NA	1002	2
Sp. EC	µs/cm	0	15.46	NA	4 ~~1002~~ 1.6	2

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	LTM GWS	Manufacture/Model:	YSI Professional Plus
Fieldwork Dates	9/17/19	Serial Number:	3530-1233
Date & Result of Last Temp. Check	—	CALIBRATION DATE:	9/17/19
Air temperature:	AM	PM	Calibration Initials: AKB
Solution Temperature:	AM	PM	Time: 0735
Inst. Barometric Press.(mmHg):	AM	PM	Calibration Check Initials:
Pressure Corrected / Source:	AM /	PM /	Time:

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	13.7	10.4	10.92	10.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	13.8	NA	0.13	Cal or Ck (circle)
pH	S.U.	7.00	14.2		7.00	7.01	4.00	14.7		4.01	3.97	10.00	14.1		10.08	10.01	NA	NA	NA	NA	NA
ORP*	mV	238	11.6		218	240	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.4	NA	1151	999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm		NA		Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	21.2	9.70	7.62	-2.12
DO	mg/L	0	20.8	NA	0.09	+0.09
pH	S.U.	7.0	20.2		6.97	-0.03
ORP	mV	9.70	21.2		160.2	-80.2
Sp. EC	µs/cm	1000	/	NA	988	-12.0
Sp. EC	µs/cm	0	/	NA	47	+47

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LNC		
Field Activity	GW Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	03D0903AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/17/19
Air temperature:	AM 15.23 PM 19.85	Calibration Initials:	LM
Solution Temperature:	AM 14.45 PM 19.55	Time:	0810
Inst. Barometric Press.(mmHg):	AM 763.5 PM 765.0	Calibration Check Initials:	[illegible]
Pressure Corrected / Source:	AM / PM /	Time:	1445

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	15.23	10.05	10.34	10.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L		NA		Cal or Ck (circle)
pH	S.U.	7.00	14.46	7.06	7.08	7.06	4.00	14.67	4.00	4.08	4.00	10.00	14.46	10.13	10.14	10.13	NA	NA	NA	NA	NA
ORP*	mV	231.0	14.45	244.0	243.7	243.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.15	NA	1010	999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	15.83	NA	14	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	19.77	9.12	9.05	0.07
DO	mg/L	0		NA		
pH	S.U.	7.0	~~19.30~~ 19.99	7.02	7.08	0.06
ORP	mV	231.0	21.10	235.0	233.5	1.5
Sp. EC	µs/cm	1000	20.01	NA	1028	28
Sp. EC	µs/cm	0	19.51	NA	36	36

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60532044
Field Activity	GW sampling
Fieldwork Dates	9/12/19 - 10/1/19
Date & Result of Last Temp. Check	
Air temperature:	AM 12.79 PM 27.75
Solution Temperature:	AM 14.58 PM 16.30
Inst. Barometric Press.(mmHg):	AM 766.8 PM 769.4
Pressure Corrected / Source:	AM / PM /

Manufacture/Model:	YSI 6920 MDS
Serial Number:	03D0903AD
CALIBRATION DATE:	9/18/19
Calibration Initials:	
Calibration Time:	0800
Calibration Check Initials:	
Calibration Check Time:	1535

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	12.79	10.70 10.47	10.70	10.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L		NA	0.06	Cal or Ck (circle)
pH	S.U.	7.00	16.45	7.04	7.03	7.06	4.00	15.54	3.95	3.91	3.95	10.00	15.59	10.11	10.11	10.11	NA	NA	NA	NA	NA
ORP*	mV	231.0	12.91	247	24608	247	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.65	NA	1026	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.58	NA	49	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	27.30	8.00	8.50	0.50
DO	mg/L	0	19.14	NA	0.18	0.18
pH	S.U.	7.0	17.74	7.03	7.04	0.01
ORP	mV	231.0	23.08	233.6	206.5	27.1
Sp. EC	µs/cm	1000	16.94	NA	961	39
Sp. EC	µs/cm	0	16.29	NA	13	13

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC			Manufacture/Model:	YSI ProPlus
Field Activity	CTM GWS			Serial Number:	10IE100837
Fieldwork Dates	9/18/19			CALIBRATION DATE:	9/18/19
Date & Result of Last Temp. Check	9/17/19			Calibration Initials:	AKB
Air temperature:	AM 16.1	PM		Time:	0740
Solution Temperature:	AM	PM		Calibration Check Initials:	
Inst. Barometric Press.(mmHg):	AM 766.8	PM		Time:	
Pressure Corrected / Source:	AM /	PM /			

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	16.1	9.9	10.10	+0.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	12.8	NA	021	Cal or Ck (circle)
pH	S.U.	7.00	—	14.2	7.04	7.00	4.00	14.1	—	3.96	4.00	10.00	14.3	—	10.07		NA	NA	NA	NA	NA
ORP*	mV	238	14.3	—	230	238	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	—	NA	919	-81	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.8	NA	51.0	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	10.4	9.9	11.16	+2
DO	mg/L	0	10.6	NA	24	+24
pH	S.U.	7.0	10.7	—	7.01	+.01
ORP	mV	238	12.1	—	240	+2
Sp. EC	µs/cm	1000	10.4	NA	991	-9
Sp. EC	µs/cm	0	10.5	NA	62	+62

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	GWS	Manufacture/Model:	YSI 556
Fieldwork Dates	9/12 - 10/1	Serial Number:	14F100066
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/18/19
Air temperature:	AM	PM	Calibration Initials: ZwB
Solution Temperature:	AM	PM	Time:
Inst. Barometric Press.(mmHg):	AM 766.8	PM	Calibration Check Initials:
Pressure Corrected / Source:	AM /	PM /	Time:

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.18	10.20	10.12	10.20	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	13.44	NA	0.76?	Cal or Ck (circle)
pH	S.U.	7.00	13.51	7.04	7.07	7.04	4.00	13.63	4.00	4.01	4.00	10.00	13.45	10.11	10.11	10.11	NA	NA	NA	NA	NA
ORP*	mV		12.95	238	229.3	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	13.32	NA	1013	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.86	NA	14	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	15.82	10.20	10.19	0.01
DO	mg/L	0	15.62	NA	0.13?	?
pH	S.U.	7.0	15.42	7.00	7.01	0.01
ORP	mV	238	16.02	238	239.2	1.2
Sp. EC	µs/cm	1000	15.77	NA	1008	8
Sp. EC	µs/cm	0	14.44	NA	12	2

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC				
Field Activity	GWS		Manufacture/Model:	YSI 556	
Fieldwork Dates	9/12 - 10/1		Serial Number:	14F100066	
Date & Result of Last Temp. Check			CALIBRATION DATE:	9/19/19	
Air temperature:	AM	PM	Calibration	Initials:	
Solution Temperature:	AM	PM		Time:	
Inst. Barometric Press.(mmHg):	AM 770.6	PM	Calibration Check	Initials:	
Pressure Corrected / Source:	AM /	PM /		Time:	

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	9.23	12.0	11.69	12.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	9.46	NA	0.19	Cal or Ck (circle)
pH	S.U.	7.00	10.30	7.06	7.16	7.06	4.00	10.20	4.00	3.97	4.00	10.00	9.98	10.14	10.01	10.12	NA	NA	NA	NA	NA
ORP*	mV	~~NA~~	9.78	238	244.0	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	9.32	NA	997	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	9.62	NA	9	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	16.44	10.0	10.1	0.1
DO	mg/L	0	16.57	NA	12	3
pH	S.U.	7.0	16.82	7.0	7.03	.03
ORP	mV	238	16.22	238	236.9	1.1
Sp. EC	µs/cm	1000	16.39	NA	1002	2
Sp. EC	µs/cm	0	16.18	NA	0.21	0.02

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails critena

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044		
Field Activity	LnW Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	03D0903AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/19/19
Air temperature:	AM 10.12 PM 18.45	Calibration Initials:	NR
Solution Temperature:	AM 12.6 PM 18.30	Calibration Time:	0755
Inst. Barometric Press.(mmHg):	AM 770.4 PM 767.08	Calibration Check Initials:	NR
Pressure Corrected / Source:	AM / PM /	Calibration Check Time:	1530

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	10.12	11.4	12.56	11.40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	10.34	NA	0.12	Cal or Ok (circle)
pH	S.U.	7.00	12.37	7.06	7.07	7.06	4.00	12.01	4.00	4.01	4.00	10.00	12.07	10.14	10.09	10.15	NA	NA	NA	NA	NA
ORP*	mV	231.0	9.70	251	253.2	251	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	11.44	NA	985	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	12.6	NA	12	Cal or Ok (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	18.30	9.52	9.40	0.12
DO	mg/L	0	18.94	NA	~~2.26~~ 47	~~0.26~~ 47
pH	S.U.	7.0	18.37	7.08	7.02	0.91
ORP	mV	231.0	18.82	239.0	238.7	0.3
Sp. EC	µs/cm	1000	17.47	NA	1007	7
Sp. EC	µs/cm	0	16.94	NA	47	47

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

INSTRUMENT NUMBER

			Manufacture/Model:	YSI 600XL
1-10/1/14			Serial Number:	97E0508AB
			CALIBRATION DATE:	~~9/19/14~~ 9/19/19
55°F	PM	70°F	Calibration Initials:	AG
AM	PM		Time:	720
AM 756.0	PM	753.5	Calibration Check Initials:	AG
AM /	PM	/	Time:	1530

Pr

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.40	10.1	8.43	10.15	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	14.61	NA	0.42	Cal or Ck (circle)
pH	S.U.	7.00	16.04	7.03	7.14	7.03	4.00	16.14	4.00	3.98	4.00	10.00	15.48	10.10	9.91	10.07	NA	NA	NA	NA	NA
ORP*	mV	234	23.08	–	219.1	234.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	16.03	NA	1002	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	16.85	NA	5	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	22.95		8.19	
DO	mg/L	0	24.66	NA	0.47	
pH	S.U.	7.0	25.11	7.00	7.03	
ORP	mV	234	22.48	–	228.3	
Sp. EC	µs/cm	1000	25.04	NA	985	
Sp. EC	µs/cm	0	25.30	NA	4	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC				
Field Activity	LTM GWS		Manufacture/Model:	YSI ProPlus	
Fieldwork Dates	9/19/19		Serial Number:	10E100237	
Date & Result of Last Temp. Check	9/18/19		CALIBRATION DATE:	9/19/19	
Air temperature:	AM 10.4	PM	Calibration	Initials: AKB	
Solution Temperature:	AM	PM		Time: 0740	
Inst. Barometric Press.(mmHg):	AM 770.6	PM	Calibration Check	Initials:	
Pressure Corrected / Source:	AM /	PM /		Time:	

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	8.4	12.0	11.71	11.99	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	9.2	NA	0.11	Cal or Ck (circle)
pH	S.U.	7.00	11.2	—	7.00	6.99	4.00	10.9	—	3.93	4.00	10.00	10.9	—	9.98	9.92	NA	NA	NA	NA	NA
ORP*	mV		9.9	—	2556		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	10.6	NA	991	999	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	11.1	NA	24	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA				
DO	mg/L	0		NA		
pH	S.U.	7.0				
ORP	mV					
Sp. EC	µs/cm	1000		NA		
Sp. EC	µs/cm	0		NA		

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 105532044			Manufacture/Model:	YSI 650 MDS
Field Activity	GW Sampling			Serial Number:	03D0903AD
Fieldwork Dates	9/12/19 - 10/1/19			CALIBRATION DATE:	9/20/19
Date & Result of Last Temp. Check				Calibration Initials:	DR
Air temperature:	AM 11.14	PM 18.15		Time:	0800
Solution Temperature:	AM 13:15	PM 20.0			
Inst. Barometric Press.(mmHg):	AM 767.3	PM 765.8		Calibration Check Initials:	DR
Pressure Corrected / Source:	AM /	PM /		Time:	1315

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	11.14	11.2	11.07	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	18.16	NA	0.14	Cal or CK (circle)
pH	S.U.	7.00	12.95	7.06	7.07	7.06	4.00	13.53	4.00	3.96	4.00	10.00	13.81	10.14	10.10	10.14	NA	NA	NA	NA	NA
ORP*	mV	231.0	10.98	249.2	251.0	249.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	12.56	NA	998	100	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	13.07	NA	33	Cal or CK (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	19.14	9.40	9.37	0.03
DO	mg/L	0	20.03	NA	0.30	0.30
pH	S.U.	7.0	19.03	7.03	7.03	0
ORP	mV	231.0	20.59	237.0	234.0	03.0
Sp. EC	µs/cm	1000	19.14	NA	986	14
Sp. EC	µs/cm	0	19.20	NA	29	29

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC
Field Activity	GWS
Fieldwork Dates	9/12/14 - 10/11/14
Date & Result of Last Temp. Check	
Air temperature:	AM 60's PM 70's
Solution Temperature:	AM PM
Inst. Barometric Press.(mmHg):	AM 766.1 PM 763.7
Pressure Corrected / Source:	AM / PM /
Manufacture/Model:	YSI pro DSS
Serial Number:	14H100703
CALIBRATION DATE:	9/20/14
Calibration Initials:	MZ
Calibration Time:	745
Calibration Check Initials:	AG
Calibration Check Time:	1500

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	11.2	11.0	10.51	11.04	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	11.5	NA	0.17	Cal or Ck (circle)
pH	S.U.	7.00	11.7	7.06	6.46	7.06	4.00	12.2	4.00	4.12	4.00	10.00	12.3	10.16	10.00	10.15	NA	NA	NA	NA	NA
ORP*	mV	238	16.5	—	~~264.3~~	~~264~~	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	11.6	NA	966	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	12.7	NA	36	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	24.3		7.71	
DO	mg/L	0	23.1	NA	0.07	
pH	S.U.	7.0	22.8		7.02	
ORP	mV	238	24.4	—	244.6	
Sp. EC	µs/cm	1000	22.3	NA	993	
Sp. EC	µs/cm	0	22.0	NA	1.9	

ORP:
I: 245.2
C: ~~234.4~~ @ 237.1

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044			Manufacture/Model:	YSI 6650 MDS
Field Activity	GW Sampling			Serial Number:	03D0903AD
Fieldwork Dates	9/12/19 - 10/1/19			CALIBRATION DATE:	9/23/19
Date & Result of Last Temp. Check				Calibration	Initials: NJ
Air temperature:	AM 21.96	PM			Time: 0750
Solution Temperature:	AM 21.70	PM	31.30	Calibration Check	Initials: NJ
Inst. Barometric Press.(mmHg):	AM 758.4	PM	755.4		Time: 1440
Pressure Corrected / Source:	AM /	PM	/		

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	22.01	8.09	8.66	8.09	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	21.7	NA	0.16	Cal or CR (circle)
pH	S.U.	7.00	21.71	7.02	7.10	7.02	4.00	22.09	4.00	4.02	4.00	10.00	22.17	10.04	10.05	10.04	NA	NA	NA	NA	NA
ORP*	mV	231.0	22.12	234.0	221.5	234.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	21.68	NA	988	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	20.87	NA	87	Cal or CR (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	29.85	7.52	7.30	0.22
DO	mg/L	0	30.85	NA	0.21	0.21
pH	S.U.	7.0	29.85	7.00	7.03	0.03
ORP	mV	231.0	31.35	223	209.5	13.5
Sp. EC	µs/cm	1000	30.02	NA	1024	24
Sp. EC	µs/cm	0	29.00	NA	15	15

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	GWS	Manufacture/Model:	YSI 556
Fieldwork Dates	9/12 - 10/1	Serial Number:	14F100066
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/23
Air temperature:	AM	PM	Calibration Initials: ZB
Solution Temperature:	AM	PM	Time: 0735
Inst. Barometric Press.(mmHg):	AM 758.4	PM	Calibration Check Initials: ZB
Pressure Corrected / Source:	AM /	PM /	Time: 1400

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	23.31	8.69	8.41	8.69	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	21.97	NA	0.20	Calbr Ck (circle)
pH	S.U.	7.00	22.20	7.02	7.01	7.02	4.00	22.18	4.00	3.94	4.00	10.00	22.14	10.05	10.00	10.04	NA	NA	NA	NA	NA
ORP*	mV	—	21.94	238	231.3	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	22.17	NA	979	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	22.46	NA	8	Calbr Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	23.67	8.6	8.53	0.07
DO	mg/L	0	23.44	NA	0.23	0.03
pH	S.U.	7.0	23.29	7.01	7.04	0.03
ORP	mV	—	23.87	238	239.6	1.6
Sp. EC	µs/cm	1000	23.51	NA	1004	4
Sp. EC	µs/cm	0	23.96	NA	12	4

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC	Manufacture/Model:	YSI pro DSS
Field Activity	Gw S	Serial Number:	18H100703
Fieldwork Dates	9/12/19 - 10/1/19	CALIBRATION DATE:	9/23/19
Date & Result of Last Temp. Check		Calibration Initials:	AC
Air temperature: AM	60's PM 70's	Calibration Time:	754
Solution Temperature: AM	PM	Calibration Check Initials:	AC
Inst. Barometric Press.(mmHg): AM	757.3 PM 753.4	Calibration Check Time:	1445
Pressure Corrected / Source: AM	/ PM /		

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	21.4	8.7	7.49	8.73	NA	NA	NA	NA	NA	NA	NA	NA	NA 09	NA	0 mg/L	22.2	NA	0.19	Cal or Ck (circle)
pH	S.U.	7.00	21.4	7.01	7.12	7.01	4.00	22.0	4.00	3.94	4.00	10.00	22.0	10.04	10.22	10.02	NA	NA	NA	NA	NA
ORP*	mV	238		—	256.9	235.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	22.0	NA	94	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	22.1	NA	4.3	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	31.4		6.70	
DO	mg/L	0	31.2	NA	0.20	
pH	S.U.	7.0	30.4	6.99	7.04	
ORP	mV	238	231.2	31.2	244.0	
Sp. EC	µs/cm	1000	30.5	NA	1013	
Sp. EC	µs/cm	0	24.9	NA	2.8	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044		
Field Activity	GW Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12/19 - 10/14/19	Serial Number:	03D0803AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/24/19
Air temperature:	AM 20.04 PM 14.98	Calibration Initials:	JJ
Solution Temperature:	AM 21.5 PM 16.15	Time:	0830
Inst. Barometric Press.(mmHg):	AM 754.6 PM 755.0	Calibration Check Initials:	JJ
Pressure Corrected / Source:	AM / PM /	Time:	1630

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	20.04	9.00	7.99	8.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	20.76	NA	0.17	Cal or (Ck) (circle)
pH	S.U.	7.00	20.56	7.02	7.03	7.02	4.00	20.59	4.00	3.94	4.00	10.00	22.39	10.05	10.06	10.05	NA	NA	NA	NA	NA
ORP*	mV	231.0	21.32	236.2	248.8	236.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	20.58	NA	1005	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	20.42	NA	51	Cal or (Ck) (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	15.13	10.0	13.60	3.60
DO	mg/L	0	16.05	NA	0.22	0.22
pH	S.U.	7.0	17.06	7.03	7.03	~~7.030~~
ORP	mV	231.0	16.08	242.6	246.4	3.8
Sp. EC	µs/cm	1000	17.17	NA	980	20
Sp. EC	µs/cm	0	18.79	NA	30	30

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	GWS	Manufacture/Model:	YSI 556
Fieldwork Dates	9/12 - 10/1	Serial Number:	14F100066
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/24/19
Air temperature:	AM	PM	Calibration Initials: FWB
Solution Temperature:	AM	PM	Time: 0730
Inst. Barometric Press.(mmHg):	AM 753.4	PM	Calibration Check Initials: FWB
Pressure Corrected / Source:	AM /	PM /	Time: 1430

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	22.02	8.7	8.72	8.70	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	21.70	NA	0.48	Cal or Ck (circle)
pH	S.U.	7.00	21.72	7.02	7.04	7.02	4.00	21.35	4.02	4.01	4.00	10.00	21.46	10.05	10.05	10.05	NA	NA	NA	NA	NA
ORP*	mV	—	21.90	238	241.8	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000		NA			NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	22.66	NA	9	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	23.94	8.6	8.71	0.11
DO	mg/L	0	22.55	NA	0.41	0.07
pH	S.U.	7.0	23.16	7.01	7.01	0.00
ORP	mV	—	22.63	238	241.1	3.1
Sp. EC	µs/cm	1000	22.81	NA	1007	7
Sp. EC	µs/cm	0	23.04	NA	12	3

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC		
Field Activity	GWS	Manufacture/Model:	YSI Pro DSS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	18H 100703
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/24/19
Air temperature:	AM 60s	PM 80s	Calibration Initials: AL
Solution Temperature:	AM	PM	Time: 740
Inst. Barometric Press.(mmHg):	AM 753.4	PM 757.0	Calibration Check Initials: AL
Pressure Corrected / Source:	AM /	PM /	Time: 1615

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	19.8	9.0	9.05	9.05	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	21.4	NA	0.12	Cal or Ck (circle)
pH	S.U.	7.00	21.5	7.02	7.08	7.02	4.00	21.8	4.00	4.02	4.00	10.00	21.4	10.04	10.05	10.03	NA	NA	NA	NA	NA
ORP*	mV	238	22.6	-	244.1	238.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	21.2	NA	1013		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	20.8	NA	1.4	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	14.91	10.1	9.60	
DO	mg/L	0	14.48	NA	0.25	
pH	S.U.	7.0	19.71	2.04	6.97	
ORP	mV	238	19.48	-	244.6	
Sp. EC	µs/cm	1000	15.21	NA	975	
Sp. EC	µs/cm	0	16.90	NA	5	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC				
Field Activity	GWS		Manufacture/Model:	YSI 556	
Fieldwork Dates	9/12 - 10/1		Serial Number:	14F100066	
Date & Result of Last Temp. Check			CALIBRATION DATE:	9/25/19	
Air temperature:	AM	PM	Calibration	Initials:	FWB
Solution Temperature:	AM	PM		Time:	0730
Inst. Barometric Press.(mmHg):	AM 757.0	PM	Calibration Check	Initials:	ZG
Pressure Corrected / Source:	AM /	PM /		Time:	1445

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	15.44	10.0	10.20	10.00	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	14.85	NA	0.04	Cal or Ck (circle)
pH	S.U.	7.00	16.78	7.04	7.08	7.04	4.00	16.75	4.00	3.98	4.00	10.00	16.28	10.11	10.06	10.11	NA	NA	NA	NA	NA
ORP*	mV	—	15.38	238	229.4	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	15.80	NA	999	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	17.84	NA	8	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	16.19	10.0	10.11	0.11
DO	mg/L	0	16.04	NA	0.13	0.09
pH	S.U.	7.0	16.43	7.04	7.05	0.01
ORP	mV	—	16.92	238	239.4	1.4
Sp. EC	µs/cm	1000	16.44	NA	1003	3
Sp. EC	µs/cm	0	16.93	NA	9	1

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044		
Field Activity	GW Sampling	Manufacture/Model:	YSI 6050 MDS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	03D0703AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/25/19
Air temperature:	AM 15.15 PM 20.60	Calibration Initials:	[illegible]
Solution Temperature:	AM 16.50 PM 21.70	Time:	0800
Inst. Barometric Press.(mmHg):	AM 757.0 PM 757.2	Calibration Check Initials:	[illegible]
Pressure Corrected / Source:	AM / PM /	Time:	1575

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	15.12	~~9.70~~ 10.0	13.03	10.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	16.10	NA	0.24	Cal or Ck (circle)
pH	S.U.	7.00	17.07	7.03	7.03	7.03	4.00	16.92	4.00	3.97	4.00	10.00	16.97	10.10	9.93	10.07	NA	NA	NA	NA	NA
ORP*	mV	231.0	16.07	242.6	246.4	242.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	17.18	NA	983	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	18.87	NA	31	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	20.168	8.95	8.90	0.05
DO	mg/L	0	21.47	NA	0.13	0.13
pH	S.U.	~~7.0~~ 231.0	21.59	7.01	7.09	0.08
ORP	mV	~~21.59~~	21.64	235.5	210.9	24.6
Sp. EC	µs/cm	1000	21.34	NA	980	20
Sp. EC	µs/cm	0	21.70	NA	18	18

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC			Manufacture/Model:	YSI 6000
Field Activity	GWS			Serial Number:	97F0508AB
Fieldwork Dates	9/12/14 - 10/1/14			CALIBRATION DATE:	9/25/14
Date & Result of Last Temp. Check				Calibration Initials:	AZ
Air temperature:	AM 54°F	PM 70°S		Time:	805
Solution Temperature:	AM	PM		Calibration Check Initials:	AZ
Inst. Barometric Press.(mmHg):	AM 757.0	PM 762.9		Time:	1610
Pressure Corrected / Source:	AM /	PM /			

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.41	10.1	9.60	10.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	14.44	NA	0.25	Cal or Ck (circle)
pH	S.U.	7.00	15.71	7.04	6.97	7.04	4.00	15.50	4.00	4.02	4.00	10.00	15.54	10.11	10.08	10.12	NA	NA	NA	NA	NA
ORP*	mV	238	15.94	—	244.6	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	15.21	NA	974	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	16.90	NA	5	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	12.65	10.8	11.16	
DO	mg/L	0	15.09	NA	0.26	
pH	S.U.	7.0	13.60	7.04	7.00	
ORP	mV	238	12.44	221.0		
Sp. EC	µs/cm	1000	13.70	NA	999	
Sp. EC	µs/cm	0	13.69	NA	3	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60552044		
Field Activity	GW Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number:	03D0903AD
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/20/19
Air temperature:	AM 16.56 PM 24.80	Calibration Initials:	DS
Solution Temperature:	AM 16.80 PM 27	Time:	0800
Inst. Barometric Press.(mmHg):	AM 756.0 PM 754.10	Calibration Check Initials:	DS
Pressure Corrected / Source:	AM / PM /	Time:	1415

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	16.56	9.78	9.78	9.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	14.00	NA	0.24	Cal or Ck (circle)
pH	S.U.	7.00	16.96	7.04	6.93	7.04	4.00	16.59	4.00	4.08	4.00	10.00	16.75	10.10	10.23	10.12	NA	NA	NA	NA	NA
ORP*	mV	231.0	15.14	243.7	244.3	243.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	16.24	NA	1003	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	17.05	NA	49	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	24.80	8.16	8.40	0.24
DO	mg/L	0	27.03	NA	0.21	0.21
pH	S.U.	7.0	26.16	7.00	7.15	0.15
ORP	mV	231.0	26.99	227	193.0	34
Sp. EC	µs/cm	1000	26.21	NA	1021	21
Sp. EC	µs/cm	0	25.36	NA	15	15

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC				
Field Activity	GWS		Manufacture/Model:	YSI 556	
Fieldwork Dates	9/12 - 10/1		Serial Number:	14F100066	
Date & Result of Last Temp. Check			CALIBRATION DATE:	9/26/19	
Air temperature:	AM	PM	Calibration	Initials:	FWB
Solution Temperature:	AM	PM		Time:	0730
Inst. Barometric Press.(mmHg):	AM 756.0	PM	Calibration Check	Initials:	FWB
Pressure Corrected / Source:	AM /	PM /		Time:	1430

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.40	10.1	10.28	10.10	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	16.72	NA	9.96	Cal or Ck (circle)
pH	S.U.	7.00	16.51	7.04	7.10	7.04	4.00	16.37	4.00	3.98	4.00	10.00	16.30	10.11	10.60	10.09	NA	NA	NA	NA	NA
ORP*	mV	—	16.02	238.0	254.3	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	16.48	NA	999	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.54	NA	0.006	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	17.09	10.2	10.13	0.07
DO	mg/L	0	16.93	NA	0.17	0.11
pH	S.U.	7.0	17.58	7.04	7.04	0
ORP	mV	[illegible]	17.09	238	239.1	1.1
Sp. EC	µs/cm	1000	17.49	NA	1003	3
Sp. EC	µs/cm	0	17.58	NA	1003	3

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LmL	Manufacture/Model:	YSI 600XL
Field Activity	GW3	Serial Number:	47E0508AB
Fieldwork Dates	9/12/14-10/1/14	CALIBRATION DATE:	9/26/14
Date & Result of Last Temp. Check		Calibration Initials:	DG
Air temperature:	AM / PM	Calibration Time:	810
Solution Temperature:	AM 55°F PM 70°F	Calibration Check Initials:	DG
Inst. Barometric Press.(mmHg):	AM 767.9 PM 756.0	Calibration Check Time:	1615
Pressure Corrected / Source:	AM / PM /		

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	12.65	10.8	11.16	10.73	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	15.09	NA	0.26	Cal or Ck (circle)
pH	S.U.	7.00	13.60	7.04	2.00	7.04	4.00	13.72	4.00	3.43	4.20	10.00	13.45	10.12	10.02	10.11	NA	NA	NA	NA	NA
ORP*	mV	~~1242~~	12.44	—	221.0	238.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	13.20	NA	999	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	13.69	NA	3	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	21.66		8.26	
DO	mg/L	0	22.33	NA	0.32	D
pH	S.U.	7.0	22.41	7.01	6.94	
ORP	mV	1238	18.76	—	244.2	
Sp. EC	µs/cm	1000	20.13	NA	940	
Sp. EC	µs/cm	0	20.33	NA	4	

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC / 60532044			Manufacture/Model:	YSI 6050 MDS
Field Activity	GW Sampling			Serial Number:	03D0903AD
Fieldwork Dates	9/12/19 - 10/1/19			CALIBRATION DATE:	9/30/19
Date & Result of Last Temp. Check				Calibration Initials:	DJ
Air temperature:	AM 12.33	PM 16.30		Time:	0750
Solution Temperature:	AM 15.50	PM 18.42		Calibration Check Initials:	DJ
Inst. Barometric Press.(mmHg):	AM 771.9	PM 770.9		Time:	1400
Pressure Corrected / Source:	AM /	PM /			

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	12.33	10.80	11.71	10.80	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	14.17	NA	0.30	Cal or (Ck) (circle)
pH	S.U.	7.00	15.20	7.05	7.12	7.05	4.00	16.00	3.99	4.10	3.98	10.00	15.83	10.11	10.08	10.11	NA	NA	NA	NA	NA
ORP*	mV	231.0	13.44	246.0	205.8	246.0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	14.98	NA	985	1000	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.40	NA	9	Cal or (Ck) (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	16.30	9.80	9.71	0.09
DO	mg/L	0	17.84	NA	0.23	0.23
pH	S.U.	7.0	15.42	7.03	7.10	0.07
ORP	mV	231	18.47	240	238.6	1.4
Sp. EC	µs/cm	1000	17.05	NA	1070	70
Sp. EC	µs/cm	0	18.20	NA	9	9

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC Wilmington		
Field Activity	GW Sampling	Manufacture/Model:	YSI 650 MDS
Fieldwork Dates	9/12 - 10/2	Serial Number:	03D0604
Date & Result of Last Temp. Check		CALIBRATION DATE:	9/30
Air temperature:	AM 12.0 PM	Calibration	Initials: DP
Solution Temperature:	AM PM		Time: 0720
Inst. Barometric Press.(mmHg):	AM 771.9 PM 781	Calibration Check	Initials: DP
Pressure Corrected / Source:	AM / PM /		Time: 1540

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	12.04	10.8	12.33	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	12.42	NA	0.20	Cal or Ck (circle)
pH	S U	7.00	15.59	7.04	7.14	7.06	4.00	14.95	4.00	3.99	4.00	10.00	14.84	10.11	10.05	10.12	NA	NA	NA	NA	NA
ORP*	mV	231	14.16	242	239.1	242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp EC	µs/cm	1000	15.73	NA	952	1003	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	14.38	NA	17	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	23.38	8.7	8.23	0.47
DO	mg/L	0	20.08	NA	0.35	0.35
pH	S U	7.0	19.82	7.00	6.95	0.05
ORP	mV	231	21.34	~~265~~ 239	265.9	26.9
Sp EC	µs/cm	1000	20.60	NA	1047	47
Sp EC	µs/cm	0	19.72	NA	18	18

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

*– ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp. Adj.	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet
Pen only; line-out errors, initial and date

Water Quality Calibration Log

AECOM

Site Name / TO# / Job#	LMC	Manufacture/Model:	YSI 556
Field Activity	GWS	Serial Number:	14F100066
Fieldwork Dates	9/12 - 10/1	CALIBRATION DATE:	9/30/19
Date & Result of Last Temp. Check		Calibration Initials:	TwB
Air temperature:	AM / PM	Calibration Time:	0730
Solution Temperature:	AM / PM	Calibration Check Initials:	
Inst. Barometric Press.(mmHg):	AM 771.9 PM	Calibration Check Time:	
Pressure Corrected / Source:	AM / PM /		

INSTRUMENT NUMBER

CALIBRATION INFORMATION (*circle results outside of criteria*)

		STANDARD #1					STANDARD #2					STANDARD #3					CHECK				
Parameter	Units	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Initial Reading	Calibrated Reading	Standard Value @25 °C	Solution or Air Temp °C	Standard Temp/Pres Correction	Reading	Status of Check
DO	mg/L	NA	14.74	10.8	11.34	10.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 mg/L	15.39	NA	0.39	Cal or Ck (circle)
pH	S.U.	7.00	13.73	7.04	7.14	7.04	4.00	13.34	4.00	3.91	4.00	10.00	13.39	10.11	9.93	10.08	NA	NA	NA	NA	NA
ORP*	mV	–	11.18	238	226.2	238	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sp. EC	µs/cm	1000	13.70	NA	1001	1001	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0 µs/cm	15.67	NA	8	Cal or Ck (circle)

END OF DAY CALIBRATION CHECK (*circle results outside of criteria*)

Parameter	Units	Standard value @ 25c	Solution/Air Temperature	Standard Correction	Reading	Difference
DO	mg/L	NA	14.93	10.7	10.62	0.08
DO	mg/L	0	15.01	NA	0.31	0.08
pH	S.U.	7.0	14.82	7.04	7.03	0.01
ORP	mV	–	12.86	238	238.6	0.6
Sp. EC	µs/cm	1000	13.99	NA	1003	2
Sp. EC	µs/cm	0	15.26	NA	9	1

CALIBRATION REQUIREMENTS

Parameter	Units	Standard	Reqmnt.	Action
DO	mg/L	O_2 Solubility	± 0.2	Change DO membrane
DO	mg/L	0.0	≤ 0.50 but ≥ 0	Change DO membrane
pH	S.U.	7/4/10 Temp. Adj.	± 0.05	Recalibrate
ORP	mV	Specified standard	± 10.0	Calibrate*
sp. Cond.	us/cm	Specified standard	± 5%	Recalibrate

* – ORP is checked ("RUN" mode) instead of calibrated. Only calibrated ("CALIBRATE" mode) when check fails criteria

END OF DAY CHECK REQUIREMENTS

Parameter	Units	Standard	Reqmnt.
DO	mg/L	100 % Saturation	± 0.5 mg/L
DO	mg/L	0.0	≤ 0.50 mg/L but ≥ 0
pH	S.U.	7.0 Temp Adj	± 0.3
ORP	mV	Specified standard	± 10.0
sp. Cond.	us/cm	Specified standard	± 5%

Record information for one instrument per sheet

Pen only; line-out errors, initial and date

Turbidity Meter Calibration Log

AECOM

Site Name	LMC	Manufacturer	GeoTech
Field Activity	GW SAMPLING	Model Number:	PTM
Fieldwork Dates	9/12 - 10/1	Serial Number	18043532

Instrument Number

Date	Time	Initials	Temp (°C)	Standard #1		Standard #2		Standard #3		Comments	
				Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)		
9/12/19	1015	FwB	NA	20.0	19.9	<0.10	0.09	100.0	98.6	800	791
9/12/19	1600	FwB	NA	<0.10	0.02	20.0	20.2	100.0	99.4	800	806
9/13/19	0810	FwB	NA	<0.10	0.03	20.0	20.4	100.0	99.9	800	803
9/13/19	1630	FwB	NA	<0.10	0.06	20.0	20.7	100.0	100.6	800	809
9/16/19	0835	FwB	NA	<0.10	0.03	20.0	20.1	100.0	101	800	802
9/16/19	1620	FwB	NA	<0.10	0.02	20.0	20.4	100.0	103.2	800	806
9/17/19	0820	FwB	NA	<0.10	0.02	20.0	20.3	100.0	99.5	800	803
9/17/19	1315	FwB	NA	<0.10	0.02	20.0	20.9	100.0	99.8	800	802
9/18/19	0800	FwB	NA	<0.10	0.02	20.0	19.9	100	100	800	800
9/18/19	1520	FwB	NA	<0.10	0.02	20.0	19.8	100	100	800	801
9/19/19	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/19/19	1430	FwB	NA	<0.10	0.02	20.0	20.3	100	100	800	802
9/20/19	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/20/19	1400	FwB	NA	<0.10	0.02	20.0	20.3	100	100	800	804
9/23/19	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/23/19	1430	FwB	NA	<0.10	0.02	20.0	19.8	100	100	800	801
9/24/19	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/24/19	1430	FwB	NA	<0.10	0.02	20.0	20.2	100	100	800	798
Acceptance Criteria				± 0.10 NTU		± 0.50 NTU		± 5.0 NTU			

- Record information for one instrument per sheet
- One sheet can be used on multiple days on the same site
- Use pen only; cross out errors with a single line

Turbidity Meter Calibration Log

AECOM

Site Name	LMC / 60552044	Manufacturer	Geotech
Field Activity	G.W. Sampling	Model Number:	Turbidimeter
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number	17111534

Instrument Number

Date	Time	Initials	Temp (°C)	Standard #1 Value (NTU)	Standard #1 Reading (NTU)	Standard #2 Value (NTU)	Standard #2 Reading (NTU)	Standard #3 Value (NTU)	Standard #3 Reading (NTU)	Comments	
9/13/19	0810	DF	13.86	<0.1	0.07	20	20.4	100	102	500	814
9/13/19	1525	DF	17.90	<0.1	0.02	20	19.8	100	98.4	500	796
9/16/19	0800	DF	14.71	<0.1	0.02	20	23.4	100	108	800	834
9/16/19	1815	DF	15.20	<0.1	0.05	20	21.0	100	101	800	811
9/17/19	0525	DF	14.45	<0.1	0.05	20	20.4	100	101	500	875
9/17/19	1510	DF	21.10	<0.1	0.02	20	19.1	100	98.0	500	786.0
9/18/19	0810	DF	14.60	0.02	0.02	20	19.9	100	99.9	500	757
9/18/19	~~0835~~ 1540	DF	27.30	0.02	0.02	20	20.0	100	100	800	801
9/19/19	0500	DF	9.80	0.02	0.02	20	21.0	100	108	800	692
9/19/19	1535	DF	18.45	0.02	0.04	20	19.7	100	98.0	800	786
9/20/19	0810	DF	11.14	0.02	0.02	20	21.1	100	107	800	684
9/20/19	1315	DF	18.78	0.02	0.02	20	19.5	100	98.2	800	787
9/23/19	0800	DF	21.90	0.02	0.02	20	18.7	100	98.4	800	778
9/23/19	1445	DF	30.10	0.02	0.02	20	18.8	100	91.1	800	938
9/24/19	0835	DF	20.06	0.02	0.02	20	20.5	100	93.6	800	955
9/24/19	1620	DF	18.08	0.02	0.23	20	19.7	100	98.0	800	824
9/25/19	0810	DF	11.99	0.02	0.24	20	19.0	100	102	800	798
9/25/19	1520	DF	20.70	0.02	0.02	20	19.4	100	100	800	814
Acceptance Criteria				**± 0.10 NTU**		**± 0.50 NTU**		**± 5.0 NTU**			

- Record information for one instrument per sheet
- One sheet can be used on multiple days on the same site
- Use pen only; cross out errors with a single line

Turbidity Meter Calibration Log

AECOM

Site Name	LMC	Manufacturer	GeoTech
Field Activity	GWS	Model Number:	PTM
Fieldwork Dates	9/12 - 10/1	Serial Number	10843532

Instrument Number

Date	Time	Initials	Temp (°C)	Standard #1		Standard #2		Standard #3		Comments	
				Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)		
9/25	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/25	1430	FwB	NA	<0.10	0.02	20.0	19.4	100	99.6	800	797
9/26	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/26	1430	FwB	NA	<0.10	0.02	20.0	20.9	100	100	800	804
9/30	0800	FwB	NA	<0.10	0.02	20.0	20.0	100	100	800	800
9/30	1200	FwB	NA	<0.10	0.02	20.0	22.0	100	102	800	801

Acceptance Criteria ± 0.10 NTU ± 0.50 NTU ± 5.0 NTU

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line**

Turbidity Meter Calibration Log

AECOM

Site Name	LMC / 60552044	Manufacturer	Geotech
Field Activity	GW Sampling	Model Number:	Turbidimeter
Fieldwork Dates	9/12/19 - 10/1/19	Serial Number	17111534

Instrument Number

Date	Time	Initials	Temp (°C)	Standard #1		Standard #2		Standard #3		Comments	
				Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)		
9/26/19	0815	KJJ	16.60	0.02	0.02	20	20	100	102	~~800~~	806
9/26/19	1440	KJJ	24.6	0.02	1.37	20	16.6	100	90.8	800	766
9/30/19	0800	KJJ	12.40	0.02	0.15	20	20.9	100	108	800	699
9/30/19	1405	KJJ	16.30	0.02	0.10	20	19.8	100	103	500	786

Acceptance Criteria ± 0.10 NTU ± 0.50 NTU ± 5.0 NTU

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line**

Turbidity Meter Calibration Log

AECOM

Site Name	CMC Wilmington	Manufacturer	Geotech
Field Activity	GW Sampling	Model Number:	~~15061844~~
Fieldwork Dates	9/12 - 10/2	Serial Number	18061844

Instrument Number

Date	Time	Initials	Temp (°C)	Standard #1		Standard #2		Standard #3		Comments
				Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)	Value (NTU)	Reading (NTU)	
9/30	0900	DP	—	0.02	0.02	20.0	20.0	100	100	800 = 800
9/30	1540	DP	—	0.02	0.02	20.0	19.6	100	97.7	800 = 797

Acceptance Criteria	± 0.10 NTU	± 0.50 NTU	± 5.0 NTU

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line**

PID Calibration Log

AECOM

Site Name:	Wilmington LMC	Manufacturer:	Honeywell
Job Number:		Model Number:	592-904395
Field Activity:	Gauging	Serial Number:	MiniRae 3000
Fieldwork Dates:	10/2/19	Lamp (eV):	10.7
Calibration Gas:	100	Zero Gas:	0
Manufacturer:	Gasco	Manufacturer:	/
Lot Number:	EBJ-248-100-6	Lot Number:	/

Instrument Number

Date	Time	Initials	Calibration or Check	Zero Reading (ppmv)	Calibration (Span) Gas		Comments
					Conc. (ppmv)	Reading (ppmv)	
10/2/19	0810	AKB	cal	0.0	100	98.4	
Acceptance Criteria:				± 0.50 ppmv		± 10%	

- Record information for one instrument per sheet
- One sheet can be used on multiple days on the same site
- Use pen only; cross out errors with a single line, date and initial

PID Calibration Log

AECOM

Site Name:		Manufacturer:	MINI RAE
Job Number:		Model Number:	3000
Field Activity:		Serial Number:	592-000715
Fieldwork Dates:		Lamp (eV):	10.6

Instrument Number

Calibration Gas:	IB	Zero Gas:	AIR
Manufacturer:	GASCO	Manufacturer:	—
Lot Number:	EBJ-248-100-6	Lot Number:	—

Date	Time	Initials	Calibration or Check	Zero Reading (ppmv)	Calibration (Span) Gas		Comments
					Conc. (ppmv)	Reading (ppmv)	
10/2/19	8:00	BJM					

Acceptance Criteria: ± 0.50 ppmv ± 10%

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line, date and initial**

PID Calibration Log

AECOM

Site Name:		Manufacturer:	MINIRAE
Job Number:		Model Number:	3000
Field Activity:		Serial Number:	592-000701
Fieldwork Dates:		Lamp (eV):	10.6

Instrument Number

Calibration Gas:	IB	Zero Gas:	~~IB~~ air
Manufacturer:	GASCO	Manufacturer:	
Lot Number:	FB1-248-100-12	Lot Number:	

Date	Time	Initials	Calibration or Check	Zero Reading (ppmv)	Calibration (Span) Gas		Comments
					Conc. (ppmv)	Reading (ppmv)	
10/2/14	8:00	BJM	CAL	0.0	100	99.9	

Acceptance Criteria: ± 0.50 ppmv ± 10%

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line, date and initial**

PID Calibration Log

AECOM

Site Name:	Wilmington LMC	Manufacturer:	Rae Systems
Job Number:		Model Number:	Mini Rae 3000
Field Activity:	Gauging	Serial Number:	592-908307
Fieldwork Dates:	10/2/19	Lamp (eV):	10.7
Calibration Gas:	iso	Zero Gas:	fresh air
Manufacturer:	Gasco	Manufacturer:	/
Lot Number:	EBJ-248-100-6	Lot Number:	/

Instrument Number

Date	Time	Initials	Calibration or Check	Zero Reading (ppmv)	Calibration (Span) Gas		Comments
					Conc. (ppmv)	Reading (ppmv)	
10/2/19	0815	AKB	cal	0.0	100	99.4	

Acceptance Criteria: ± 0.50 ppmv ± 10%

- **Record information for one instrument per sheet**
- **One sheet can be used on multiple days on the same site**
- **Use pen only; cross out errors with a single line, date and initial**

AECOM

Well ID: **AE-3**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/12/14 Time: Start 1300 am/pm
Project No: 60552044 Finish 1445 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: cool, overcast Collector(s): ADM

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 13' c. Screen Length 10 (3' - 13') 2" PVC Casing
b. Water Table Depth 6.13 d. Pump Intake 8'
c. Water Column (a-b) e. Calculated System Purge Volume 1.15 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600XL	97E0508AB
	Horiba	Turbidimeter	8021636

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1318	0	21.35	6.46	1101	0.63	-70.6	6.15	177	0.00	Clear / Slight Solvent
1323	0.84	21.56	6.42	1069	0.55	-70.3	3.68	174	"	"
1328	2.09	21.61	6.40	1053	0.56	-70.7	1.48	"	"	"
1333	1.08	21.68	6.36	1038	0.57	-72.0	3.10	175	"	"
1338	1.46	21.83	6.37	1024	0.60	-72.3	2.63	"	"	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.
No min vol required

(continued on back)

3. SAMPLE COLLECTION: Method: grab

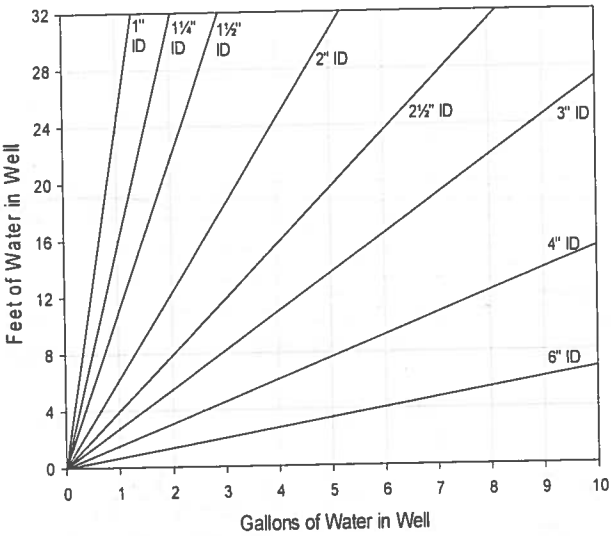
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~LBA~~ AE3-04/12/14-1	40mL VOA	3	HCl	VOCs 8260C	1350
	40mL V	~~3~~ 20	HCl	VPH	
	1L A	2	HCl	EPH	
~~LBA-AE3-04/12-2~~	500mL P	1	HNO3	Total (Fe, Mn, As)	
LBA-AE3-04/12-2	500mL P	1	HNO3	Diss. (Fe, Mn, As) FF	1355

Comments

Signature [signature] Date 4/12/14

AECOM

Well ID: AE-3



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[11 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.382 L ; 0.382 L x 3 well vol. = 1.15 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-4**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/12/19 Time: Start 1302 am/pm
Project No: 60552044 Finish 1430 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Clouds/Lt Rain Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 13' c. Screen Length 10 (3' - 13') 2" PVC Casing
b. Water Table Depth 5.58 d. Pump Intake 8'
c. Water Column (a-b) 7.42 e. Calculated System Purge Volume 1.15 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used: Make YSI Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1315	0	22.25	6.08	865	5.07	89.5	136	150	0.27	Lt Silt
1320	0.75	22.33	5.92	874	0.61	75.0	114	150	0.29	" "
1325	1.5	22.14	5.93	885	0.56	61.9	84.4	150	0.30	" "
1330	2.25	22.11	6.07	1005	0.65	27.3	79.3	150	0.30	" "
1335	3.0	22.01	6.19	1199	0.46	-38.5	80.4	150	0.30	" "
1340	3.75	22.13	6.19	1219	0.45	-41.3	78.2	150	0.30	" "
1345	4.50	22.08	6.21	1226	0.46	-46.9	79.3	150		" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

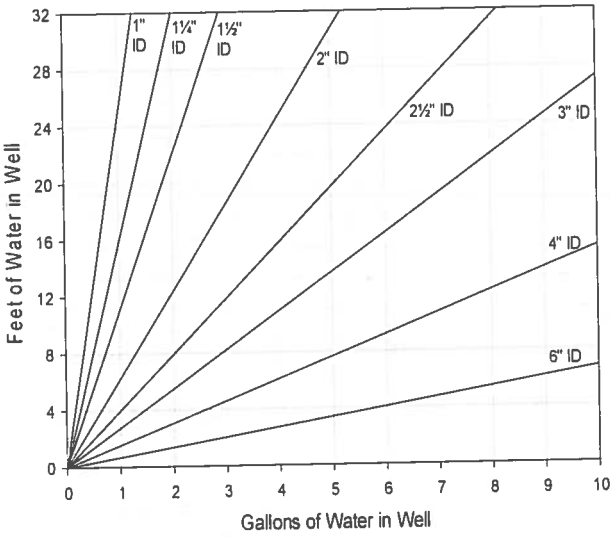
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A-AE4-091219-1	40mL VOA	3	HCL	VOCs 8260C	1350
	1L A	1	HCL	EPH	
	40mL V	3	HCL	VPH	
19A-AE04-091219-2	DUP				

Comments

Signature Floyd Burton Date 9/12/19

AECOM

Well ID: AE-4



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[11 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.382 L ; 0.382 L x 3 well vol. = 1.15 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-100R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 0730 am/pm
Project No: 60552044 Finish 1450 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 80s Collector(s): D. Potts

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 114' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.91 e. Purge Pressure 55 psi f. Sample Pressure 38 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @0737	Before 2nd Purge DTW @0851	Before 3rd Purge DTW @0945	
1	18-24	98	4.03	3.07	0.224	7.08	7.23	7.25	1040 7.25
2	43-48	99	4.10	3.07	0.239	not sampled			
3	50-56	100	4.14	3.07	0.242	7.08	7.29	7.29	7.32
4	63-68	101	4.18	3.07	0.244	7.15	7.31	7.33	7.33
5	88-93	102	4.23	3.07	0.246	6.29	7.35	7.35	7.36
6	108.5-113.5	103	4.37	3.07	0.248	7.22	7.32	7.32	7.31

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	~~ProPlus~~ 556	~~16E100237~~ 14F100066
GeoTech		18043532

b. 1st Purge Time/Duration 0750-0756 / 6 mins c. 2nd Purge Time/Duration 0855-0900 / 5 min
d. 3rd Purge Time/Duration 0954-1000 / 6 min e. 4th Purge Time/Duration 1043-1049 / 6 min

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1148	5min	7.47	15.34	2283	0.79	-52.5	0.02	NM	clear/none
2	—	—	—	—	—	—	—	—	—	—
3	1152	5min	7.27	15.47	2138	0.47	16.5	0.02	NM	clear/none
4	1156	5min	7.16	15.32	1841	1.25	37.5	0.02	NM	clear/none
5	1143	5min	7.92	15.42	1355	0.85	30.0	0.02	NM	clear/none
6	1201		7.64	15.23	718	0.35	-58.9	0.02	NM	clear/none

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
~~19~~ 18A-AE100R1-092319-1	VOCs, VPH, EPH	1235
~~19~~ 18A-AE100R3-092319-1	VOCs, 1,4-dioxane	1240
~~19~~ 18A-AE100R4-092319-1	VOCs, 1,4-dioxane	1245
~~19~~ 18A-AE100R5-092319-1	VOCs, Total (As, Fe, Mn), Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S,	1230
	Diss. H, Gases (Acety., Prop., Meth., Ethe., Etha.)	
~~19~~ 18A-AE100R6-092319-1	VOCs, 1,4-dioxane	1250

Notes:

Hydrogen purge time and rate = 30 min @ 120 mL/min 1410-1440 -bubbles in inlet line

Signature [signature] Date 9/23/19

AECOM

Well ID: **AE-101D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 0950 am/pm
Project No: 60552044 Finish 1025 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 25.5' c. Screen Length 5 (20' - 25') 2" PVC Casing
b. Water Table Depth 3.48 d. Pump Intake 22.5'
c. Water Column (a-b) 22.02 e. Calculated System Purge Volume 1.55 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PIM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0955	0	17.79	6.34	1439	1.52	19.2	3.8	100	0	clear
1000	0.5	16.74	5.95	1501	1.37	15.2	1.2	100	0	
1005	1.0	16.61	5.95	1498	1.27	13.8	1.2	100	0	
1010	1.5	16.60	5.95	1499	1.25		1.2	100	0	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

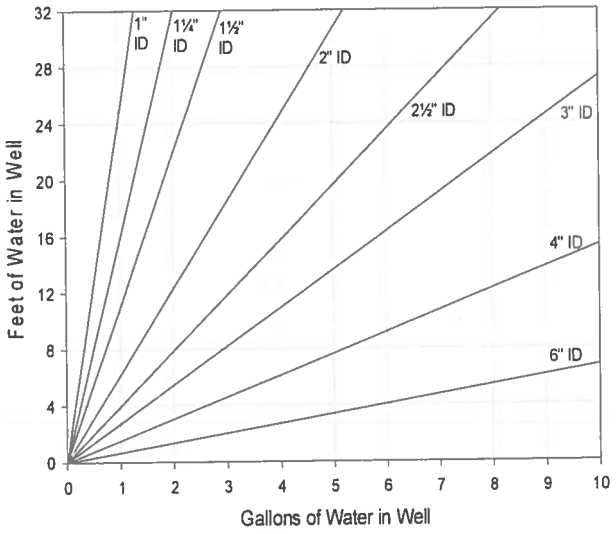
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE101D-093019-1	40mL VOA	3	HCL	VOCs 8260C	1015
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments

Signature R Burton III Date 9/30/19

AECOM

Well ID: AE-101D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[25 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.5175; 0.5175 L x 3 well vol. = 1.55 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

Hydrogen Bubble Strip Sampling:

AECOM

Well ID: **AE-101R1**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 0845 am/pm
Project No: 60552044 Finish 0935 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Bolton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 35.5' c. Screen Length 5 (30.5' - 35.5') 0.5" CMT Channel
b. Water Table Depth 3.49 d. Pump Intake 33'
c. Water Column (a-b) 32.01 e. Calculated System Purge Volume L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0855	0	16.91	6.65	1876	1.80	-38.2	1.4	100	NM	Clear
0900	0.5	16.07	5.65	2344	1.60	68.3	0	100		
0905	1.0	15.94	5.59	2343	1.60	85.4	0	100		
0910	1.5	15.90	5.60	2349	1.00	95.4	0	100		
0915	2.0	15.70	5.60	2348	0.98	103.1	0	100		
0920	2.5	15.68	5.59	2348	0.97	105.2	6	100		

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

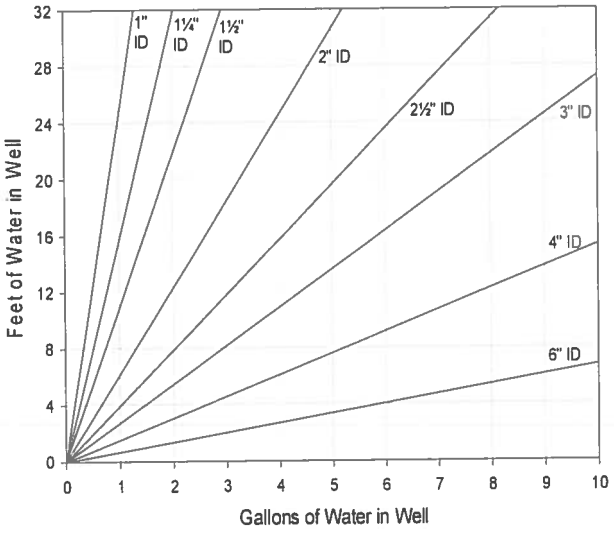
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
14A-AE101R1-092419-1	40mL VOA	3	HCL	VOCs 8260C	0925
14A-AE101R1-092419-2	40 mL VOA	3	HCl	VOCs 8260C	0930

Comments

Signature Floyd Bolton III Date 9/25/19

AECOM

Well ID: AE-101R1



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[36 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-101R2**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 0935 am/pm
Project No: 60552044 Finish 1015 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 60' c. Screen Length 5 (55' - 60') 0.5" CMT Channel
b. Water Table Depth 3.28 d. Pump Intake 57.5'
c. Water Column (a-b) 56.72 e. Calculated System Purge Volume L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0945	0	17.29	6.56	800	3.70	-45.0	4.3	100	NM	Clear
0950	0.5	15.34	6.79	1531	0.72	-100.2	0.7	100		
0955	1.0	15.03	6.86	1516	0.61	-101.2	0.4	100		
1000	1.5	15.15	6.90	1510	0.59	-101.2	0.4	100	↓	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

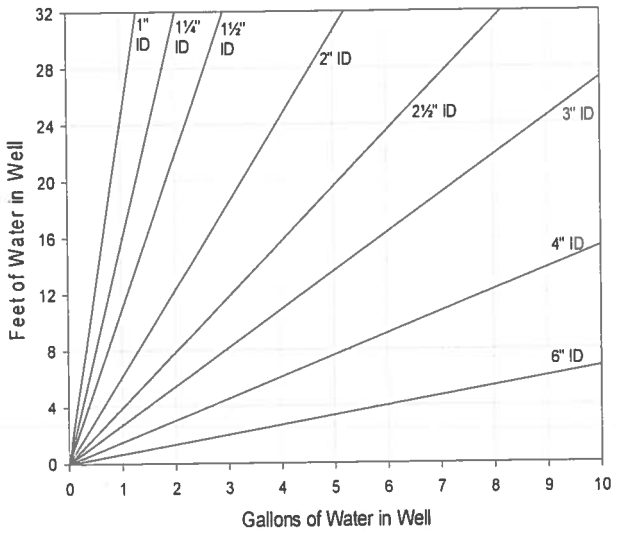
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE101R2-092519-1	40mL VOA	3	HCL	VOCs 8260C	1005
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments

Signature F. Burton Date 9/25/19

AECOM

Well ID: AE-101R2



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[60 ft (channel length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-101R3**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 1020 am/pm
Project No: 60552044 Finish 1110 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 85' c. Screen Length 5 (80' - 85') 0.5" CMT Channel
b. Water Table Depth 3.26 d. Pump Intake 82.5'
c. Water Column (a-b) 81.74 e. Calculated System Purge Volume L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1025	0	17.46	7.00	656	5.42	-22.3	20.7	100	NM	Clear
1030	0.5	15.77	6.62	2115	0.79	-79.9	6.6	100	↓	↓
1035	1.0	15.63	6.88	2226	0.53	-90.5	2.7	100		
1040	1.5	15.24	6.89	2254	0.38	-91.7	2.2	100		
1045	2.0	15.19	6.89	2254	0.33	-91.6	2.0	100		
1050	2.5	15.20	6.89	2256	0.35	-91.5	2.0	100		

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

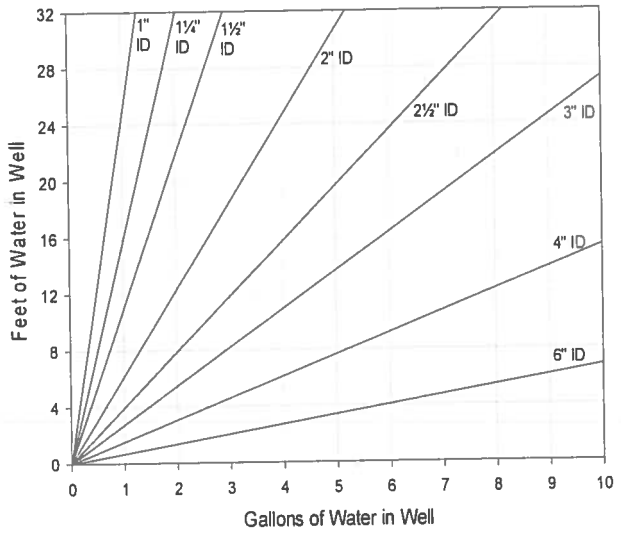
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~BA~~ ~~18A~~-AE101R3-092519-1	40mL VOA	3	HCL	VOCs 8260C	1055
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments MS/MSD

Signature [signature] Date 9/25/19

AECOM

Well ID: AE-101R3



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[85 ft (channel length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-101R5**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 1325 am/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 180' c. Screen Length 5 (175' - 180') 0.5" CMT Channel
b. Water Table Depth 3.30 d. Pump Intake 177.5'
c. Water Column (a-b) 176.70 e. Calculated System Purge Volume ____ L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1405	0	22.41	7.67	575	9.15	-31.1	0	100	NM	Clear
1410	0.5	16.70	6.62	525	1.34	-56.7	0	100		
1415	1.0	16.58	7.05	513	0.86	-90.9	0	100		
1420	1.5	16.62	7.10	512	0.81	-91.5	0	100		
1425	2.0	16.56	7.08	504	0.71	-93.7	0	100		
1430	2.5	16.75	7.17	503	0.69	-94.1	0	100		
1435	3.0	16.70	7.23	503	0.67	-95.0	0	100		

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

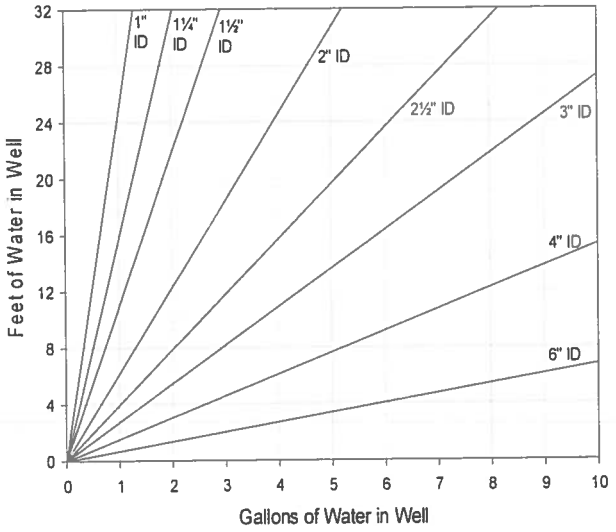
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~19A~~ ~~18A~~-AE101R5-092519-1	40mL VOA	3	HCL	VOCs 8260C	1440
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments _____

Signature _____ Date 9/25/19

AECOM

Well ID: AE-101R5



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[180 ft (channel length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-101R6**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 0850 am/pm
Project No: 60552044 Finish 0945 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 50's Sunny Collector(s): Floyd Buston

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 232' c. Screen Length 5 (227' - 232') 0.5" CMT Channel
b. Water Table Depth 3.30 d. Pump Intake 229.5'
c. Water Column (a-b) 228.7 e. Calculated System Purge Volume L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0910	0	16.47	7.91	700	11.75	176.0	0	100	NM	clear
0915	0.5	15.63	6.18	626	3.86	-47.4	0	100		
0920	1.0	15.58	6.24	657	3.62	-53.8	0	100		
0925	1.5	15.57	6.41	695	3.74	-63.2	0	100		
0930	2.0	15.53	6.46	704	3.58	-65.6	0	100		
0935	2.5	15.69	6.48	706	3.43	-65.9	0	100		

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

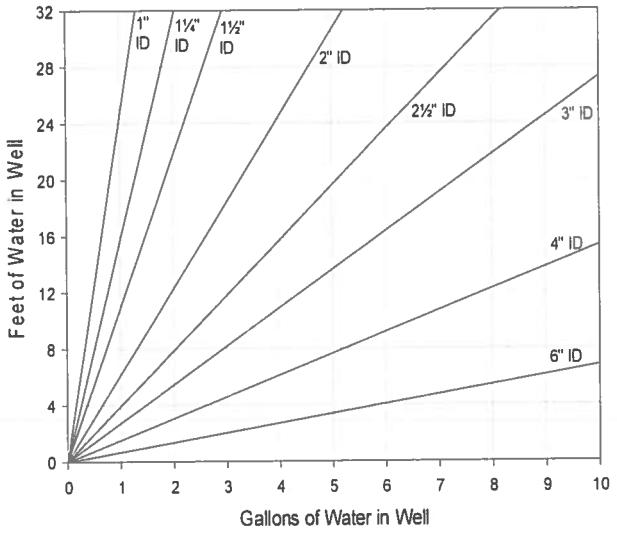
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19[1] 18A-AE101R6-093019-1	40mL VOA	3	HCL	VOCs 8260C	0940
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments

Signature Floyd Buston Date 9/30/19

AECOM

Well ID: AE-101R6



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[232 ft (channel length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-101S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 1030 am/pm
Project No: 60552044 Finish 1105 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 17' c. Screen Length 5 (10' - 15') 2" PVC Casing
b. Water Table Depth 3.44 d. Pump Intake 12.5'
c. Water Column (a-b) 13.56 e. Calculated System Purge Volume 1.26 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1035	0	18.82	6.08	1144	1.96	43.3	6.2	100	0	Clear
1040	0.5	17.51	6.03	1142	0.27	26.1	4.3	100	0	
1045	1.0	17.56	6.03	1144	0.30	25.6	4.1	100	0	
1050	1.5	17.62	6.02	1144	0.32	25.3	3.4	100	0	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

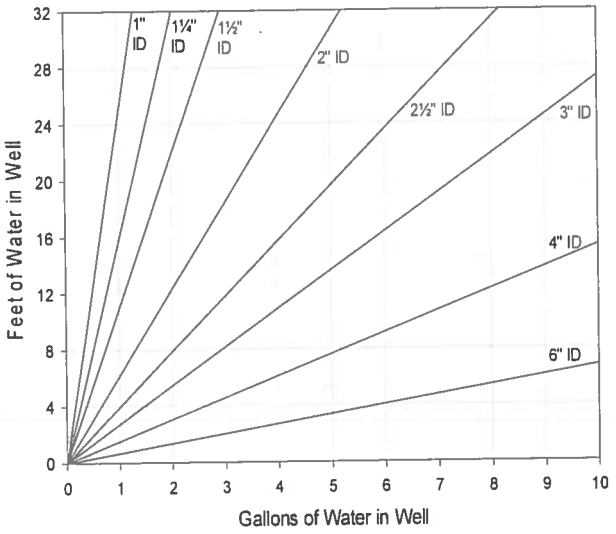
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19 18A-AE101S-093019 -1	40mL VOA	3	HCL	VOCs 8260C	1055
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments

Signature [signature] Date 9/30/19

AECOM

Well ID: AE-101S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[15 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.4205; 0.4205 L x 3 well vol. = 1.26 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-102D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 1018 am/pm
Project No: 60552044 Finish 1100 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 102°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 38.5' c. Screen Length 5 (33' - 38') 2" PVC Casing
b. Water Table Depth 3.72 d. Pump Intake 35.5'
c. Water Column (a-b) 34.78 e. Calculated System Purge Volume 1.93 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Geotech	Turbidimeter	171111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1018	0.8	14.00	6.56	1134	1.90	34.9	20.3	175	0.92	clear/none
1023	1.6	18.03	6.59	970	0.57	52.8	20.1	175	1.17	
1028	2.5	18.04	6.59	972	0.44	59.2	17.4	190	1.21	
1033	3.5	18.14	6.74	1843	0.32	-93.9	13.1	190	1.21	
1038	4.5	17.66	6.89	~~1980~~ 1986	0.30	-109.4	9.17	200	1.27	
1043	5.5	17.60	6.90	2024	0.26	-113.2	7.31	200	1.27	
1048	6.5	17.18	6.91	2040	0.29	-116.0	6.21	200	1.26	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

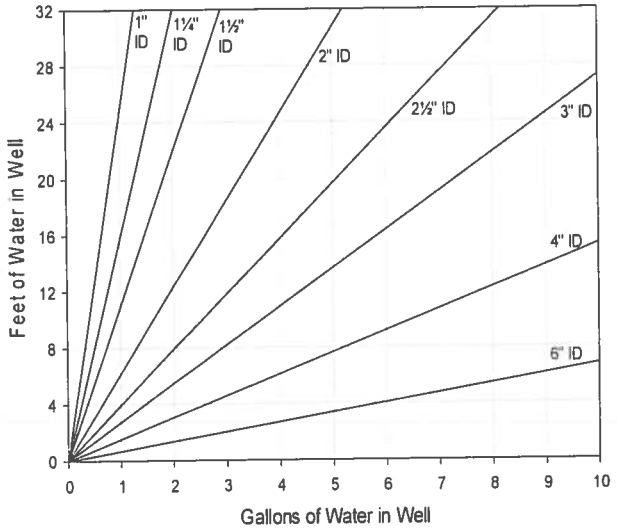
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-AE102D-092519-1	40mL VOA	3	HCL	VOCs 8260C	1055
	250 mL Amber	2	NaHSO4	1,4-dioxane	

Comments

Signature Date 9/25/19

AECOM

Well ID: AE-102D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[38 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.6436; 0.6436 L x 3 well vol. = 1.93 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

Hydrogen Bubble Strip Sampling:

Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **AE-102M**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 0847 am/pm
Project No: 60552044 Finish 1000 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 62°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 30' c. Screen Length 5 (23' - 28') 2" PVC Casing
b. Water Table Depth 4.33 d. Pump Intake 25.5'
c. Water Column (a-b) 25.67 e. Calculated System Purge Volume 1.64 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0847	1.4	17.45	6.29	2180	3.90	70.3	2.07	280	0.04	clear/none
0852	2.8	16.54	6.18	2157	0.08	42.9	0.62	280	0.04	
0857	4.2	16.36	6.17	2200	0.52	42.2	0.02	280	0.04	
0902	5.6	16.17	6.17	2199	0.44	42.4	0.02	280	0.04	
0907	7	16.04	6.16	2126	0.38	42.2	0.02	280	0.04	
0912	8.4	16.00	6.17	2093	0.37	41.2	0.02	280	0.04	
0917	9.8	16.21	6.17	2069	0.36	41.4	0.02	280	0.04	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

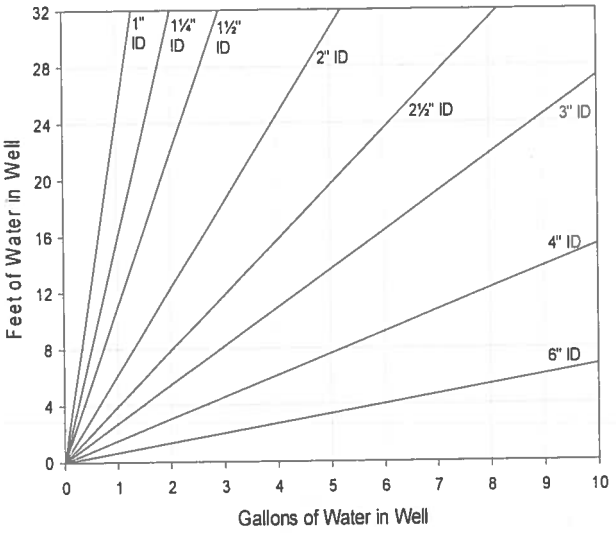
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-AE102M-092519-1	40mL VOA	3	HCL	VOCs 8260C	0920
18A-AE102M-092519-2	500 mL P	2	HNO3	Total & Diss. As, Fe, Mn	0925
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	2	H3PO4	TOC	
	vial	1	none	Diss. Hydrogen	
	250 mL Amber	2	NaHSO4	1,4-dioxane	
	40mL V	3	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	

Comments dissolved hydrogen: start 0948 end 0958 rate: 310 mL/min sample time: 0958

Signature [signature] Date 9/25/19

AECOM

Well ID: AE-102M



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[28 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.5466; 0.5466 L x 3 well vol. = 1.64 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

Hydrogen Bubble Strip Sampling:

Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **AE-102RR**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/24/19 Time: Start 0940 (am/pm)
Project No: 60552044 Finish 1405 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 68°F, slight breeze Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 167' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.44 e. Purge Pressure 55 psi f. Sample Pressure 39 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @0940	Before 2nd Purge DTW @1020	Before 3rd Purge DTW @1043	4th purge DTW @1102
1	43-48	99.4	4.23	3.26	0.234	—	—	—	
2	75-80	100.4	4.30	3.26	0.250	3.90	4.18	7.06	8.08
3	111-116	101.4	4.34	3.26	0.252	—	—	—	
4	125-130	102.4	4.39	3.26	0.254	3.94	3.97	4.17	4.02
5	141-146	103.4	4.43	3.26	0.257	3.92	3.98	4.23	4.57
6	153-158	104.4	4.47	3.26	0.259	3.87	3.98	4.01	4.17

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Geotech	Turbidimeter	17111534

b. 1st Purge Time/Duration 0947 - 0954 / 7 min c. 2nd Purge Time/Duration 1022 - 1028 / 6 min
d. 3rd Purge Time/Duration 1045 - 1051 / 6 min e. 4th Purge Time/Duration 1104 - 1110 / 6 min

	Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
	1	not sampled									
10	2	1130	10	7.78	14.48	722	0.51	-154.1	0.02	NM	clear/none
	3	not sampled									
4R	4	~~1135~~ 1140	10	7.60	14.29	330	0.57	-73.3	0.02	NM	clear/none
	5	1135	10	7.76	14.45	418	0.40	-94.5	0.02	NM	clear/none
2	6	1145	10	7.45	14.52	384	0.38	-78.5	0.02	NM	clear/none

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A ~~18A~~-AE102RR2-092419-1	VOCs, 1,4-dioxane	1355
19A ~~18A~~-AE102RR4-092419-1	VOCs, 1,4-dioxane	1330
19A ~~18A~~-AE102RR5-092419-1	VOCs	1400
19A ~~18A~~-AE102RR6-092419-1	VOCs, Total (As, Fe, Mn), Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC, Diss. H, Gases (Acety., Prop., Meth., Ethe., Etha.), 1,4-dioxane, VPH, EPH	1320

Notes: R4 MS/MSD, ports 2 & 10 switched in field measurements

Hydrogen purge time and rate = start: ~~1421~~ 1458 end: ~~1431~~ 1523 rate: ~~345~~ 135 mL/min sample time: ~~1435~~ ~~1525~~ 1523 R2

Signature _____ Date 9/24/19

AECOM

Well ID: **AE-103D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1120 am/pm
Project No: 60552044 Finish 1230 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 40.5' c. Screen Length 5 (35' - 40') 2" PVC Casing
b. Water Table Depth 3.35 d. Pump Intake 37.5'
c. Water Column (a-b) 37.15 e. Calculated System Purge Volume 1.99 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used: Make YSI Model Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1130	0	20.15	6.25	2800	5.17	84.2	3.9	200	0.08	clear
1135	1	15.74	5.49	2807	0.53	128.0	0	200	0.10	
1140	2	15.66	5.76	2809	0.52	127.6	0	200	0.11	
1145	3	15.66	5.76	2807	0.51	125.8	0	200	0.12	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

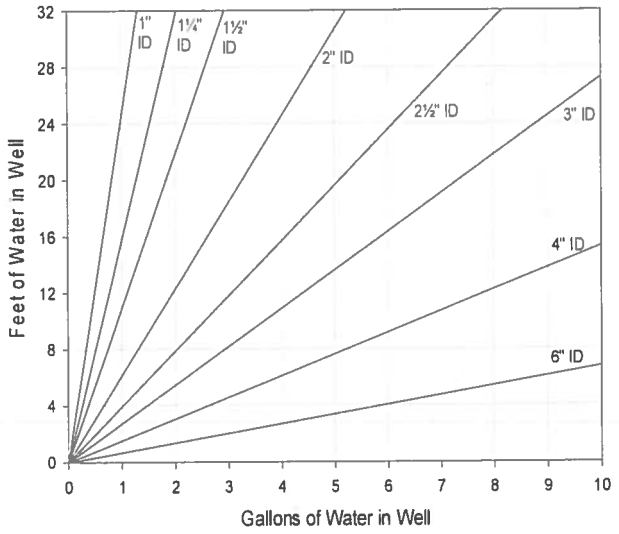
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE103D-091919 -1	40mL VOA	3	HCL	VOCs 8260C	1150
	250 mL Amber	2	NaHSO4	1,4 dioxane	
	500mL P	2	HNO3	Total & Diss (As, Fe, Mn)	
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	2	H3PO4	TOC	
	vial	3	BAK	Gases (M, Eth, Etha, Ac, Pr)	
	vial	1	none	Diss Hydrogen	

Comments Hydrogen = 8 15mins @ 220ml, Sample time = 1220

Signature FB III Date 9/19/19

AECOM

Well ID: AE-103D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[40 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.663; 0.663 L x 3 well vol. = 1.99 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-103R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/18/19 Time: Start 0850 am/pm
Project No: 60552044 Finish 1630 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 175' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.2 e. Purge Pressure 55 psi f. Sample Pressure 38 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @ 0855	Before 2nd Purge DTW @ 0945	Before 3rd Purge DTW @ 1015	DTW @ 1045
1	48-53	98	4.15	3.23	0.232	2.38	2.95	3.20	3.21
2	62-67	99	4.22	3.23	0.250	not sampled			—
3	70-76	100	4.27	3.23	0.252	2.36	2.90	3.15	3.16
4	98-105	101	4.31	3.23	0.254	2.75	2.88	3.12	3.10
5	122-128	102	4.35	3.23	0.257	2.70	2.88	3.10	3.08
6	138-144	103	4.4	3.23	0.259	not sampled		—	—
7	162.5-168	104	4.44	3.23	0.261	2.73	2.86	3.00	3.02

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

b. 1st Purge Time/Duration 0900 / 6mins c. 2nd Purge Time/Duration 0950 / 6mins
d. 3rd Purge Time/Duration 1020 / 6mins e. 4th Purge Time/Duration 1050 / 6mins

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1135	5	5.96	15.22	2241	0.36	59.2	0	NM	Clear
2	not sampled									
3	1140	5	6.51	14.99	1302	0.21	52.1	0		
4	1145	5	6.98	13.99	904	0.19	-26.8	0		
5	1150	5	7.31	15.32	924	0.11	-84.8	0		
6	not sampled									
7	1155	5	7.61	14.67	631	0.11	-117.2	0		

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A 18A-AE103R1-091819-1	VOCs, 1,4-dioxane, VPH, EPH, Total(As, Fe, Mn), Diss.(As, Fe, Mn), Cl, NO2,	1350
	NO3, SO2, S, TOC, Gases(meth, Ethe, Etha, Acety, Prop), Diss. H	—
19A		—
18A-AE103R3-091819-1	VOCs	1425
19A 18A-AE103R4-091819-1	VOCs, 1,4-dioxane	1430
19A 18A-AE103R5-091819-1	VOCs, 1,4-dioxane, Total(As, Fe, Mn), Diss.(As, Fe, Mn), Cl, NO2,	1405
	NO3, SO2, S, TOC, Gases(meth, Ethe, Etha, Acety, Prop), Diss. H	—
		—
19A 18A-AE103R7-091819-1	VOCs, 1,4-dioxane	1435

Notes: Tubing connection very corroded

Hydrogen purge time and rate = R1 25mins @ 140ml- Sample time=1555/ R5 25mins @ 140ml- sample time=1525

Signature [signature] Date 9/18/19

AECOM

Well ID: **AE-103S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1030 am/pm
Project No: 60552044 Finish 1115 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 22' c. Screen Length 5 (15' - 20') 2" PVC Casing
b. Water Table Depth 3.34 d. Pump Intake 17.5'
c. Water Column (a-b) 18.66 e. Calculated System Purge Volume 1.41 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1040	0	16.90	6.86	421	1.65	-72.5	21.8	200	0.42	Iron
1045	1	15.86	6.70	414	0.21	-92.9	7.6	200	0.45	Clear
1050	2	15.89	6.73	414	0.21	-93.3	7.4	200	0.46	
1055	3	15.85	6.78	415	0.20	-94.1	7.3	200	0.47	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

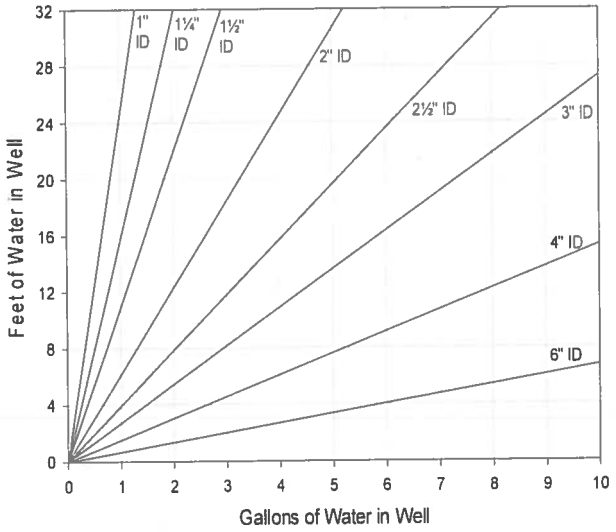
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A 18A-AE103S-09/19/19-1	40mL VOA	3	HCL	VOCs 8260C	1100
	500mL P	1	HNO3	total As, Fe, Mn	
	500mL P	1	HNO3	Diss. As, Fe, Mn (FF)	

Comments

Signature FwBt Date 9/19/19

AECOM

Well ID: AE-103S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[20 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.469; 0.469 L x 3 well vol. = 1.41 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=	

AECOM

Well ID: **AE-104D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/20/19 Time: Start 0838 am/pm
Project No: 60552044 Finish 0915 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 65°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 40.5' c. Screen Length 5 (35' - 40') 2" PVC Casing
b. Water Table Depth 3.22 d. Pump Intake 37.5'
c. Water Column (a-b) 37.28 e. Calculated System Purge Volume 1.99 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650 MDS	03D0903AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0838	1.25	14.36	6.50	2505	6.54	201.3	5.32	250	0	clear/none
0843	2.5	14.24	5.72	2734	0.88	205.3	3.70	250	0	
0848	3.75	14.29	5.66	2781	0.91	208.7	2.62	250	0	
0853	5	14.33	5.65	2835	0.97	210.4	1.29	250	0	
0858	6.25	14.44	5.65	2859	1.04	210.3	0.02	250	0	
0903	7.5	14.55	5.66	2863	1.07	209.3	2.41	250	0	
0908	8.75	14.71	5.67	2861	1.07	208.6		250	0	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

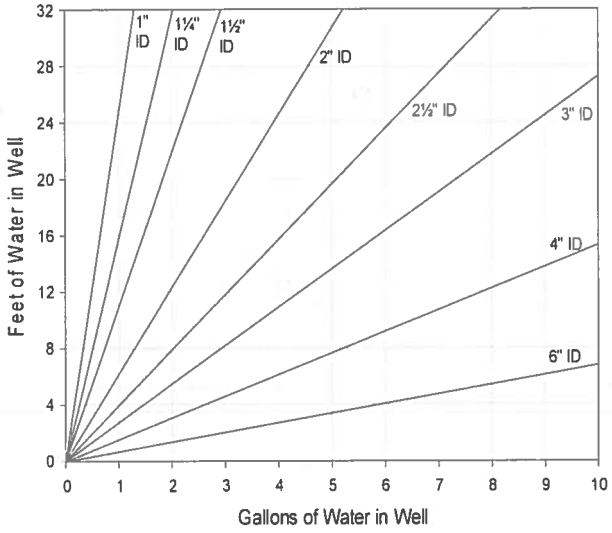
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-AE104D-092019-1	40mL VOA	3	HCL	VOCs 8260C	0910
	250 mL Amber	2	NaHSO4	1,4 dioxane	

Comments

Signature [signature] Date 9/20/19

AECOM

Well ID: AE-104D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[40 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.663; 0.663 L x 3 well vol. = 1.99 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-104R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/18/19 Time: Start 0850 am/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 85°F, slight breeze Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 175' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner _____ e. Purge Pressure 55 psi f. Sample Pressure 39 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @0850	Before 2nd Purge DTW @0940	Before 3rd Purge DTW @1032	DTW
1	48-54	99	4.23	3.27	0.234	2.42	4.10	3.90	11.05 / 7.85
2	62-68	100	4.30	3.27	0.250	not sampled			
3	97-102	101	4.34	3.27	0.252	2.59	3.03	3.05	3.84
4	128-133	102	4.39	3.27	0.254	1.75	2.97	3.06	3.70
5	156-162	103	4.43	3.27	0.257	2.84	3.01	3.15	2.04
6	168-174	104	4.47	3.27	0.259	2.76	3.02	3.13	3.16

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Oreotech	Turbidimeter	17111534

b. 1st Purge Time/Duration 0858 / 0904 / 6 min
c. 2nd Purge Time/Duration 0948-0954/6min
d. 3rd Purge Time/Duration 1036-1042/6 min
e. 4th Purge Time/Duration 1145

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1311	5min	8.09	13.43	774	0.35	-167.9	0.02	NM	clear/none
2	not sampled									
3	1315	6.5min	7.93	13.43	874	0.22	-118.0	0.02		
4	1319	5.5min	7.90	13.43	914	0.18	-137.7	0.02		
5	1323	5min	7.84	13.49	759	0.17	-153.1	0.02		
6	1327		7.81	13.56	730	0.14	-161.0	0.02		

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
~~18A~~-AE104R1-091819-1	VOCs, 1,4-dioxane	1335
19A ~~18A~~-AE104R3-091819-1		
19A ~~18A~~-AE104R4-091819-1	VOCs, 1,4-dioxane	1340
19A ~~18A~~-AE104R5-091819-1	VOCs, 1,4-dioxane, VPH, EPH	1345
19A ~~18A~~-AE104R6-091819-1	VOCs	1350
	VOCs, 1,4-dioxane	1355

Notes: _____

Signature _____ Date 9/18/19

AECOM

Well ID: **AE-104S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/20/19 Time: Start 0917 am/pm
Project No: 60552044 Finish 1000 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 22' c. Screen Length 5 (15' - 20') 2" PVC Casing
b. Water Table Depth 3.20 d. Pump Intake 17.5'
c. Water Column (a-b) 18.80 e. Calculated System Purge Volume 1.41 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0917	1.75	14.36	6.46	342	1.19	-8.2	1.55	350	0.04	clear/none
0922	3.5	14.52	6.46	327	0.44	-14.0	9.80	350	0.04	
0927	5.25	14.37	6.44	311	0.36	-13.5	38.8	350	0.04	
0932	7	14.47	6.41	310	0.34	-5.9	60.8	350	0.04	
0937	8.75	14.35	6.39	299	0.32	-1.5	80.6	350	0.04	
0942	10.5	14.32	6.37	299	0.32	1.9	27.4	350	0.04	
0947	12.25	14.32	6.37	298	0.32	4.4	27.6	350	0.04	↓

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

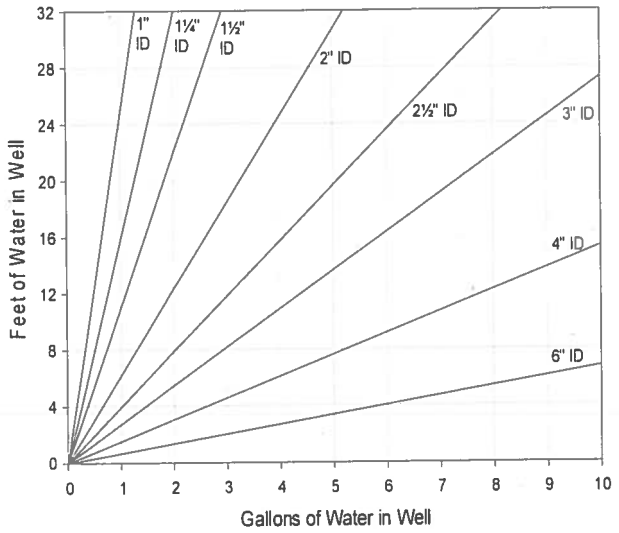
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-AE104S-092019-1	40mL VOA	3	HCL	VOCs 8260C	0955

Comments

Signature Date 9/20/19

AECOM

Well ID: AE-104S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[20 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.469; 0.469 L x 3 well vol. = 1.41 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
0957	14	14.37	6.35	296	0.31	60	28.1	350	0.04	clear / none

AECOM

Well ID: **AE-105D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/16/19 Time: Start 1220 am/pm
Project No: 60552044 Finish 1305 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 70 Collector(s): D Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 78.5' c. Screen Length 5 (73' - 78') 2" PVC Casing
b. Water Table Depth 3.52 d. Pump Intake 75.5'
c. Water Column (a-b) 74.98 e. Calculated System Purge Volume 3.09 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Pro Plus	19E100237
	Geotech	Turb	19011937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1242	1.6	12.6	6.82	928	0.15	-67.3	0.16	160	0.0	clear/none
1247	2.4	12.7	6.72	974	0.14	-71.3	0.02	160	0.0	"
1252	3.2	12.5	6.71	978	0.14	-72.9	0.04	160	0.0	"
1257	4.0	12.4	6.70	978	0.13	-73.1	0.10	160	0.0	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

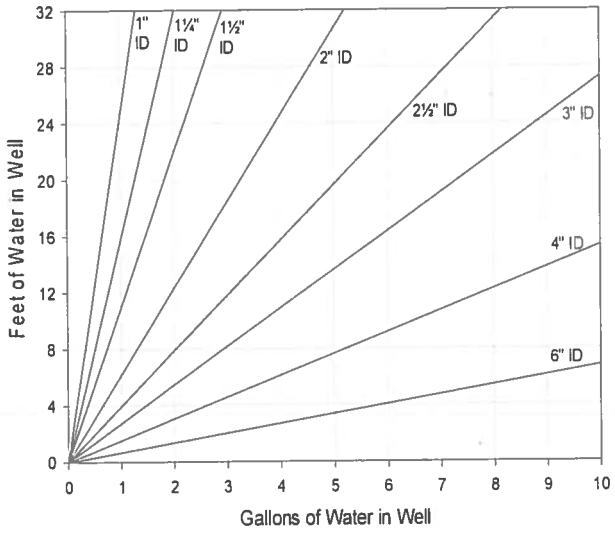
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE105D-091619-1	40mL VOA	3	HCL	VOCs 8260C	1300
	250 mL Amber	2	NaHSO4	1,4 dioxane	↓

Comments

Signature D Potter Date 9/16/19

AECOM

Well ID: AE-105D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

78 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.03; 1.03 L x 3 well vol. = 3.09 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-105R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/16/19 Time: Start 0900 am/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 175' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.37 e. Purge Pressure 54 psi f. Sample Pressure 38 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @0905	Before 2nd Purge DTW @0942	Before 3rd Purge DTW @1016	1051
1	90.5-95.5	96.7	4.23	3.29	0.234	3.71	5.09	4.76	4.85
2	98-103	97.7	4.30	3.29	0.250	3.59	4.76	4.55	4.60
3	107.5-112.5	98.7	4.34	3.29	0.252	not sampled			—
4	125-130	99.7	4.39	3.29	0.254	3.55	4.01	4.01	4.01
5	143-148	100.7	4.43	3.29	0.257	3.22	3.87	3.90	3.91
6	156-161	101.7	4.47	3.29	0.259	not sampled			—

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	Pro Plus	10E100237
GeoTech	PTM	18043532

b. 1st Purge Time/Duration 0907 / 6mins c. 2nd Purge Time/Duration 0945 / 6 mins
d. 3rd Purge Time/Duration 1019 / 6mins e. 4th Purge Time/Duration 1052 / 6mins

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1225	5	7.25	11.0	390	0.15	-25.1	0	NM	clear
2	1230	5	7.31	10.9	351	0.13	-18.1	0		
3	not sampled			—	—	—	—	—		
4	1235	5	7.37	10.9	335	0.07	-22.7	0		
5	1240	5	7.43	10.9	332	0.06	-32.9	0		
6	not sampled			—	—	—	—	—		

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A ~~18A~~-AE105R1-091619-1	VOCs	1255
19A ~~18A~~-AE105R2-091619-1	VOCs, 1,4-diox.,Total/Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC	1320
	VPH, EPH, Diss. H, Gases (Acety., Prop., Meth., Etha.)	
19A ~~18A~~-AE105R4-091619-1	VOCs, 1,4-dioxane, VPH, EPH	1305
19A ~~18A~~-AE105R5-091619-1	VOCs	1300

Notes: _____

Hydrogen purge time and rate = 20min @ 170ml sampled @ 1425

Signature _____ Date 9/16/19

AECOM

Well ID: **AE-105S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/16/19 Time: Start 0900 am/pm
Project No: 60552044 Finish 1100 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 60s Collector(s): D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 42' c. Screen Length 5 (35' - 40') 2" PVC Casing
b. Water Table Depth 3.51 d. Pump Intake 37.5'
c. Water Column (a-b) 36.49 e. Calculated System Purge Volume 1.99 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	Pro Plus	19E100237
GeoTech	Turb	19011937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0906	1	12.2	7.18	925	2.75	-44.0	1.42	200	0.04	Clear/none
0911	2	11.9	6.55	935	2.03	-48.2	1.20	200	0.04	"
0916	3	11.8	6.40	938	1.58	-51.2	0.92	200	0.04	"
0921	4	11.6	6.36	935	1.33	-52.3	0.68	200	0.04	"
0926	5	11.6	6.35	935	1.00	-51.5	0.13	200	0.04	"
0931	6	11.5	6.34	935	0.61	-51.1	0.93	200	0.04	"
0936	7	11.5	6.34	935	0.55	-50.5	0.13	200	0.04	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

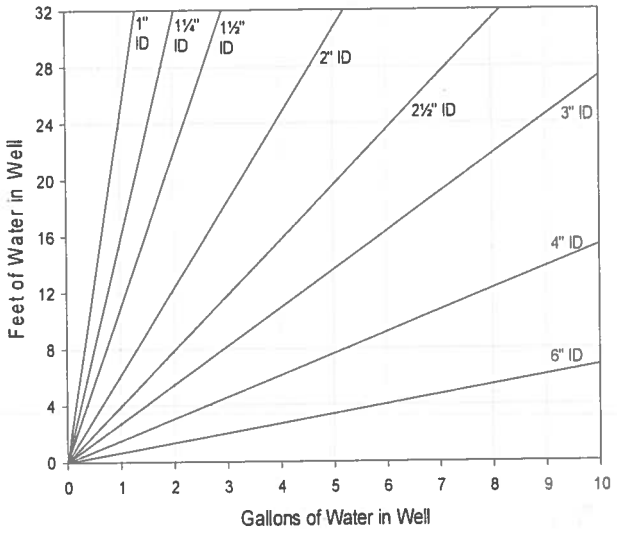
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~19A~~ ~~18A~~-AE105S-091619-1	40mL VOA	3	HCL	VOCs 8260C	0953
	500 mL P	2	HNO3	Total & Diss. As, Fe, Mn	↓
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	2	H3PO4	TOC	
	vial	1	none	diss. Hydrogen	1058
	40mL V	2	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	0953

Comments

Signature [signature] Date 9/16/19

AECOM

Well ID: AE-105S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[40 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.663; 0.663 L x 3 well vol. = 1.99 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
0941	8	11.4	6.35	934	0.45	-49.6	0.02	200	0.04	clear/none
0946	9	11.4	6.35	934	0.26	-48.2	0.05	200	0.04	"
0951	10	11.4	6.36	935	0.23	-46.9	0.01	200	0.04	"

AECOM

Well ID: AE-106S D

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/2019 Time: Start 0933 am/pm
Project No: 60552044 Finish 1010 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 100°F, sunny, no wind Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 42' c. Screen Length 5 (~~42'-47'~~ (35-39') 2" PVC Casing
b. Water Table Depth 2.77 d. Pump Intake ~~44.5~~ 37.5'
c. Water Column (a-b) 39.23 e. Calculated System Purge Volume ~~1.32~~ 1.96 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	USD MDS	U3D070340
Horeech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0933	1	11.49	5.93	2468	2.14	172.3	158	200	2.77	clear/none
0938	2.2	11.29	5.93	2444	1.70	171.4	86.5	240	2.77	
0943	3.4	11.24	5.94	2430	1.08	180.0	24.0	240	2.74	
0948	4.6	11.32	5.92	2441	1.02	188.6	6.38	240	2.75	
0953	5.8	11.30	5.92	2452	1.49	193.7	1.81	240	2.74	
0958	7	11.31	5.91	2453	1.48	198.0	0.02	240	2.73	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

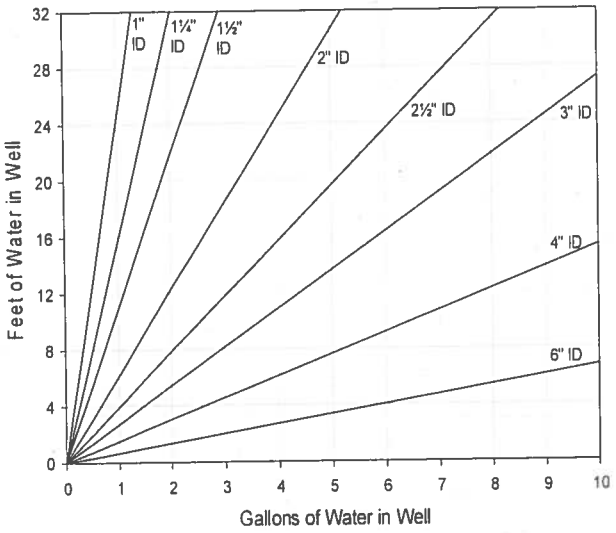
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-AE106S-091719-1	40mL VOA	3	HCL	VOCs 8260C	1010
D	250 mL P	2	HNO3	Total & Diss. As, Fe, Mn	
	500 mL P	1	none	Cl, NO2, NO3, SO4	
	250 mL P	1	zinc acetate	Sulfide	
	250 mL A	1	H3PO4	TOC	
	vial	1	none	diss. Hydrogen	
	40 mL V	3	benzal. chlor.	gases (Acet, Prop, Meth, Eth, Ethe.)	

Comments Dissolved H: 1030-1045 @ 250 mL/min

Signature Date 9/17/19

AECOM

Well ID: AE-1068D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[17 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.4399; 0.4399 L x 3 well vol. = 1.32 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-106R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/16/14 Time: Start 1030 am/pm
Project No: 60552044 Finish 1745 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's, partly cldy Collector(s): A. Grosgurn

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 175' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 2.16 e. Purge Pressure 53 psi f. Sample Pressure 37 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @1050	Before 2nd Purge DTW @1141	Before 3rd Purge DTW @1227	4th DTW @1110
1	47-52	96	4.31	3.34	0.237	3.46	3.61	3.51	3.51
2	69.5-74.5	97	4.38	3.34	0.250	not sampled			
3	84-88	98	4.42	3.34	0.252	2.98	3.51	3.52	3.48
4	144.5-150.5	99	4.46	3.34	0.254	not sampled			
5	164-169	100	4.51	3.34	0.257	3.04	3.40	3.42	3.43

a. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600XL	07E050888
	Geotech	Turbimeter	14081844

b. 1st Purge Time/Duration 1107-1113 / 6 min
d. 3rd Purge Time/Duration 1230-1236 / 5 min
c. 2nd Purge Time/Duration 1144-1153 / 5 min
e. 4th Purge Time/Duration 1312-1323 6 min

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1405	5	7.35	11.13	805	0.75 0.45	13	0.41		clear/nap
2	not sampled									
3	1407	5	7.36	10.87	504	0.42	-12.4	0.02		"
4	not sampled									
5	1411	5	7.38	10.43	204	0.40	-45.0	0.02		"

1401 1404 1408 1413 (F)

0.52 3.30 - 3.48 3.42

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
14A ~~18A~~-AE106R1-041614-1	VOCs	1450
14A ~~18A~~-AE106R3-041614-1	VOCs, Total (As, Fe, Mn), Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC, VPH, EPH, Diss. H, Gases (Acety., Prop., Meth., Etha.)	1515
14A ~~18A~~-AE106R5-041614-1	VOCs, 1,4-dioxane, VPH, EPH	1500

Notes:

Hydrogen purge time and rate = ~~25 min~~ / 130 ml 1113-1238

Signature [signature] Date 4/16/14

AECOM

Well ID: AE-106DS

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/16/19 Time: Start 1122 am/pm
Project No: 60552044 Finish 1220 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 65°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 24.5 ~~39.5~~ c. Screen Length 5 (~~35'-39'~~) (12-17') 2" PVC Casing
b. Water Table Depth 2.78 d. Pump Intake ~~37.5'~~ 14.5'
c. Water Column (a-b) 36.77 21.72 e. Calculated System Purge Volume ~~1.96~~ 1.32 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650MDS	03D0903AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1122	1	12.54	5.90	1935	4.46	166.7	10.3	200	2.98	clear/none
1127	2	12.22	5.94	1759	0.93	168.0	8.16	200	2.99	
1132	3	12.06	5.94	1727	0.96	172.6	5.76	200	3.00	
1137	4	12.08	5.84	1716	0.99	175.7	4.40	200	3.00	
1142	5	12.0	5.94	1711	0.96	177.9	1.86	200	3.00	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

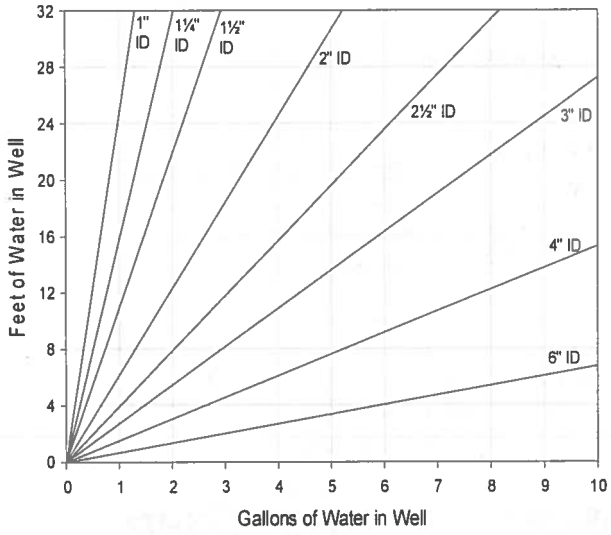
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-AE106D-091619-1	40mL VOA	3	HCL	VOCs 8260C	1220
	~~500 mL P~~	~~2~~	~~HNO3~~	~~Total & Diss. As, Fe, Mn~~	
	~~500mL P~~	~~1~~	none	~~Cl, NO2, NO3, SO4~~	
	~~250 500mL P~~	~~1~~	~~zinc acetate~~	~~Sulfide~~	
	~~250mL 40mL V A.~~	~~2~~ 1	~~H3PO4~~	~~TOC~~	
	~~vial~~	~~1~~	~~none~~	~~diss. Hydrogen~~	
	~~40mL V~~	~~3~~	~~belzal.chlor.~~	~~gases (Acet, Prop, Meth, Eth, Etha)~~	

Comments

Signature Date 9/16/19

AECOM

Well ID: AE-106~~D~~S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[39 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.6533; 0.6533 L x 3 well vol. = 1.96 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-108R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/24/19 Time: Start 0900 (am)/pm
Project No: 60552044 Finish 1500 am/(pm)
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 168' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.34 e. Purge Pressure 55 psi f. Sample Pressure 39 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @ 0920	Before 2nd Purge DTW @0945	Before 3rd Purge DTW @1015	1045
1	36.5-43.5	99.7	4.31	3.07	0.237	2.67	3.29	3.01	3.07
2	68-73	100.7	4.38	3.06	0.250	not sampled			—
3	84-89	101.7	4.42	3.05	0.252	2.90	3.51	3.29	3.29
4	145-150	102.7	4.46	3.05	0.254	not sampled			—
5	163-168	103.7	4.51	3.05	0.257	3.15	3.18	3.16	3.17

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F1000666
GeoTech	PTM	18043532

b. 1st Purge Time/Duration 0927 / 7mins c. 2nd Purge Time/Duration 0947 / 7mins
d. 3rd Purge Time/Duration 1020 / 7mins e. 4th Purge Time/Duration 1047 / 7mins

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1135	5	6.32	14.44	4828	0.36	-49.9	4.5	NM	Clear
2	not sampled		—	—	—	—	—	—	—	—
3	1130	5	5.74	14.45	3399	0.52	94.5	3.6		Clear
4	not sampled		—	—	—	—	—	—	—	—
5	1125	5	7.15	14.65	1207	1.02	-49.7	3.2		Clear

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A ~~18A~~-AE108R1-092419-1	VOCs, Total (As, Fe, Mn), Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC, Diss. H, Gases (Acety., Prop., Meth., Etha.)	
19A ~~18A~~-AE108R3-092419-1	VOCs	1150
19A ~~18A~~-AE108R5-092419-1	VOCs	1145

Notes:

Hydrogen purge time and rate = 15mins @ 250ml. Sample time = 1455

Signature FBurton Date 09/24/19

AECOM

Well ID: **AE-109D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/20/19 Time: Start 1014 am/pm
Project No: 60552044 Finish 1050 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 100°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 23.5' c. Screen Length 5 (18' - 23') 2" PVC Casing
b. Water Table Depth 4.13 d. Pump Intake 20.5'
c. Water Column (a-b) 19.07 e. Calculated System Purge Volume 1.52 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Oakton	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1014	1.5	16.89	6.47	1124	6.98	85.2	0.07	300	0.01	clear/none
1019	3	16.82	6.36	1298	0.85	84.7	0.06	300	0.01	
1024	4.5	16.85	6.36	1324	0.90	88.3	0.02	300	0.01	
1029	6	16.92	6.36	1348	0.98	91.1	0.02	300	0.01	
1034	7.5	17.04	6.36	1365	1.02	93.6	0.41	300	0.01	
1039	9	16.90	6.35	1387	1.04	96.6	0.02	300	0.01	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

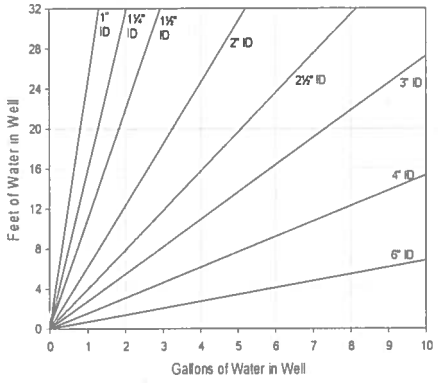
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE109D-~~092018~~-1	40mL VOA	3	HCL	VOCs 8260C	1040
	250mL A	2	NaH2S04	1,4-dioxane	
	500 mL P	2	HNO3	Tot & Diss. (Fe, Mn, As)	

Comments

Signature D. Salvatore Date 9/20/19

AECOM

Well ID: AE-109D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[24 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.508 L ; 0.508 L x 3 well vol. = 1.52 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **AE-109R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/18/19 Time: Start 0900 am/pm
Project No: 60552044 Finish 1700 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: SUNNY, 62°F Collector(s): A. Borden

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 250' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.9' e. Purge Pressure 55 psi f. Sample Pressure 38 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @ 0900	Before 2nd Purge DTW @ 1000	Before 3rd Purge DTW @ 1100
1	38-43	97.4	4.07	3.2	0.23	4.13	4.81	4.81
2	66-76	98.4	4.15	3.2	0.250	3.90	5.92	6.00
3	126-136	99.4	4.19	3.2	0.252	4.14	8.30	8.57
4	174-180.5	100.4	4.23	3.2	0.254	4.13	4.46	4.49
5	183-189	101.4	4.28	3.2	0.257	4.14	4.39	4.48
6	196-201	102.4	4.32	3.2	0.259	4.13	4.40	4.46
7	204-214	103.4	4.36	3.2	0.261	4.16	4.39	4.47
8	245-250	104.4	4.40	3.2	0.263	4.04	4.41	4.51

a. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	ProPlus	10E100237
	geotech	Portable turb meter	19011937

b. 1st Purge Time/Duration 0905 / 5 min c. 2nd Purge Time/Duration 1005 / 5min
d. 3rd Purge Time/Duration 1105 / 5min e. 4th Purge Time/Duration 1205 / 5min

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1316	4min	7.39	13.3	1352	4.80	-41.2	0.97	N/M	clear/none
2	1323	3min	7.60	13.2	1387	0.49	-71.6	1.95		clear/none
3	1329	4min	7.52	13.2	565.2	4.45	-105.8	0.02		clear/none
4	1335	4min	7.77	13.2	288.2	0.12	-149.8	0.49		clear/none
5	1341	5min	7.80	13.1	280.9	1.01	-141.2	0.02		clear/none
6	1347	5min	7.67	13.1	382.5	0.27	-106.4	0.30		clear/none
7	1353	5min	7.66	13.1	317.2	2.42	-115.6	0.02		clear/none
8	1400	5min	7.72	13.0	160.5	0.72	-141.4	362.0	V	milky/none

3. SAMPLE COLLECTION:

	19A Sample ID	Analysis	Time
	~~18A~~-AE109R1-091819-1	VOCs	1440
19A	~~18A~~-AE109R2-091819-1	VOCs, 1,4-Dioxane ~~3511~~	1442
19A	~~18A~~-AE109R3-091819-1	VOCs	1447
19A	~~18A~~-AE109R4-091819-1	VOCs	1452
19A	~~18A~~-AE109R5-091819-1	VOCs, Total (As, Fe, Mn), Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC,	1500
	19A	Diss. H, Gases (Acety., Prop., Meth., Etha.), VPH, EPH, 1,4-dioxane	
	~~18A~~-AE109R6-091819-1	VOCs	1515
19A	~~18A~~-AE109R7-091819-1	VOCs, 1,4-dioxane DUP	1520
19A	~~18A~~-AE109R8-091819-1	VOCs	1530

Notes:

Hydrogen purge time and rate = 100mL/min for 30min start 1625 finish 1655

Signature Andrew Bath Date 9/18/19

AECOM

Well ID: **AE-110R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/13 Time: Start 0900 am/pm
Project No: 60552044 Finish 1605 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 50's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 250' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.35 e. Purge Pressure 55 psi f. Sample Pressure 38 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	Initial DTW @ 0936	Before 2nd Purge DTW @1035	Before 3rd Purge DTW @1119	1201
1	34-44	98	4.15	3.23	0.232	4.20	4.27	4.63	4.92
2	70-80	99	4.22	3.23	0.250	4.20	4.29	4.65	4.80
3	128-138	100	4.27	3.23	0.252	not sampled			
4	158-168	101	4.31	3.23	0.254	4.16	4.24	4.61	4.76
5	171-182	102	4.35	3.23	0.257	not sampled			
6	190-200	103	4.4	3.23	0.259	4.18	4.25	4.63	4.78
7	224-234	104	4.44	3.23	0.261	not sampled			

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	1804353Z

b. 1st Purge Time/Duration 0946 / 4 mins c. 2nd Purge Time/Duration 1037 / 5 mins
d. 3rd Purge Time/Duration 1122 / 5 mins e. 4th Purge Time/Duration 1203 / 5 mins

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1503		14.24	14.72	602	0.24	-186.5	0.7	NM	clear
2	1458	5 mins	7.60	14.15	677	0.17	-160.3	0.6		
3	~~14~~ not sampled									
4	1453	5 mins	7.81	14.16	434	0.25	-157.7	0.02		
5	~~1453~~ not sampled									
6	1448	5 mins	7.84	~~13.46~~	854	1.33	-129.3	0.02		
7	not sampled			14.41				~~0.02~~		

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A ~~18A~~-AE110R1-091319-1	VOCs	1535
19A ~~18A~~-AE110R2-091319-1	VOCs	1540
19A ~~18A~~-AE110R4-091319-1	VOCs	1545
19A ~~18A~~-AE110R6-091319-1	VOCs, 1,4-dioxane	1550

Notes:

Signature Floyd Burton Date 9/13/19

AECOM

Well ID: **AE-111R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/14 Time: Start 400 am/pm
Project No: 60552044 Finish ~~14~~ 1450 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70s Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 200' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 4.04 e. Purge Pressure 59 psi f. Sample Pressure 42 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	DTW @ Initial 915	DTW @ Before 2nd Purge 1007	DTW @ Before 3rd Purge 1044	
1	44-54	108	4.15	3.15	0.232	13.45	13.62	13.54	1124
2	66-74	109	4.22	3.15	0.250	not sampled			1361
3	95-103	110	4.27	3.15	0.252	13.38	13.42	13.44	1343
4	140-150	111	4.31	3.15	0.254	not sampled			
5	155-165	112	4.35	3.15	0.257	13.37	13.43	13.48	1340
6	168-173	113	4.4	3.15	0.259	13.37	13.34	13.40	1340
7	181-191	114	4.44	3.15	0.261	not sampled			

DTW

a. Field Testing Equipment used: Make ~~YSI~~ Geotech Model 600 QL Serial Number 97E0508AB
Turb meter 14081844

b. 1st Purge Time/Duration 930-936/6min c. 2nd Purge Time/Duration 1012-1018/6min
d. 3rd Purge Time/Duration 1052-1058 e. 4th Purge Time/Duration 1138-1144/6min

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor	
1	1324	6	7.04	13.06	1204	1.56	145.2	1.40		clr/sulfur	1343
2	not sampled										—
3	1337	6	6.46	13.32	1028	0.96	130.6	1.28		"	1337
4	not sampled										—
5	1340	6	6.84	13.36	420	2.88	94.4	1.66		"	1330
6	1344	4	7.23	13.42	414	0.34	21.3	1.52		"	1330
7	not sampled										—
											—

1321 (1331) 1334 1340 1346 1352

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
~~18A~~-AE111R1-9254-1 (14A)	VOCs	
~~18A~~-AE111R3-"-1 (19A)	VOCs	
~~18A~~-AE111R5-"-1 (19A)	VOCs	
~~18A~~-AE111R6-"-1	VOCs	

Notes: ~~At 90's dry first two 1, 3, 6~~

Signature [signature] Date 9/25/14

AECOM

Well ID: AE-112D

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/13/19 Time: Start 0920 am/pm
Project No: 60552044 Finish 0950 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 64°F Collector(s): Demcie Galvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 30' c. Screen Length 5 (24.5' - 29.5') 2" PVC Casing
b. Water Table Depth 6.74' d. Pump Intake 27'
c. Water Column (a-b) 23.26' e. Calculated System Purge Volume 1.52 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	6920 MDS	03D0903AD
Geotech	Turbidimeter	17111524

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0920	2	14.38	8.53	6	10.44	217.4	10.7	300	6.75	clear/none
0925	3.5	14.38	8.53	6	10.44	217.4	10.7	300	6.75	" "
0930	5.3	13.54	5.37	1289	2.63	249.8	0.27	375	6.75	" "
0935	7.1	13.65	5.37	1289	2.55	254.8	0.13	375	6.75	" "
0940	8.9	13.54	5.37	1288	2.50	258.0	1.38	375	6.75	" "
0945	10.7	13.49	5.36	1286	2.45	260.8	0.02	375	6.75	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

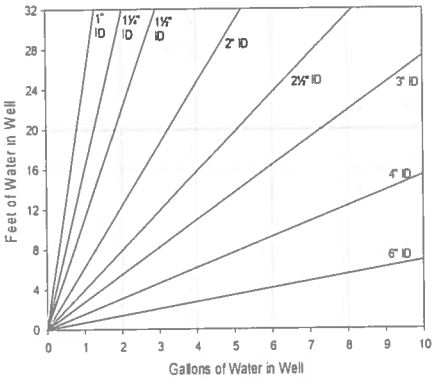
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE112D-091319-1	40mL VOA	3	HCL	VOCs 8260C	0950
↓	500mL A	2	HNO3	Tot & Diss. (Fe, Mn, As)	0950

Comments YSI screen frozen for first 2 readings - disregard 0920 and 0925

Signature [signature] Date 9/13/19

AECOM

Well ID: AE-112D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[24 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.508 L ; 0.508 L x 3 well vol. = 1.52 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: AE-112R

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/13/19 Time: Start 0820 am/pm
Project No: 60312865.4.2.1 Finish 1515 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): A Dan Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 175' b. Water Table Depth NA c. Water Column (a-b) NA @
d. Depth to Water in FLUTe liner 0-77 e. Purge Pressure ~~55 psi~~ @ 56 f. Sample Pressure ~~38 psi~~ 34 psi

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Pump Depth (ft BGS)	Purge Volume (Liters)	Sample Stroke Volume (Liters)	Min. Discard (Liters)	DTW @ Initial	DTW @ Before 2nd Purge	DTW @ Before 3rd Purge	DTW @
1	41-50	100.4	4.15	3.21	0.232	6.23	6.43	6.44	6.34
2			4.22	3.21	0.250				
3	91-101	102.9	4.27		0.252	6.28	6.36	6.39	~~6.39~~
4									
5	136-146	104.9	4.35		0.257	6.24	6.40	6.44	6.44
6	153-163	105.4	4.4		0.259	6.21	6.35	6.37	6.38

a. Field Testing Equipment used:

	Make	Model	Serial Number
	Geotech	102	250048
	YSI	6920XL	97E0508AB

b. 1st Purge Time/Duration 846-854 / 8 min c. 2nd Purge Time/Duration 928-935 / 7 min
d. 3rd Purge Time/Duration 1021-1027 / 6 min e. 4th Purge Time/Duration 1124-1134 / 5 min

	Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor	DPW
@	1	1229		5.48	13.26	1278	0.64	28.3	0.47		CLR/Solvent	6.32
	2											
	3	1233		5.34	13.14	845	0.34	-35.9	0.02		"	6.34
@	4											
	5	1238		6.01	13.20	976	0.26	-61.2	0.02		"	6.33
	6	1242		5.80	13.20	1070	0.21	-91.1	0.02		"	6.35

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
1QA-AE112R 1-0413	VOCs TOT + Diss As, Fe, Mn	1430
" R3-1	VOCs	1433
" R5-1	VOCs	
" R6-1	VOCs, TOT + Diss As Fe, Mn VPH EPH	

Notes: Replaced brass tor + quick connect on port 3
~~R6 dry~~ w R6 went dry while sampling. Waited 20 2 min + R5, 3

Signature Adam Grossman Date 4/13/19

AECOM

Well ID: **AE-23R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 0900 (am)/pm
Project No: 60552044 Finish 1155 am/(pm)
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Mostly Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 55' c. Screen Length 10 (44.7' - 54.7') 1.5" PVC Casing
b. Water Table Depth 9.22 d. Pump Intake 49'
c. Water Column (a-b) 45.78 e. Calculated System Purge Volume 2.48 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: hydrolift to evacuate well, then peristaltic to sample after recharge

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1110	0	15.71	6.62	1794	6.21	-24.7	8.6	200	5.29	Clear
1115	1	14.86	7.04	1826	2.40	-51.8	3.7	200	5.87	
1120	2	14.85	7.18	1816	2.80	-58.9	3.3	200	6.02	
1125	3	14.82	7.24	1811	2.76	-65.9	3.3	200	6.14	↓
1130	4	14.81	7.26	1810	2.75	-66.9	3.1	200	6.25	Clear

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

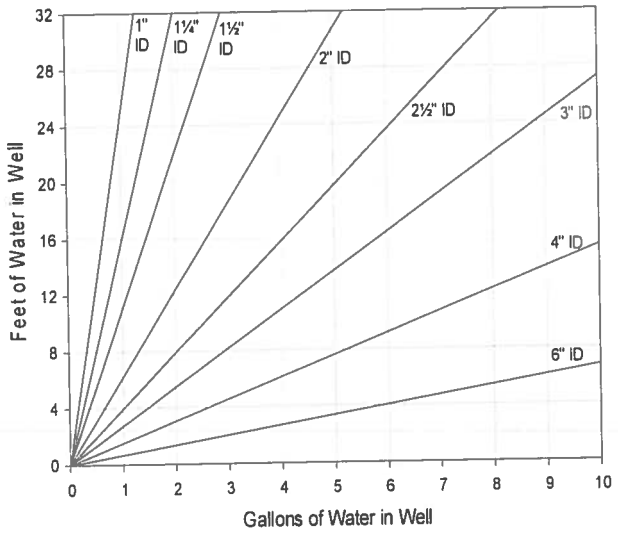
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE23R-~~0923~~19-1	40mL VOA	3	HCL	VOCs 8260C	1135
	250 mL A	2	NaHSO4	1,4-dioxane	
	40mL V	3	HCL	VPH	
	1L A	1	HCL	EPH	

Comments DTW @0935 - 44.96 Purged 4 gal / DTW @ 1100 = 14.51

Signature FwBst Date 9/23/19

AECOM

Well ID: AE-23R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[57 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.828 L ; 0.828 L x 3 well vol. = 2.48 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-24**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 1010 am/pm
Project No: 60552044 Finish 1045 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Mostly Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 17.25' c. Screen Length 10 (7.25' - 17.25') 2" PVC Casing
b. Water Table Depth 9.02 d. Pump Intake 12.25'
c. Water Column (a-b) 8.23 e. Calculated System Purge Volume 1.41 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3%
- pH ± 1.0 unit
- Sp. Cond. 3%
- D.O. < 0.5 mg/L; >0.5 mg/L within 10%
- ORP ± 10mV
- Drawdown <0.3 ft
- Turbidity <10 NTU; >10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PIM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1015	0	17.51	5.68	378	10.21	161.2	26.3	200	0	Clear
1020	1	17.11	5.40	484	11.74	179.8	9.7	200	0	
1025	2	17.11	5.45	484	11.27	177.0	9.6	200	0	
1030	3	17.11	5.48	484	10.86	176.3	9.6	200	0	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

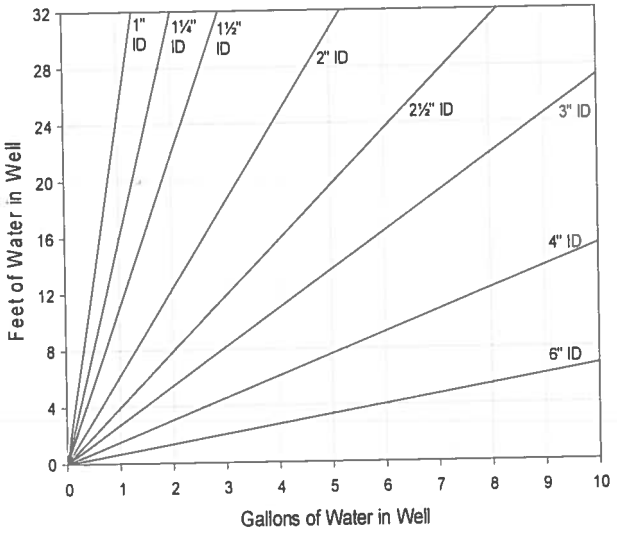
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A LSA-AE24-092319-1	40mL VOA	3	HCL	VOCs 8260C	1035
	250 mL VOA	2	NaHSO4	1,4-Dioxane	

Comments

Signature Floyd Burton Date 9/23/19

AECOM

Well ID: AE-24



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[20 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.469 L ; 0.469 L x 3 well vol. = 1.41 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-26R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 850 am/pm
Project No: 60552044 Finish ~~1350~~ 1330 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's PARTLY CLOUDY Collector(s): A Dan C Crossm

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 150' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 1.34 e. Purge Pressure NA f. Sample Pressure NA

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Port Depth (ft BGS)	Recommended Purge Volume (Liters)	Actual Purge Volume (Liters)	Max Flow Rate expected (mL/min)	Actual Flow Rate (mL/min)	Expected Purge Time (min)	Actual Purge Time (min)
1	50-56	49	2.2	2.32	200	~~200~~ 202	10.66	11.5
2	72-78	71	2.4	2.41	140	134	17.10	18
3	81-88	80	2.8		120		22.36	
4	104-114	103	3.9		100		40.32	
5	123-132	122	3.8	3.85	80	82	46.63	47

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	ODO ProDSS	~~18H100703~~ 18H100703
Geotech	Turbmeter	18081841

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	917	11.5	10.38	15.7	674	0.40	-75.4	0.24		CLR/MOD SOLVENT
2	1244	18	7.41	16.6	586.2	0.10	-208.8	0.02		"
3										
4										
5	1154	47	7.77	17.4	1307	0.10	-206.2	202		CLR/STRONG SOLVENT

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
19A ~~18A~~-AE26R1-092319-1	VOCs, VPH, EPH, Total/Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC	1420
19A ~~18A~~-AE26R2-092319-1	Diss. H, ~~Microbial~~, Gases (Acety., Prop., Meth., Ethe., Etha.) 1,4-Dioxane	
	VOCs	1255
19A ~~18A~~-AE26R5-092319-1	VOCs, 1,4-dioxane	1200

Notes:

Hydrogen purge time and rate = 1037-1057 17 200 mL/min 1057

Signature Adam Crossman Date 9/23/19

AECOM

Well ID: **AE-26S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 0915 am/pm
Project No: 60552044 Finish 1000 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Mostly Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 32' c. Screen Length 10 (20' - 30') 2" PVC Casing
b. Water Table Depth 9.12 d. Pump Intake 25'
c. Water Column (a-b) 22.88 e. Calculated System Purge Volume 1.84 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PIM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0925	0	16.21	5.75	186	0.85	135.0	0	200	0	clear
0930	1	16.00	5.77	187	0.73	139.3	0	200	0	
0935	2	15.95	5.79	189	0.58	146.2	0	200	0	
0940	3	15.65	5.80	187	0.54	146.5	0	200	0	
0945	4	15.56	5.79	188	0.50	146.7	0	200	0	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

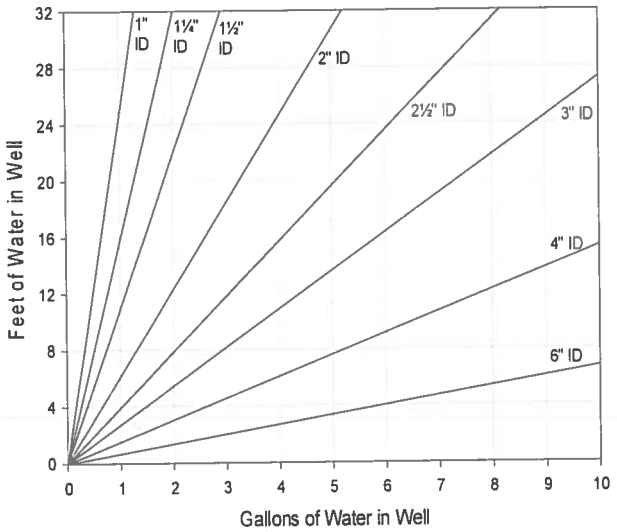
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-AE26S-092319	40mL VOA	3	HCL	VOCs 8260C	0950
	500mL P	1	HNO3	Total (Fe, Mn, As)	
	500mL P	1	HNO3	Diss. (Fe, Mn, As) FF	

Comments

Signature [signature] Date 9/23/19

AECOM

Well ID: AE-26S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[35 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.615 L ; 0.615 L x 3 well vol. = 1.84 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **AE-28R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/23/19 Time: Start 0905 am/pm
Project No: 60552044 Finish 1353 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: indoors Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 150' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 0.08' e. Purge Pressure NA f. Sample Pressure NA

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Port Depth (ft BGS)	Recommended Purge Volume (Liters)	Actual Purge Volume (Liters)	Max Flow Rate expected (mL/min)	Actual Flow Rate (mL/min)	Expected Purge Time (min)	Actual Purge Time (min)
1	45-51	44	2.1	2.1	230	230	9.5	~~39~~ 9
2	75-85	74	3.6	3.4	130	125	26.70	27
3	98-108	97	3.8	4.1	100	110	37.5	38
4	132-142	131	4.2	4.4	80	80	55.5	55

18

a. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Geotech	Turbidimeter	17111534

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	~~1007~~ 1345	9	7.68	16.03	2236	2.97	-224.1	0.02	NM	clear/sulfur
2	1034	27	7.82	16.52	1613	2.60	-258.7	0.02	NM	clear/sulfur
3	1323	37	7.75	17.13	1540	0.58	-253.7	0.02	NM	clear/sulfur
4	1001	55	7.07	16.86	1649	0.16	-264.9	1.04	NM	clear/sulfur

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
~~18A~~-AE28R1-092319-1	VOC	1350
19A ~~18A~~-AE28R2-092319-1	VOCs, 1,4-diox., VPH, EPH, Total/Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S,	1040
19A	TOC, Diss. H, Gases (Acety., Prop., Meth., Ethe., Etha.)	
~~18A~~-AE28R3-092319-1	VOCs, 1,4-Dioxane	1330
19A ~~18A~~-AE28R4-092319-1	VOCs	1005

Notes:

Hydrogen purge time and rate = start: 1125 end: 1150 rate: 142 mL/min sample time: 1150

Signature [signature] Date 9/23/19

AECOM

Well ID: AE-29R

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/24/14 Time: Start 900 am/pm
Project No: 60552044 Finish 1545 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's, mostly Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 150' b. Water Table Depth NA c. Water Column (a-b) NA
d. Depth to Water in FLUTe liner 2.95 e. Purge Pressure NA f. Sample Pressure NA

2. PORT DATA:

Port	Sampling Interval (ft BGS)	Port Depth (ft BGS)	Recommended Purge Volume (Liters)	Actual Purge Volume (Liters)	Max Flow Rate expected (mL/min)	Actual Flow Rate (mL/min)	Expected Purge Time (min)	Actual Purge Time (min)
1	37-44	36	2.3		320	~~47~~ 308	7.23	~~40~~ 8
2	47-54	46	2.4	not sampled	250	—	9.65	—
3	70-76	69	2.4		170	165	14.18	~~1650~~ 15
4	90-96	89	2.6	not sampled	130	—	19.9	—
5	113-119	112	2.8		100	94	~~27.36~~	28
6	140-146	139	3.1		80	~~47~~ 84	~~37.35~~	40

a. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Pro DSS	14H100703
	~~Hach~~	Turbidimeter	14081444
	~~Horiba~~		

Port	Time (24hrs)	Purge Time	pH	Temp. (°C)	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	PID (ppm)	Color/Odor
1	1331	4	6.14	15.0	4432	0.14	53.7	2.02		clr
2	not sampled									
5 ~~6~~	1504	30	7.41	16.8	874	0.10	-120.7	1.05		
4	~~1509~~ not sampled									
3 ~~5~~	1419	15	6.51	16.1	5496	0.15	-46.6	1.82		
6	1455	40	7.60	18.1	1742	0.15	-262.1	1.71		

3. SAMPLE COLLECTION:

Sample ID	Analysis	Time
1AA ~~18A~~-AE29R1-092414-1	VOCs	1000
1AA ~~18A~~-AE29R3-092419-1	VOCs	1420
1AA ~~18A~~-AE29R5-092419-1	VOCs	1510
1AB ~~18A~~-AE29R6-092414-1	VOCs, 1,4-diox, VPH, EPH, Total/Dissolved (As, Fe, Mn), NO3, NO2, Cl, SO4, S, TOC, Diss. H, Gases (Acety., Prop., Meth., Ethe., Etha.)	1000 ~~1005~~

Notes: R6 Diss - Gases.

Hydrogen purge time and rate = 114 mL/min 1117-1142 (Bubbles coming up from min)

Signature [signature] Date 9/24/14

Expected Purge time Corrections:
~~Port~~ port 6: 38.75 min
port 5: 28 min

Tubing missing cups

AECOM

Well ID: **EMW-10D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 0957 am/pm
Project No: 60552044 Finish 1100 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 62°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 29' c. Screen Length 10 (19' - 29') 2" PVC Casing
b. Water Table Depth 4.88 d. Pump Intake 24'
c. Water Column (a-b) 24.12 e. Calculated System Purge Volume 1.61 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0957	1.75	15.59	7.83	2184	0.57	78.2	9.18	350	0.13	clear/none
1002	3.5	14.28	5.85	2232	0.72	202.7	5.06	350	0.13	
1007	5.25	14.21	5.67	2224	0.67	220.1	5.34	350	0.13	
1012	7	14.20	5.62	2201	0.68	218.8	4.86	350	0.13	
1017	8.75	14.16	5.60	2189	0.64	200.1	3.77	350	0.13	
1022	10.5	14.17	5.60	2179	0.61	193.7	3.24	350	0.13	
1027	12.25	14.09	5.59	2165	0.58	186.6		350	0.13	↓

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☑	☐

If no or N/A - Explain below.
DO did not stabilize, sample collected after 1 hour

3. SAMPLE COLLECTION: Method: grab

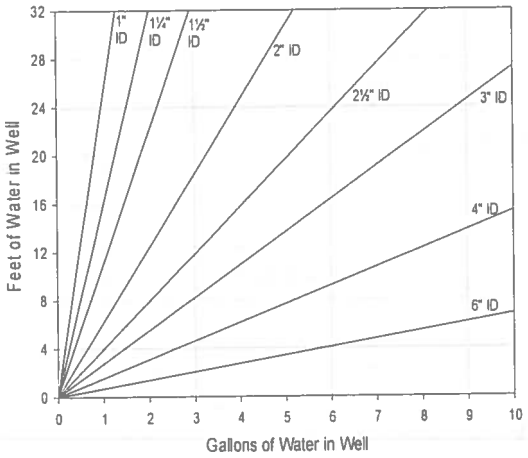
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-EMW10D-093019-1	40mL VOA	3	HCL	VOCs 8260C	1100

Comments

Signature _____ Date 9/30/19

AECOM

Well ID: EMW-10D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[27 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.537 L ; 0.537 L x 3 well vol. = 1.61 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1032	14	14.09	5.60	2147	0.51	182.7	2.20	350	0.13	clear/none
1037	15.75	14.14	5.61	2122	0.59	178.5	1.17	350	0.13	↓
1042	17.5	14.12	5.62	2113	0.50	173.2	2.46	350	0.13	
1047	19.25	14.13	5.63	2097	0.42	170.3	1.07	350	0.13	
1052	21	14.13	5.63	2096	0.43	168.0	0.40	350	0.13	
1057	22.75	14.17	5.63	2089	0.53	164.2		350	0.13	
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **EMW-10R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 0840 am/pm
Project No: 60552044 Finish 0945 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 60°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 52' c. Screen Length 10 (42' - 52') 2" PVC Casing
b. Water Table Depth 5.08 d. Pump Intake 47'
c. Water Column (a-b) 46.92 e. Calculated System Purge Volume 2.28 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	1050 MDS	03D0903AD
Laotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0840	.800	15.62	7.37	836	9.11	176.0	13.7	160	0.70	clear/none
0845	1.6	15.14	9.94	774	1.03	125.9	9.02	160	1.19	↓
0850	2.4	14.93	10.12	776	1.15	111.3	8.87	160	2.05	
0855	3	15.15	10.18	776	1.01	103.5	9.28	120	2.54	
0900	3.6	15.20	10.20	777	0.97	99.7	13.8	120	2.66	
0905	4.1	15.24	10.19	777	0.93	97.8	9.70	100	2.69	
0910	4.6	15.14	10.21	777	0.92	95.4	14.3	100	2.71	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☐	☑	☐

If no or N/A - Explain below.
DO, Sp. C. did not stabilize, sample collected after 1 hour

(continued on back)

3. SAMPLE COLLECTION: Method: grab

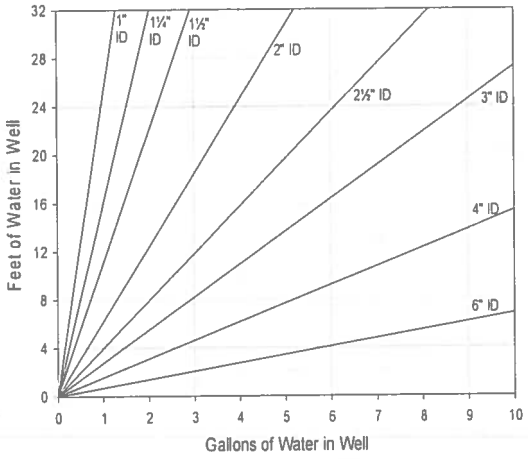
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-EMW10R-093019-1	40mL VOA	3	HCL	VOCs 8260C	0945

Comments

Signature Date 9/30/19

AECOM

Well ID: EMW-10R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[50 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.76 L ; 0.76 L x 3 well vol. = 2.28 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
0915	5.1	15.19	10.22	777	0.91	94.0	14.10	100	2.72	clear/none
0920	5.10	15.10	10.18	781	0.89	93.6	10.4	100	2.74	↓
0925	6.1	14.98	10.10	786	0.78	94.3	9.50	100	2.79	↓
0930	6.6	15.01	9.94	809	0.66	96.1	5.79	100	2.83	↓
0935	7.1	14.91	9.79	845	0.57	97.5	0.58	100	2.84	↓
0940	7.6	14.94	9.48	942	0.44	99.15	7.90	100	2.88	↓
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **EMW-11D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 0900 am/pm
Project No: 60552044 Finish 0950 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 50's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 32' c. Screen Length 10 (22' - 32') 2" PVC Casing
b. Water Table Depth 4.44 d. Pump Intake 27'
c. Water Column (a-b) 17.56 e. Calculated System Purge Volume 1.70 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PTM	180 43532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0920	0	14.52	7.42	603	2.16	-16.7	82.3	200	0.62	Iron
0925	1	14.23	6.58	1048	0.42	-105.3	11.6	200	0.62	Clear
0930	2	14.24	6.60	1066	0.39	-106.0	11.5	200	0.62	↓
0935	3	14.22	6.61	1071	0.39	-107.2	11.2	200	0.62	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

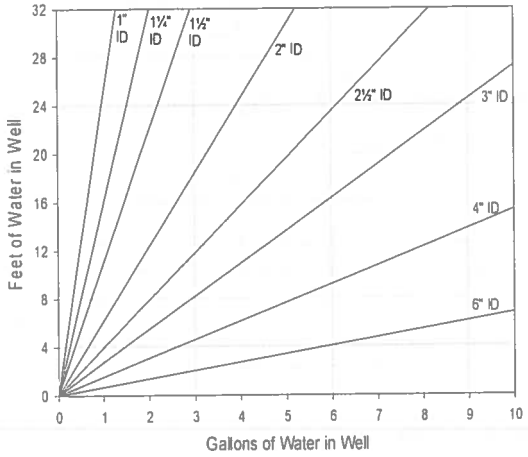
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A 18A-EMW11D-091919-1	40mL VOA	3	HCL	VOCs 8260C	0940

Comments

Signature F. Burton Date 9/19/19

AECOM

Well ID: EMW-11D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[30 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.566 L ; 0.566 L x 3 well vol. = 1.70 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **EMW-11R1**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 0910 am/pm
Project No: 60552044 Finish 1010 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 89 c. Screen Length 10 (79' - 89') 0.75" PVC Casing
b. Water Table Depth 4.65 d. Pump Intake 84'
c. Water Column (a-b) 84.35 e. Calculated System Purge Volume 3.36 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	0	14.82	7.84	743	5.37	-48.7	3.9	200	0.40	Clear
0940	1	14.28	7.34	739	1.04	-107.0	3.7	200	0.42	
0945	2	14.10	7.29	738	0.62	-120.4	3.3	200	0.43	
0950	3	14.13	7.25	745	0.51	-122.8	3.2	200	0.43	
0955	4	14.07	7.24	745	0.41	-122.0	3.2	200	0.44	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

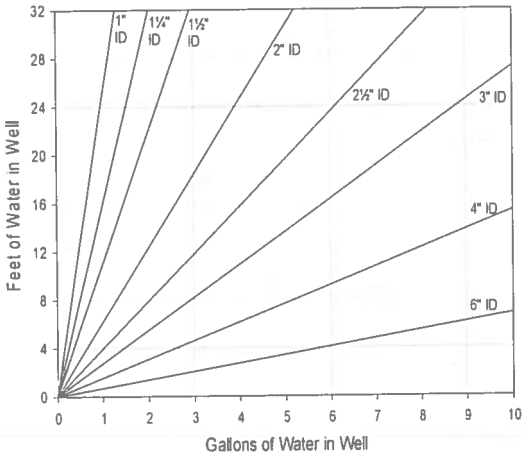
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-EMW11R1-091719-1	40mL VOA	3	HCL	VOCs 8260C	1000

Comments

Signature FBST III Date 9/17/19

AECOM

Well ID: EMW-11R1



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[87 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.12 L ; 1.12 L x 3 well vol. = 3.36 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **EMW-11R2**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 1100 am/pm
Project No: 60552044 Finish 1145 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 114 c. Screen Length 10 (104' - 114') 0.75" PVC Casing
b. Water Table Depth 4.68 d. Pump Intake 109'
c. Water Column (a-b) 109.32 e. Calculated System Purge Volume 4.08 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1120	0	17.63	7.73	959	7.12	30.1	6.8	200	0.34	Clear
1125	1	14.94	7.38	828	0.19	-102.9	1.1	200	0.35	
1130	2	14.81	7.24	917	0.13	-107.9	0	200	0.35	
1135	3	14.82	7.27	920	0.13	-109.7	0	200	0.36	
1140	4	14.74	7.28	922	0.13	-111.9	0	200	0.36	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

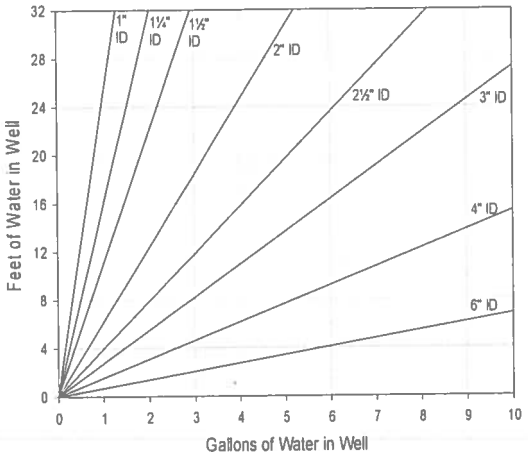
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-EMW11R2-091719-1	40mL VOA	3	HCL	VOCs 8260C	1145
	40mL V	3	HCL	VPH	
	1L A	2	HCL	EPH	
	500 mL P	2	HNO3	Tot & Diss. (Fe, Mn, As)	
	500 mL P	1	none	Cl, NO3, NO2, SO4	
	250mL P	1	zinc acet.	Sulfide	
	40mL V	3	BAK	Gases (M, Etha, Ethe, Ac, Pr)	
	vial	1	none	Diss. Hydrogen	
	40mL V	2	H3PO4	TOC	

Comments Hydrogen Sampled @ 1240 Flow = 190ml for 20mins

Signature [signature] Date 9/17/19

AECOM

Well ID: EMW-11R2



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[112 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.36 L ; 1.36 L x 3 well vol. = 4.08 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **EMW-11R3**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 1015 am/pm
Project No: 60552044 Finish 1045 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 168 c. Screen Length 10 (158' - 168') 0.75" PVC Casing
b. Water Table Depth 4.60 d. Pump Intake 163'
c. Water Column (a-b) 163.40 e. Calculated System Purge Volume 5.66 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1020	0	15.21	8.19	628	4.87	-72.5	4.3	200	0.19	Clear
1025	1	14.48	7.68	720	0.23	-128.7	3.0	200	0.23	
1030	2	14.33	7.69	720	0.21	-127.9	2.7	200	0.25	
1035	3	14.33	7.68	719	0.21	-127.6	2.6	200	0.26	↓

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

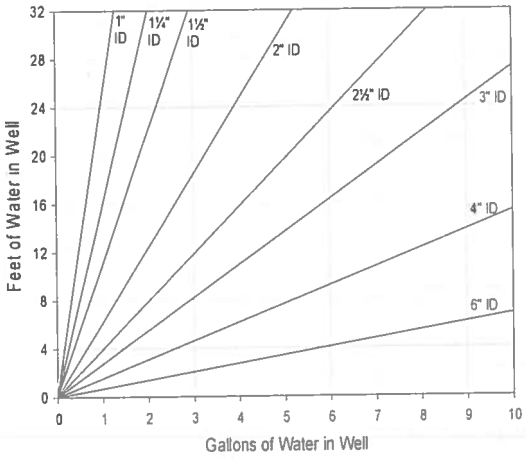
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-EMW11R3-091719-1	40mL VOA	3	HCl	VOCs 8260C	1040

Comments

Signature Floyd Burton Date 9/17/19

AECOM

Well ID: EMW-11R3



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[166 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.89 L ; 1.89 L x 3 well vol. = 5.66 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **GZA-101R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 1053 (am)/pm
Project No: 60552044 Finish 1156 am/(pm)
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 68°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 38' c. Screen Length 2 (36' - 38') 0.55" PVC Casing
b. Water Table Depth 6.91 d. Pump Intake 37'
c. Water Column (a-b) 31.09 e. Calculated System Purge Volume 1.90 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	6050 MDS	03D090BAD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1055	1.1	16.84	7.71	4137	2.29	-203.3	16.16	220	NM	clear/none
1100	2.2	15.47	7.46	4370	0.61	-171.7	14.5	220		
1105	3.3	15.41	7.16	4496	0.57	-135.8	15.4	220		
1110	4.4	15.28	7.00	4478	0.58	-118.9	10.46	220		
1115	5.5	15.31	6.95	4453	0.40	-112.6	7.60	220		
1120	6.6	15.27	6.92	4467	0.49	-108.8	6.60	220		
1125	7.7	15.37	6.89	4457	0.49	-104.3	3.14	220		

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

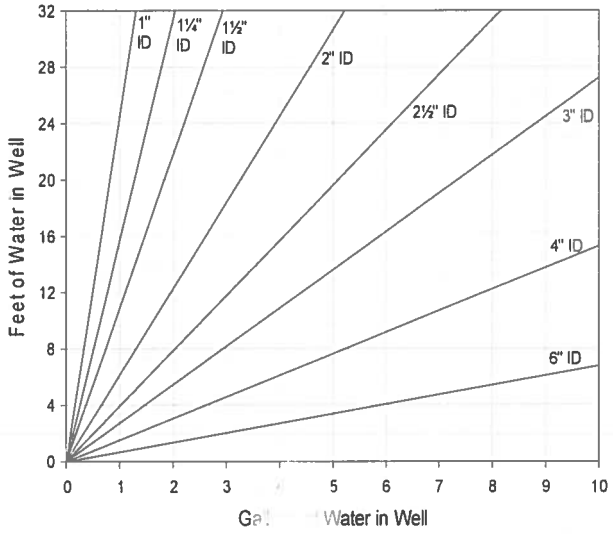
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
LSA-GZA101R092619-1	40mL VOA	3	HCL	VOCs 8260C	1130
	500 mL P	2	HNO3	Total & Diss. As, Fe, Mn	
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	vial	1	none	diss. Hydrogen	
	40mL V	3	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	

Comments Dissolved hydrogen: start: 1141 end: 1156 rate: 220 mL/min sample time: 1156

Signature [signature] Date 9/26/19

AECOM

Well ID: GZA-101R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[37 ft (tubing length) x 0.0[illegible] L/ft] + 0.275 L (flow cell vol.) = 0.634 L ; 0.634 L x 3 well vol. = 1.90 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **GZA-102S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/13/19 Time: Start 1046 am/pm
Project No: 60552044 Finish 1110 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 63°F Collector(s): Bernie Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 10.7' c. Screen Length 9' (1.7' - 10.7') 1.5" PVC Casing
b. Water Table Depth 6.52' d. Pump Intake 6.2'
c. Water Column (a-b) 4.18' e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650 MDS	03D0903AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1046	1	20.35	6.09	2657	1.96	39.7	14.5	210	6.52	clear/none
1051	2.1	20.11	6.08	2719	1.78	41.5	4.50	210	6.52	" "
1056	3.3	20.03	6.07	2721	1.85	40.0	2.67	240	6.52	" "
1101	4.5	19.99	6.07	2710	1.88	37.6	1.89	240	6.52	" "
1106	5.7	19.97	6.06	2697	1.93	35.4	1.59	240	6.52	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

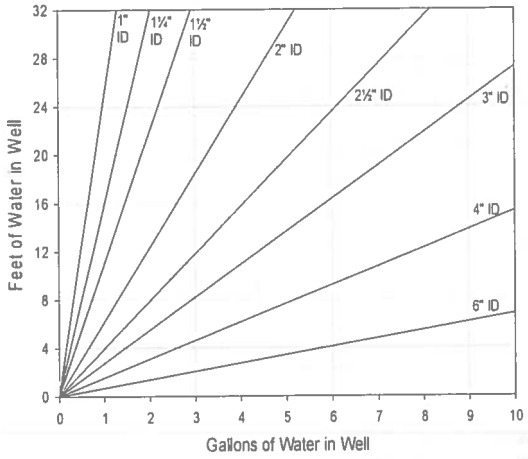
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-GZA102S-091319-1	40mL VOA	3	HCL	VOCs 8260C	1110
	1L A	2	HCL	EPH	
	40mL VOA	~~3~~ 2	HCL	VPH	

Comments

Signature [signature] Date 9/13/19

AECOM

Well ID: GZA-102S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[10 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.372 L ; 0.372 L x 3 well vol. = 1.12 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **GZA-105D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/18/14 Time: Start 1100 am/pm
Project No: 60552044 Finish 1250 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Low 5. PARTLY CLOUDY Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 26' c. Screen Length 10 (16' - 26') 1.5" PVC Casing
b. Water Table Depth 5.68 d. Pump Intake 21'
c. Water Column (a-b) 20.32 e. Calculated System Purge Volume 1.52 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600XL	07E050B8BB
	Geotech	Turb meter	19081844

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ (feet)	Color/Odor
1120	0	17.41	6.26	2218	1.04	12.2	98.2	166	5.63	mod/R / none
1125	0.83	17.87	6.25	2154	0.44	14.4	44.3	"	5.63	Cl/M / none
1130	1.66	14.04	6.24	2124	0.44	14.4	31.5	170	"	"
1135	2.51	18.12	6.23	2112	0.45	14.4	27.3	"	"	"
~~1140~~ @ 1142	3.56	17.74	6.21	2046	0.45	15.1	23.3	"	"	"
1147	4.41	17.60	6.23	2084	0.45	14.6	13.4	"	"	"
1152	5.26	17.63	6.24	2077	1.03	14.3	16.4	"	"	Cl r / none

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

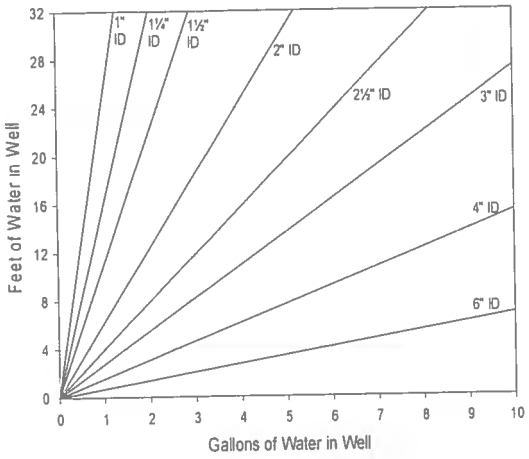
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
@ 1142 ~~18~~A-GZA105D-~~041814~~-1	40mL VOA	3	HCL	VOCs 8260C	1225
	1L A	2	HCL	EPH	
	250 mL A	2	NaHSO4	1,4-dioxane	
	40mL VOA	3	HCL	VPH	

Comments Bubbles coming up from well + entering YSI & elevated discharge tubing (flow bucket on tube. bubbles stop

Signature [signature] Date 9/19 9/18/14

AECOM

Well ID: GZA-105D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[24 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.508 L ; 0.508 L x 3 well vol. = 1.52 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1157	6.11	17.73	6.22	2066	0.42	14.3	10.6	170	5.67	Clr/none
1202	6.46	17.83	6.21	2066	0.86	13.6	9.83	"	"	"
1207	7.91	17.75	6.21	2054	0.73	17.0	4.66	"	5.68	"
~~1212~~	0.66	17.63	6.21	2038	0.64	12.5	7.43	"	"	"
1217	4.51	17.83	6.22	2038	0.64	11.4	6.15	"	"	"

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **GZA-105R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/18/14 Time: Start 1345 am/pm
Project No: 60552044 Finish 1530 am/pm
Site Location: 50 Fordham Rd Site. Wilmington, MA
Weather Conds: 70s, Partly Cloudy Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 36.5' c. Screen Length 2 (34.5' - 36.5') 0.5" PVC Casing
b. Water Table Depth 5.49 d. Pump Intake 35.5'
c. Water Column (a-b) 30.91 e. Calculated System Purge Volume 1.93 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used: Make YSI Model 600XL Serial Number 97B0508AB
Broken vib meter 18081949

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (mL/min)	Drawdown (feet)	Color/Odor
1357	0	19.45	6.95	1174	1.13	33.7	4.45	~~85~~ 85	13.50	Clr/none
1402	0.43	18.45	7.12	925	0.63	8.0	1.66	100	15.08	"
1407	0.43	18.50	7.13	~~12~~ 10500	0.53	-12.6	1.68	"	16.82	"
1412	1.43	17.82	7.11	1130	0.49	-20.3	1.55	"	16.98	"
1417	1.43	17.81	7.13	1163	0.44	-24.8	1.42	40	17.29	"
1422	2.43	17.52	7.11	1146	0.44	-26.3	2.61	40	16.66	"
1427	2.88	17.52	7.12	1200	0.41	-26.8	2.07	100	14.37	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

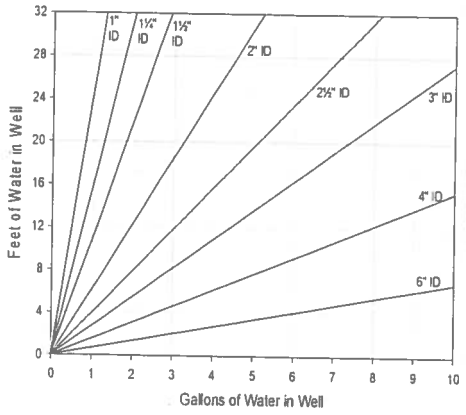
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~MW~~ GZA-GZA105R-091814-1	40mL VOA	3	HCL	VOCs 8260C	1510

Comments

Signature [signature] Date 9/18/14

AECOM

Well ID: GZA-105R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[38 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.644 L ; 0.644 L x 3 well vol. = 1.93 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1432	3.38	17.26	7.04	1204	0.40	-26.1	2.42	115	20.67	
1437	3.96	17.11	7.11	1204	0.40	-25.5	2.21	104	21.14	
1442	4.48	17.16	7.12	1205	0.34	-24.2	1.47	110	21.28	
1447	5.03	17.24	7.10	1224	0.37	-22.8	P.0.43	102	21.22	
1452	5.54	17.50	7.12	1233	0.32	-22.4	0.07	100	21.08	
1457	6.04	17.46	7.10	1225	0.36	-20.1	0.73	"	20.43	
1502	6.54	17.60	7.08	1225	0.36	-18.9	1.68	"	20.34	

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **GZA-105S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/16/14 Time: Start 915 am/pm
Project No: 60552044 Finish 1050 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's, Mostly Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 14' c. Screen Length 10 (4' - 14') 1.5" PVC Casing
b. Water Table Depth 5.70 d. Pump Intake 9'
c. Water Column (a-b) 8.3 e. Calculated System Purge Volume 1.17 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600XL	97E0508AB
	Geotech	Fun mate	1408 1849

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ (feet)	Color/Odor
933	0	20.14	6.54	1567	0.50	-61.7	6.16	170	5.40	LT PARTICLES / SLIGHT SOLVENT
938	0.45	20.43	6.56	1511	0.47	-78.9	5.20	168	5.88	"
943	1.69	20.21	6.57	1480	0.48	-86.4	4.18	"	5.83	"
948	2.53	20.50	6.57	1454	0.51	-90.5	6.42	160	"	"
953	3.33	20.34	6.55	1429	0.54	-91.5	4.67	"	"	"
958	4.17	20.45	6.54	1414	0.55	-91.8	4.75	"	"	"
~~1003~~		17.60	6.23	2064	0.66	114.6				

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

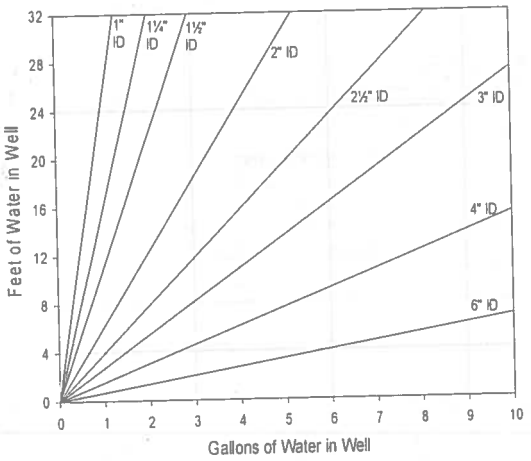
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~ GZA105S-091414-1	40mL VOA	3	HCL	VOCs 8260C	1005
	500mL P	1	HNO3	Total (Fe, As, Mn)	
	500mL P	1	HNO3	Diss.(Fe, As, Mn) FF	
	1L A	2	HCL	EPH	
	40 mL VOA	3	HCL	VPH	

Comments

Signature [signature] Date 9/18/14

AECOM

Well ID: GZA-105S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[12 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.391 L ; 0.391 L x 3 well vol. = 1.17 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **GZA-10**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 1318 am/pm
Project No: 60552044 Finish 1410 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 68°F, slight breeze Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 38' c. Screen Length 25' (13' - 38') 1.5" PVC
b. Water Table Depth 4.46 d. Pump Intake 25.5'
c. Water Column (a-b) 33.54 e. Calculated System Purge Volume 1.65 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650 MDS	03D0903AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1318	1.6	16.99	6.92	1637	2.97	16.3	38.9	320	0.06	clear/none
1323	3.2	15.79	5.90	1961	0.45	11.5	7.94	320	0.06	
1328	4.8	15.75	5.82	1833	0.36	12.2	9.20	320	0.06	
1333	6.4	15.75	5.86	1655	0.32	111.0	8.44	320	0.06	
1338	8	15.67	6.02	1283	0.29	02.5	6.56	320	0.06	
1343	9.6	15.73	6.30	822	0.26	-8.0	5.36	320	0.06	
1348	11.2	15.84	6.50	717	0.22	-33.2	6.30	320	0.06	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

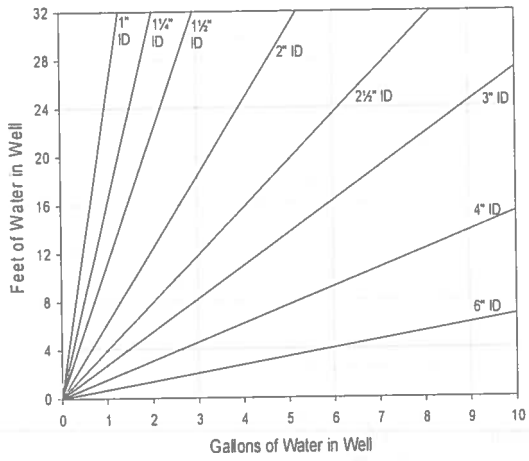
MA Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~MA~~-GZA10-092619-1	250mL P	1	HNO3	Total (Fe, As, Mn)	1405
	250mL P	1	HNO3	Diss.(Fe, As, Mn) FF	

Comments

Signature D. Salvatore Date 9/26/19

AECOM

Well ID: GZA-10



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[28.5 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.551 L ; 0.551 L x 3 well vol. = 1.65 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1353	12.8	15.165	6.57	1055	0.21	-46.3	5.49	320	0.010	clear/none
1358	14.4	15.164	10.60	1045	0.20	-50.1	5.08	320	0.010	↓
1403	16	15.7	6.61	639	0.19	-53.9	4.53	320	0.010	

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: GZA-12

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 0903 am/pm
Project No: 60552044 Finish 1000 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 68°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 24.5' c. Screen Length 15 (9.5' - 24.5') 2" PVC Casing
b. Water Table Depth 10.85 d. Pump Intake 17'
c. Water Column (a-b) 13.65 e. Calculated System Purge Volume 1.40 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	1050 MDS	03D0903AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0903	1.1	17.36	6.02	3327	6.28	140.3	7.95	220	0.05	clear/none
0908	2.4	15.40	5.53	3759	1.32	187.2	5.60	260	0.06	
0913	3.7	15.35	5.54	3980	1.09	192.4	2.00	260	0.06	
0918	5	15.38	5.54	4043	1.07	196.2	0.81	260	0.07	
0923	6.3	15.36	5.54	4019	1.09	199.3		260	0.07	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

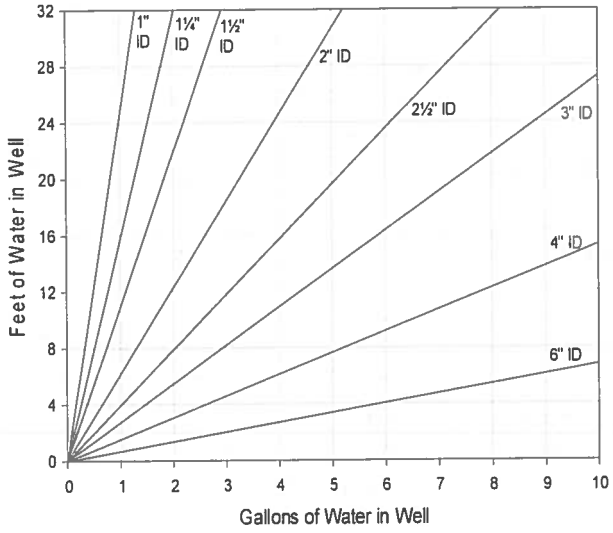
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-GZA12-092619-1	40mL VOA	3	HCL	VOCs 8260C	0925
	500 mL P	2	HNO3	Total & Diss. As, Fe, Mn	
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	2	H3PO4	TOC	
	vial	1	none	diss. Hydrogen	
	250 mL Amber	2	NaHSO4	1,4 dioxane	
	40mL V	3	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	

Comments dissolved hydrogen: start: 0941 end: 0956 flow rate: 260 ml/min sample time: 0957 1000

Signature [signature] Date 9/26/19

AECOM

Well ID: GZA-12



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[20 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.469 L ; 0.469 L x 3 well vol. = 1.41 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **GZA-14A**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 1030 am/pm
Project No: 60552044 Finish 1110 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny 50s Collector(s): D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 15 c. Screen Length 15 (0' - 15') 1.5" PVC Casing
b. Water Table Depth 6.55 d. Pump Intake 7.5'
c. Water Column (a-b) 8.45 e. Calculated System Purge Volume 1.15 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650MDS	03D0609
GeoTech		18081849

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1035	1	12.03	6.05	453	0.79	54.8	0.02	200	0.01	clear/none
1040	2	11.74	6.01	420	0.41	54.4	0.02	200	0.01	yellow clear/none
1045	3	11.72	5.99	405	0.34	54.3	0.02	200	0.01	"
1050	4	11.66	5.98	390	0.32	54.0	0.02	200	0.01	"
1055	5	11.69	5.99	386	0.30	53.9	0.02	200	0.01	"
1100	6	11.76	5.98	379	0.29	53.7	0.02	200	0.01	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

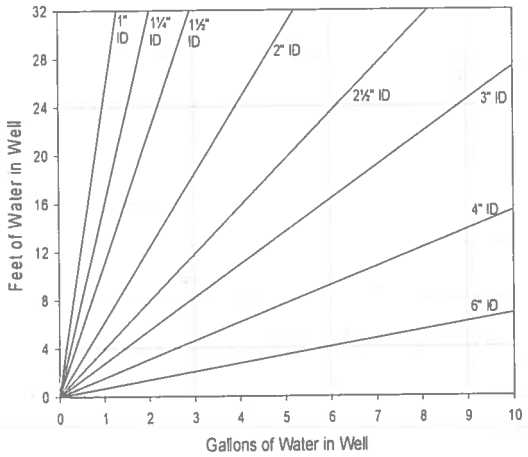
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19 FBA-GZA14A-093019-1					1102
	250mL P	1	HNO3	Total (Fe, As, Mn)	
	250mL P	1	HNO3	Diss.(Fe, As, Mn) FF	

Comments

Signature [signature] Date 9/30/19

AECOM

Well ID: GZA-14A



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[11 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.382 L ; 0.382 L x 3 well vol. = 1.15 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **GZA-6**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/20/19 Time: Start 1210 am/pm
Project No: 60552044 Finish 1340 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's, mostly sunny Collector(s): A - Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 18' c. Screen Length 10 (8' - 18') 2" PVC
b. Water Table Depth 4.45 d. Pump Intake 13'
c. Water Column (a-b) 13.55 e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Pro DSS	18A100703
	Geotech	Turb. Meter	18081849

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1236	0	17.7	6.21	151.9	1.40	58.4	1.50	152	4.46	Clr
1241	0.46	17.2	5.46	146.5	1.04	61.4	2.01	150	4.45	yellow tint
1246	1.71	17.4	5.87	143.9	1.12	63.4	0.76	148	4.46	"
1251	2.65	17.4	5.90	144.8	1.14	66.2	0.28	142	"	"
1256	3.61	17.4	5.78	145.9	0.45	66.4	0.02	"	"	"
~~1301~~ 1301	4.57	17.3	5.76	145.8	0.75	66.2	0.02	"	"	"
1306	5.53	17.2	5.72	145.4	0.52	65.2	"	"	"	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

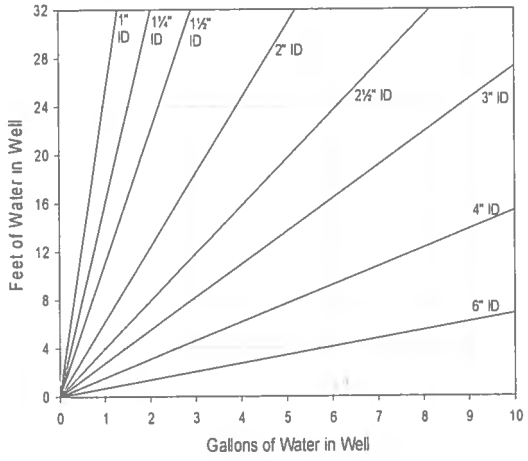
QA Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-GZA6-9202019-1	250mL P	1	HNO3	Total (Fe, As, Mn)	1325
	250mL P	1	HNO3	Diss.(Fe, As, Mn) FF	

Comments

Signature [signature] Date 9/20/19

AECOM

Well ID: GZA-6



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[11 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.382 L ; 0.382 L x 3 well vol. = 1.15 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ DSW (ft)	Color/Odor
1311	6.44	17.2	5.76	146.6	0.45	61.4	0.43	190	4.46	Clear, no odor
1316	7.43	17.2	5.76	142.1	0.36	63.5	0.52	"	"	"
1321	8.34	17.2	5.76	148.9	0.30	62.4	0.12	"	"	"
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

1325

AECOM

Well ID: **IP-1R2**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/13/19 Time: Start 1147 am/pm
Project No: 60552044 Finish 1220 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 65°F, Slight breeze Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 74' c. Screen Length 20 (54' - 74') 2" PVC Casing
b. Water Table Depth 5.29 d. Pump Intake 64'
c. Water Column (a-b) 68.71 e. Calculated System Purge Volume 2.77 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	650 MDS	03D0903AD
Grundfos	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1147	0.6	18.92	7.19	1644	2.016	57.3	3.03	120	5.93	clear / none
1152	1.2	20.31	7.87	1733	0.89	-9.8	15.3	120	6.63	
1157	1.7	20.57	7.96	1704	0.90	-39.8	16.3	95	6.91	
1202	2.2	20.87	8.02	1709	0.83	-64.4	12.4	95	7.18	
1207	2.7	20.34	8.03	1708	0.78	-75.9	9.02	110	7.39	
1212	3.3	20.14	8.01	1702	0.74	-83.9	11.3	110	7.55	
1217	3.8	20.05	8.00	1703	0.73	-84.6	8.31	110	7.60	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

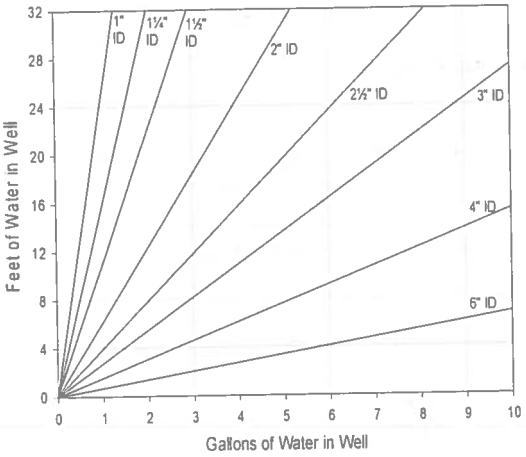
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-IP1R2-091319-1	40mL VOA	3	HCL	VOCs 8260C	1220

Comments

Signature [signature] Date 9/13/19

AECOM

Well ID: IP-1R2



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[67 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.925 L ; 0.925 L x 3 well vol. = 2.77 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **MW-4**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1058 ~~am~~/pm
Project No: 60552044 Finish 1130 ~~am~~/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 66°F Collector(s): D. Salvatore, D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 28' c. Screen Length 10 (18' - 28') 1.5" PVC Casing
b. Water Table Depth 2.11 d. Pump Intake 23'
c. Water Column (a-b) 25.89 e. Calculated System Purge Volume 1.58 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	ODO MDS	03D0903AJD
	Laotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1058	1.25	10.95	6.69	607	6.60	-11.7	9.32	250	0.03	clear/none
1103	2.5	9.64	6.72	548	0.37	-45.6	4.74	250	0.03	↓
1108	3.75	9.59	6.73	546	0.33	-52.7	0.02	250	0.03	↓
1113	5	9.51	6.73	546	0.29	-56.9	0.02	250	0.03	↓
1118	6.25	9.54	6.72	546	0.27	-59.7	0.02	250	0.03	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

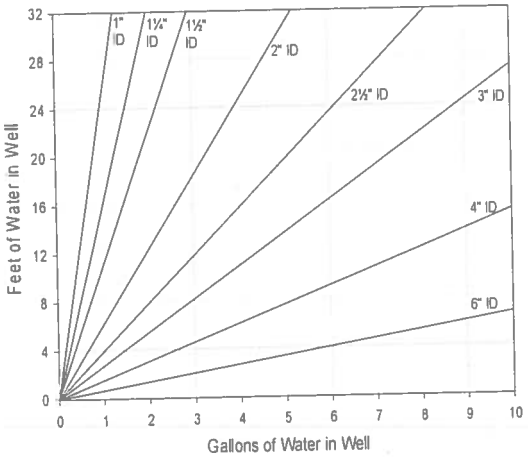
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-MW4-091919-1	40mL VOA	3	HCL	VOCs 8260C	1120
	500mL P	1	HNO3	Total (Fe, As, Mn)	
	500mL P	1	HNO3	Diss.(Fe, As, Mn) FF	
	250 mL A	2	NaHSO4	1,4-dioxane	

Comments Dup at 1125

Signature _____ Date _____

AECOM

Well ID: MW-4



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[26 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.527 L ; 0.527 L x 3 well vol. = 1.58 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
Hydrogen Bubble Strip Sampling:										
Purge rate=				Purge Duration=			Sample time=			

AECOM

Well ID: **MW-4A**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1003 am/pm
Project No: 60552044 Finish 1040 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 64°F Collector(s): D. Salvatore, D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 48' c. Screen Length 10 (38' - 48') 1.5" PVC Casing
b. Water Table Depth 1.40 d. Pump Intake 43'
c. Water Column (a-b) 46.100 e. Calculated System Purge Volume 2.16 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	1050 MDS	03D0903AD
Oakton	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1003	1	10.24	6.71	942	5.63	-15.4	12.6	200	0.02	clear / none
1008	2	9.91	6.61	873	0.43	-49.6	15.0	200	0.02	
1013	3	9.84	6.64	872	0.40	-50.9	10.4	200	0.02	
1018	4	9.86	6.63	882	0.40	-51.7	12.0	200	0.03	
1023	5	9.83	6.62	891	0.38	-52.4	0.05	200	0.03	
1028	6	9.89	6.62	896	0.38	-53.2	4.74	200	0.03	
1033	7	9.92	6.61	902	0.37	-53.6	3.39	200	0.03	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

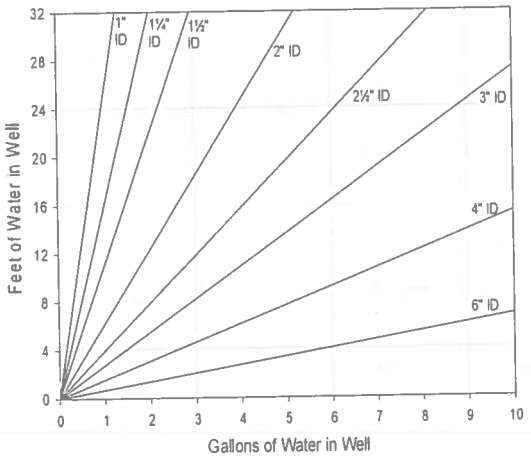
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~19A-~~MW4A-091919-1					1035
	500mL P	1	HNO3	Total (Fe, As, Mn)	
	500mL P	1	HNO3	Diss.(Fe, As, Mn) FF	

Comments

Signature Date 9/19/19

AECOM

Well ID: MW-4A



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[46 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.721 L ; 0.721 L x 3 well vol. = 2.16 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **MW-5**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 0920 am/pm
Project No: 60552044 Finish 1000 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 50s Collector(s): D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 38' c. Screen Length 10 (28' - 38') 1.5" PVC Casing
b. Water Table Depth 3.33 d. Pump Intake 33'
c. Water Column (a-b) 34.67 e. Calculated System Purge Volume 1.87 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650MDS	03D0609
	GeoTech		1808/1849

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0925	0	10.29	6.97	964	0.80	-51.0	0.23	300	0.00	clear/none
0930	1.5	10.21	6.60	942	0.39	-99.9	0.02	300	0.00	"
0935	3.0	10.16	6.52	905	0.37	-51.8	0.02	300	0.00	"
0940	4.5	10.13	6.49	867	0.35	-53.8	0.02	300	0.00	"
0945	6.0	10.12	6.49	846	0.34	-54.9	0.02	300	0.00	"
0950	7.5	10.10	6.47	839	0.33	-56.0	0.02	300	0.00	"
0955	9.0	10.10	6.48	836	0.33	-56.8	0.42	300	0.00	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

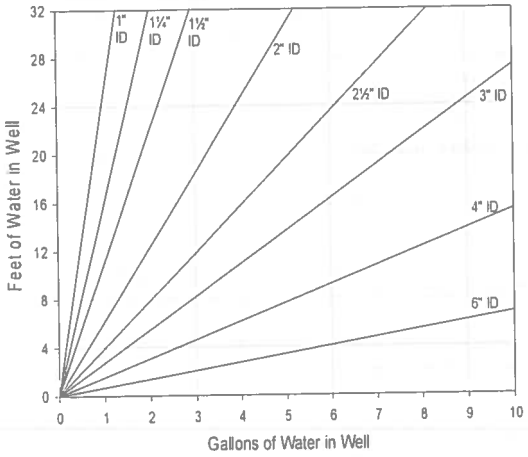
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19MA-MW5-093019-1	40mL VOA	3	HCL	VOCs 8260C	0957

Comments

Signature Date 9/30/19

AECOM

Well ID: MW-5



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[36 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.624 L ; 0.624 L x 3 well vol. = 1.87 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **MW-7**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/14 Time: Start 1350 am/pm
Project No: 60552044 Finish 1400 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny 60's Partly Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 25 c. Screen Length 10 (15' - 25') 1.5" PVC Casing
b. Water Table Depth 4.71 d. Pump Intake 17'
c. Water Column (a-b) 20-24 e. Calculated System Purge Volume 1.49 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600XL	97E0508AB
	Geotech	Turbmeter	1808 1544

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	DRW Drawdown (feet)	Color/Odor
1404	0	15.48	5.44	2060	1.28	104.4	58.4	162	4.87	mod Fe/none
1414	0.81	15.24	5.35	2062	0.84	110.6	162	216	4.28	"
1419	1.86	15.31	5.37	2059	0.87	108.7	81.6	186	"	Lt Fe/none
1424	2.79	15.34	5.40	2063	0.58	106.4	55.2	"	"	"
1429	3.72	15.23	5.43	2063	0.44	104.6	34.4	"	"	"
1434	4.65	15.13	5.44	2062	0.40	103.2	26.1	"	"	Clear/none
1439	5.58	15.06	5.44	2061	0.41	102.1	14.4	"	"	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

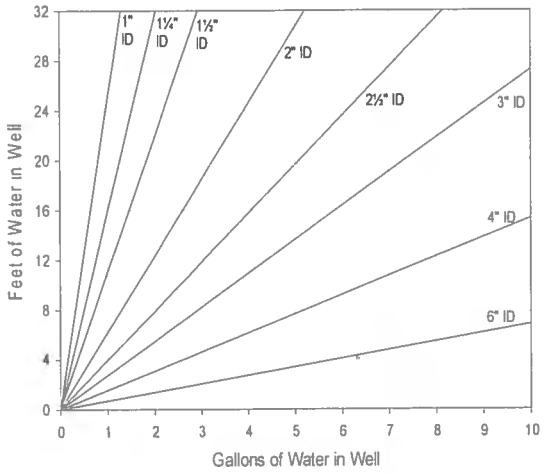
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A-MW7-092614~~ MA	40mL VOA	3	HCL	VOCs 8260C	1535

Comments

Signature [signature] for Date 9/26/14

AECOM

Well ID: MW-7



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[23 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.498 L ; 0.498 L x 3 well vol. = 1.49 L

(continued from front)

DJW

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ (ft)	Color/Odor
1444	6.51	15.17	5.45	2058	0.93	101.1	17.4	186	4.78	Clr/none
1449	7.44	15.34	5.46	2058	0.94	100.0	21.2	"	"	"
~~1454~~ 1451	8.37	15.47	5.49	2058	1.04	97.4	9.82	170	"	"
1516	9.22	15.10	5.49	2051	1.02	98.5	21.7	"	"	Lt particles/"
1521	10.07	15.10	5.44	2049	1.02	97.9	21.5	"	"	"
1526	10.92	15.02	5.44	2046	1.02	97.2	04.42	"	"	
1531	~~11.77~~ 11.77	14.97	5.44	2061	1.01	97.6	5.19	"	"	

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

1535

AECOM

Well ID: **PS-1D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 0950 am/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 65°F Collector(s): A. Borden

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 52.5' c. Screen Length 5 (49.25' - 54.25') 0.62" steel
b. Water Table Depth 0.18' d. Pump Intake 52'
c. Water Column (a-b) 52.32 e. Calculated System Purge Volume 2.43 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	ProPlus	10E100237
geotech	3550 - 1293	19011937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1005	0.50	11.2	11.38	1594	1.96	-69.1	10.6	100	NM	clear/none
1010	1.00	10.9	11.39	1375	1.46	-145	19.7	100	NM	
1015	1.50	11.5	10.83	1023	0.86	-141.0	24.4	100	NM	
1020	2.00	11.6	9.45	755	0.54	-355.4	23.9	100	NM	
1025	2.50	11.6	8.49	731	0.16	-249.0	13.6	100	NM	
1030	3.00	11.6	7.96	729	0.26	-163.0	11.3	100	NM	
1035	3.50	11.8	7.71	727	0.28	-123.7	10.4	100	NM	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

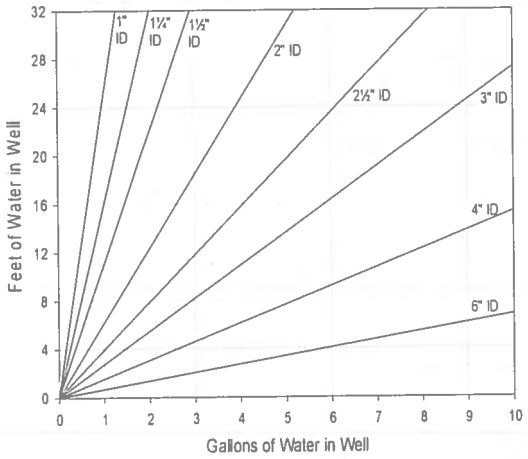
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-PS1D-9179-1	40mL VOA	3	HCL	VOCs 8260C	1050

Comments _____

Signature Andrew Borden Date 9/17/19

AECOM

Well ID: PS-1D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[55 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.809 L ; 0.809 L x 3 well vol. = 2.43 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1040	4.0	11.8	7.71	726	0.28	-117.1	7.52	100	NM	clear/none
1045	4.5	11.7	7.70	724	0.27	-110.9	8.44	100	NM	clear/none

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **PS-1S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 0950 (am)/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 65°F Collector(s): A. Borden

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 19.9' c. Screen Length 5 (12' - 17') 0.62" steel
b. Water Table Depth 3.77 ~~3.30~~ AKB 9/17/19 d. Pump Intake 15'
c. Water Column (a-b) 16.13 e. Calculated System Purge Volume 1.35 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	ProPlus	10E100237
	geotech		1901937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1100	0.50	11.1	6.90	436.1	0.13	-80.9	7.08	100	NM	clear/none
1105	1.00	10.8	6.60	491.1	0.09	-79.5	7.58	100	NM	
1110	1.50	10.7	6.52	490.9	0.10	-70.7	6.10	100	NM	
1115	2.00	10.8	6.48	490.4	0.09	-68.1	5.94	100	NM	
1120	2.50	10.7	6.45	492.9	0.08	-67.2	2.09	100	NM	
1125	3.00	10.6	6.45	494.9	0.08	-66.4	0.65	100	NM	
1130	3.50	10.6	6.43	498.8	0.06	-66.2	0.02	100	NM	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

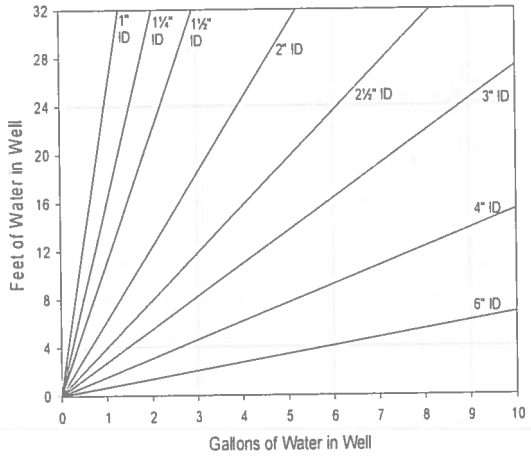
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~LSA~~-PS1S-091719-1	40mL VOA	3	HCL	VOCs 8260C	1135

Comments

Signature Andrew Borden Date 9/17/19

AECOM

Well ID: PS-1S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[18 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.450 L ; 0.450 L x 3 well vol. = 1.35 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **PS-2D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 1205 am/pm
Project No: 60552044 Finish ____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 60s Collector(s): D. Potter, A. Borden

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 54.1 c. Screen Length 5 (49.1' - 54.1') 0.62" steel
b. Water Table Depth 1.69 d. Pump Intake 51.6'
c. Water Column (a-b) ____ e. Calculated System Purge Volume 2.4 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Pro Plus	19E100237
	GeoTech		19011937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1220		10.6	9.92	561.5	9.10	-266.1	40.9	340	NM	clear/none
1225	UNCLOG TUBING								NM	
1230									NM	
1242		14.9	9.19	604	4.47	-89	133	50	NM	
1247		15.0	9.09	637	2.30	-7.8	156	50	NM	
1252		15.3	8.84	643	2.05	-2.8	+3346	50	+1.69 0.0	
1257		15.4	8.39	647	2.02	-29.4	70.8	50	0.0	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☐	☒	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~19A~~ ~~19A~~-PS2D-091719-1	40mL VOA	3	HCL	VOCs 8260C	1300

Comments: air bubbles in tubing and limited flow through, only able to pump 50mL/min

Signature ____ Date ____

AECOM

Well ID: **PS-3**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 0945 (am)/pm
Project No: 60552044 Finish 1030 (am)/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 60°F Collector(s): A. Borden / A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 10.14' c. Screen Length 5 (2.7' - 7.7') 0.62" steel
b. Water Table Depth 1.30 d. Pump Intake 5'
c. Water Column (a-b) 8.84 e. Calculated System Purge Volume 1.06 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	ProPlus	19E100237
	geotech	portable	19011937

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0952	.500	13.5	6.72	177	3.3	-114.6	48.8	134	5.00	black / none
0957	1.00	13.3	6.30	784	3.0	-76.6	36.1	102	3.60	clear / none
1002	1.50	13.2	6.13	595.7	2.5	-54.8	16.0	100	3.50	
1007	2.00	13.2	6.04	476.6	2.4	-53.1	5.02	100	4.60	
1012	2.50	13.3	6.03	433.0	0.20	-53.5	3.31	100	4.75	
1017	3.00	13.2	6.02	414.7	0.20	-54.1	2.21	100	5.30	
1022	3.60	13.2	6.00	410.3	0.18	-52.5	0.82	100	5.70	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

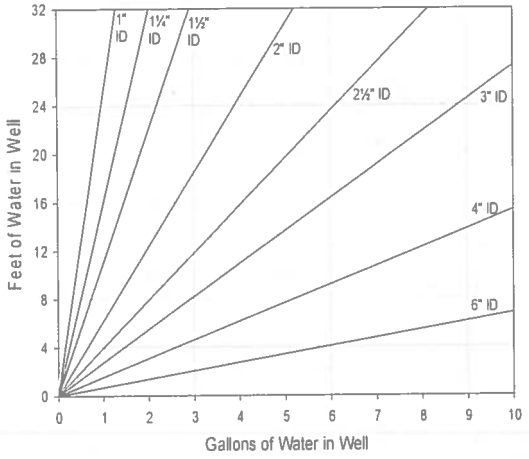
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-PS3-091919-1	40mL VOA	3	HCL	VOCs 8260C	1030

Comments

Signature Andrew Borden Date 9/19/19

AECOM

Well ID: PS-3



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[8 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.353 L ; 0.353 L x 3 well vol. = 1.06 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1027	1027	13.2	5.99	404.6	0.17	-51.8	2.67	100	6.30	clear/none

MKB 9/19/19

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **PS-5D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1040 (am)/pm
Project No: 60552044 Finish _____ am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 60°F Collector(s): A. Borden / A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 29.1' c. Screen Length 5 (24.1' - 29.1') 0.62" steel
b. Water Table Depth 18.76 d. Pump Intake 26.5'
c. Water Column (a-b) 10.34 e. Calculated System Purge Volume 1.67 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	ProPlus	10E100837
	geotech	portable turbmeter	19019137

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1053	—	12.9	6.62	304	1.18	-75.7	41.8	NM	NM	ss sed/none
					AKB					
					9/19/19					

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☒	☐
Has required turbidity been reached	☐	☒	☐
Have parameters stabilized	☐	☒	☐

(continued on back)

If no or N/A - Explain below.
poor recharge, grab sampling only

3. SAMPLE COLLECTION: Method: grab

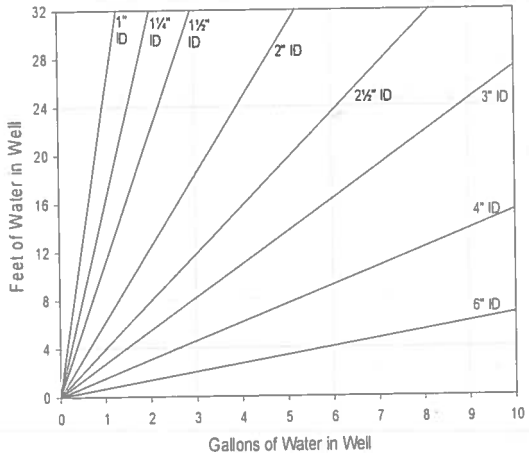
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~19A~~ ~~18A~~-PS5D-09919-1	40mL VOA	3	HCL	VOCs 8260C	1045

Comments _____

Signature Andrew Borden Date 9/19/19

AECOM

Well ID: PS-5D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[29 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.556 L ; 0.556 L x 3 well vol. = 1.67 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **PS-8D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/17/19 Time: Start 1231 am/pm
Project No: 60552044 Finish 1335 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 65°F, Sunny, no wind Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 56.8' c. Screen Length 5 (51.8' - 56.8') 0.62" steel
b. Water Table Depth 7.01' d. Pump Intake 57'
c. Water Column (a-b) 69.79' e. Calculated System Purge Volume 2.48 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650 MDS	03D0903AD
	Greatech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1231	0.7	13.09	9.35	229	5.62	-209.7	8.01	140	9.50	clear/none
1236	1.4	11.54	7.44	288	0.54	-233.2	5.72	140	9.45	
1241	2.1	11.36	6.82	317	0.52	-160.9	2.04	140	9.82	
1246	2.8	11.20	6.64	318	0.58	-109.1	0.54	140	9.62	
1251	3.45	11.14	10.52	319	0.63	-74.8	3.72	130	9.69	
1256	4.1	11.45	6.49	320	0.606	-66.7	8.55	130	9.21	
1301	4.85	11.29	0.47	332	0.605	-57.5	3.19	150	9.36	↓

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

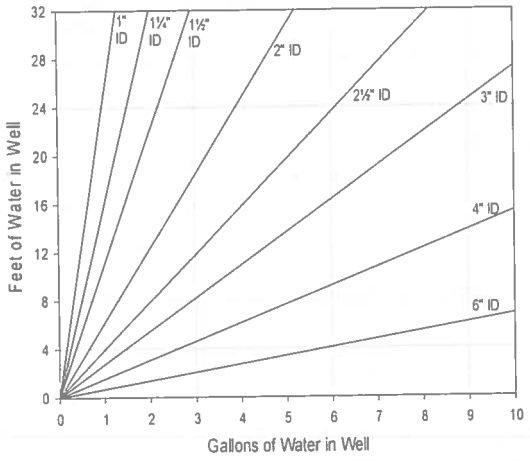
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-PS8D-091719-1	40mL VOA	3	HCL	VOCs 8260C	1335
	500mL P	1	HNO3	Total (Fe, As, Mn)	
	500mL P	1	HNO3	Diss.(Fe, As, Mn) FF	

Comments: Misread water level meter 1311-1321, corrected with line-out

Signature [signature] Date 9/17/19

AECOM

Well ID: PS-8D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[57 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.828 L ; 0.828 L x 3 well vol. = 2.48 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1306	5.6	11.36	6.40	320	0.63	-77.8	2.40	~~9.22~~	9.22	clear/none
1311	6.3	11.05	6.42	318	0.106	-100.7	0.85	140	9.71	9.31 NB
1316	7.0	11.13	6.39	320	0.109	-51.1	0.02	140	~~9.83~~	9.43 NB
1321	7.7	11.04	6.37	320	0.108	-35.2	0.02	140	~~9.82~~	9.52 NB
1326	8.55	10.92	6.36	319	0.70	-32.1	0.02	150	9.71	
1331	9.3	11.01	6.35	319	0.71	-25.6	0.37	150	9.72	

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **PZ-2S**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 1125 am/pm
Project No: 60552044 Finish 1535 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 60 Collector(s): D. Potter

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length ~~8.55~~ 7.95 c. Screen Length 5' (3.55' - 8.55') 4" PVC Casing
b. Water Table Depth 6.35 d. Pump Intake 6'
c. Water Column (a-b) ~~2.20~~ 1.6 e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	650MDS	03D0609
	Geotech		16081849

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1138	1.6	20.00	6.30	146	0.89	44.2	1.26	160	0.50	clear/none
1143	2.5	20.18	6.27	155	0.74	34.9	4.71	120	0.66	"
1148	2.8	20.32	6.21	146	0.88	35.5	0.02	120	0.70	"
1153	3.4	19.81	6.20	150	1.01	27.8	0.96	120	0.70	"
1158	4.0	19.75	6.27	165	1.64	18.4	1.85	120	0.76	"
1203	4.6	20.01	6.29	181	1.86	14.7	0.94	120	0.77	"
1208	5.2	20.46	6.31	219	2.49	11.9	60.9	120	0.77	cloudy/petroleum

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☐	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☐	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

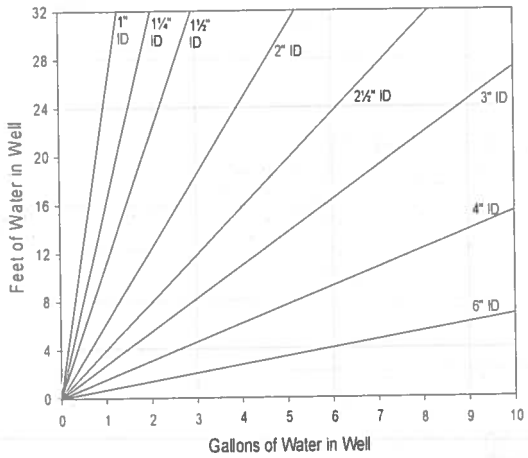
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-PZ2S-093019-1	40mL VOA	3	HCL	VOCs 8260C	1410
	1L A	2	HCL	EPH	↓
MS/MSD	40mL VOA	3	HCL	VPH	

Comments 1243- Well ran dry
1400- DTW = 6.54'

Signature [signature] Date 9/30/19

AECOM

Well ID: PZ-2S



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[10 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.372 L ; 0.372 L x 3 well vol. = 1.12 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1213	5.6	19.85	6.38	226	1.82	-5.6	28.8	120	0.77	cloudy/petroleum
1218	6.4	19.57	6.38	241	2.52	-1.4	5.55	120	0.80	clear/petroleum
1223	7.0	19.64	6.38	258	3.00	0.3	3.05	120	0.82	"
1228	7.6	19.64	6.39	275	3.53	2.4	2.54	120	0.97	"
1233	8.2	19.66	6.39	301	3.86	4.0	0.02	120	0.97	"
1238	8.8	19.68	6.42					120	~~0.77~~	"
~~1243~~	~~9.4~~							~~120~~	~~0.77~~	"
1408	8.8	19.69	6.41	551	2.95	35.4	0.02	—	recharged to 6.54'	

DRY

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **STM-3D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/14 Time: Start 850 am/pm
Project No: 60552044 Finish 1240 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's, Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 54.8' c. Screen Length 5 (49.8' - 54.8') 0.75" PVC
b. Water Table Depth 10.90 d. Pump Intake 50.8'
c. Water Column (a-b) ~~10.90~~ 44.0 e. Calculated System Purge Volume 2.40 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used: Make YSI Model 600XL Serial Number 07B050848
Geotech Turbidimeter 1408184 DTW

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
930		18.48	5.49	456	1.14	178.9	127	98	~~11.03~~	lt silty/none
935		18.53	5.53	441	0.93	208.6	34.5	100	11.05	clear/"
941 ~~940~~		18.42	5.34	434	0.85	36.3	10.3	"	11.06	"
946 ~~945~~		18.27	5.42	432	0.83	246.7	4.43	"	11.10	clr/"
951 ~~950~~		18.32	5.41	430	0.84	254.7	3.04	140	11.11	"
956 ~~955~~		18.37	5.32	430	0.91	266.4	4.25	"	"	"
1001 ~~1000~~		18.41	5.23	431	0.44	280.4	3.25	"	"	"

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☐	☒	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.
Turb >10 + Stable

(See Reverse)

3. SAMPLE COLLECTION: Method: grab

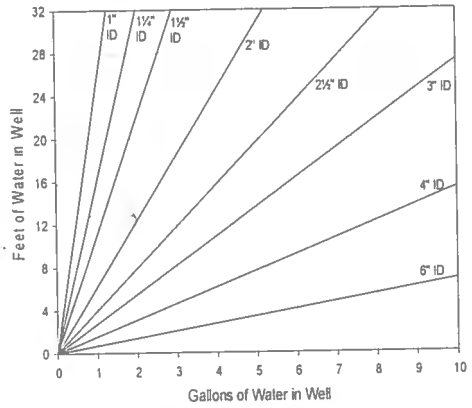
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A-STM3D~~ 092614-1	40mL VOA	3	HCL	VOCs 8260C	1215

Comments: Lots of soil in roadbox. STM-3D no cover & was buried. An unidentified player STM-33 for at first. Removed tubing in all wells. There are 3 wells in roadbox

Signature [signature] Date 9/26/14

AECOM

Well ID: STM-3D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

9.4C

Purge Volume Calculation

[54 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.799 L ; 0.799 L x 3 well vol. = 2.40 L

(continued from front)

DTW

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ (ft)	Color/Odor
1006		18.56	5.17	433	0.46	294.1	2.11	140	11.11	Clr/none
1011		19.01	5.11	432	0.44	312.3	1.46	"	"	"
1016		19.16	5.12	434	1.01	323.4	1.51	"	"	"
1021		19.26	5.06	433	1.02	334.4	1.21	"	"	"
1026		19.41	5.08	433	1.06	342.2	2.22	"	"	"
1031		20.01	5.15	432	1.14	345	16.2	"	"	"
1036 @		19.43	5.02	435	1.04	356.4	20.2	"	"	"
1041		19.81	5.12	438	1.04	362.7	6.66	"	"	"
1046		19.96	5.04	434	1.16	370.9	3.58	"	"	"
1051		20.11	5.01	432	1.04	375.6	0.92	"	"	"
1054		20.24	5.04	437		380.7				
1125 1101	0	21.23	6.21	434	0.70	-26.3	186	0.4	10.86	
1130	4.4	21.57	6.42	474	0.42	-62.2	166	100	11.23	
1135	5.4	21.42	6.34	472	0.74	-66.0	147	"	11.23	
1140	9.9	20.94	6.33	483	0.40	-65.7	130	"	"	
1145	10.4	20.50	6.38	484	0.74	-65.2	136	"	"	mod purging now
1150	6.9	20.99	6.46	495	0.74	-67.1	90.2	"	"	"
1155	2.4	21.15	6.44	504	0.80	-66.5	74.7	"	"	"
1200	7.9	21.62	6.44	504	0.84	-67.3	58.3	"	"	"
1205	8.4	21.65	6.47	504	0.85	-66.5	54.0	"	"	"
1210	8.9	21.56	6.44	504	0.85	-65.4	55.2	"	"	"
~~1215~~										

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **STM-8D**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 1245 am/pm
Project No: 60552044 Finish 1320 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 80's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 39.7' c. Screen Length 5 (34.7' - 39.7') 1" PVC Casing
b. Water Table Depth 5.87 d. Pump Intake 37.2'
c. Water Column (a-b) 33.83 e. Calculated System Purge Volume 1.99 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	14F100066
GeoTech	pTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1250	0	14.29	6.06	1000	0.73	45.8	2.2	100	0.39	clear
1255	0.5	13.09	5.99	1002	0.13	68.3	0	100	0.46	↓
1300	1.0	13.17	5.99	1002	0.15	68.9	0	100	0.55	
1305	1.5	13.18	5.99	1002	0.15	69.2	0	100	0.62	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

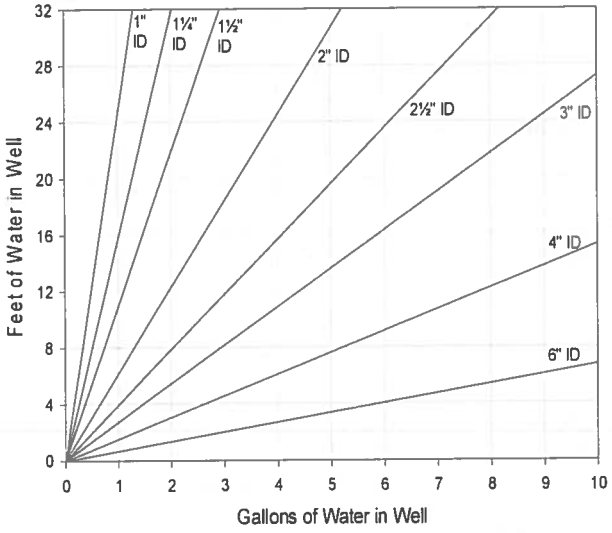
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19H ~~18A~~-STM8D-092619-1	40mL VOA	3	HCL	VOCs 8260C	1310
	250 mL Amber	2	NaHSO4	1,4 dioxane	

Comments

Signature FwB Date 9/26/19

AECOM

Well ID: STM-8D



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[40 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.663; 0.663 L x 3 well vol. = 1.99 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **STM-8R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 1200 am/pm
Project No: 60552044 Finish 1240 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 80's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 51.5' c. Screen Length 5 (46.6' - 51.5') 1" PVC Casing
b. Water Table Depth 5.92 d. Pump Intake 49'
c. Water Column (a-b) 45.58 e. Calculated System Purge Volume 2.32 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1210	0	18.22	6.31	1042	1.57	-19.1	3.6	100	0.22	clear
1215	0.5	18.02	5.82	1107	0.89	21.2	0	100	0.26	↓
1220	1.0	17.98	5.82	1104	0.86	22.1	0	100	0.30	
1225	1.5	18.00	5.81	1103	0.84	23.0	0	100	0.34	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☒	☐	☐
Have parameters stabilized	☒	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

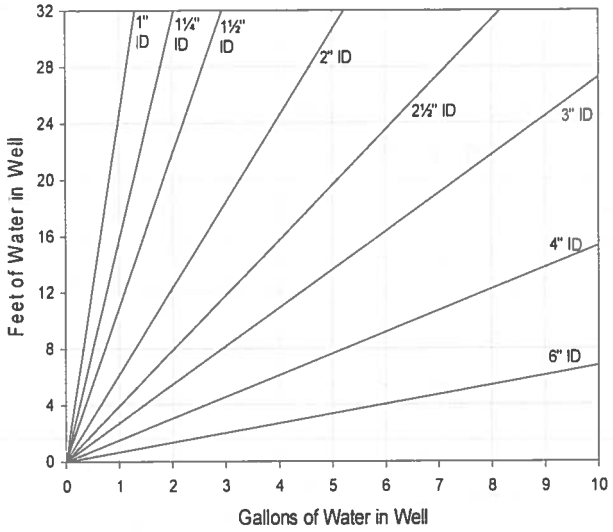
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-STM8R-092609-1	40mL VOA	3	HCL	VOCs 8260C	1230
	250 mL Amber	2	NaHSO4	1,4 dioxane	

Comments

Signature Floyd Burton III Date 9/26/19

AECOM

Well ID: STM-8R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[51.5 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.7746; 0.7746 L x 3 well vol. = 2.32 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **STM8-R1**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/26/19 Time: Start 0855 am/pm
Project No: 60552044 Finish 1115 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60's Sunny Collector(s): Floyd Burton

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 92' c. Screen Length 5 (85' - 90') 2" PVC Casing
b. Water Table Depth 18.86 d. Pump Intake 87.5'
c. Water Column (a-b) 73.14 e. Calculated System Purge Volume 3.44 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump (purge well down to top of screen using submersible pump)

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	556	14F100066
	GeoTech	PTM	18043532

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0910	0	16.14	8.09	493	2.64	61.0	2.1	100	2.13	Clear
0915	0.5	16.36	8.48	490	0.70	2.9	0	100	2.46	
0920	1.0	16.56	8.52	491	0.79	-35.6	0	100	2.59	
0925	1.5	16.53	8.53	491	0.79	-36.9	0	100	2.69	
0930	2.0	16.53	8.52	491	0.79	-38.3	0	100	2.79	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☒	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
(19) ~~18A~~-STM8R1-092619-1	40mL VOA	3	HCL	VOCs 8260C	0935
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	3	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	
	250 mL Amber	2	NaHSO4	1,4 dioxane	
	40mL V	3	HCL	VPH	
	1L A	1	HCL	EPH	
	500mL P	2	HNO3	Total & Diss. (Fe, As, Mn)	
	40mL V	2	H3PO4	TOC	
	vial	1	none	Diss. Hydrogen	

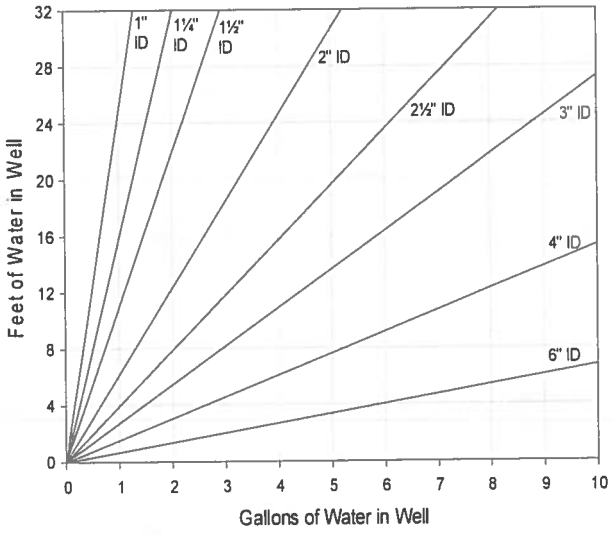
Comments Due to excessive drawdown, purge water level down to 85 ft using pump and allow to recharge prior to collecting sample. 9/25 - initial DTW = 6.77 at 0921. Purged 15 gallons 0930-1000
Hydrogen sampled @ 1100 / 20 mins @ 180 ml

Signature Floyd Burton Date 9/26/19

Large amount of off gasing during purge/sampling.

AECOM

Well ID: STM-8R1



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[90 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.148; 1.148 L x 3 well vol. = 3.44 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **TRC-101**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/14/19 Time: Start 1350 am/pm
Project No: 60552044 Finish 1610 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70's Sunny Collector(s): A. Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 10.5' c. Screen Length 10 (1.5' - 10.5') 1.25" PVC
b. Water Table Depth 6.06 d. Pump Intake 6.5'
c. Water Column (a-b) 4.44 e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	6007 V2	17E050648
	Geotech	Turbo meter	18081844

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ DW (feet)	Color/Odor
1404	0	23.0	8.33	2181	0.14	-55.2	122	176	6.43	~~FF~~ / Slight Solvent
1414	0.88	22.1	6.33	2198	0.13	-53.2	82.4	~~210~~ 200	6.40	" "
1424	1.68	23.0	6.32	2204	0.12	-44.4	45.4	160	6.40	Slight Odor / "
1434	2.68	23.2	6.24	2212	0.11	-48.5	34.6	166	6.40	" "
1444	3.51	23.0	6.24	2210	0.04	-48.7	28.4	"	"	" "
1454	4.34	22.4	6.30	2228	0.08	-44.2	20.6	"	"	L. particles / "
1504	5.17	23.0	6.20	2224	0.09	-43.1	13.2	"	"	" "

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

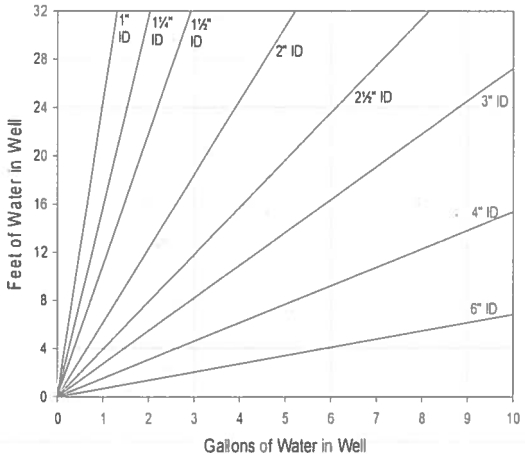
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
19A ~~18A~~-TRC101-091419	40mL VOA	3	HCL	VOCs 8260C	1550
	40mL V	3	HCL	VPH	
	1L A	2	HCL	EPH	

Comments

Signature [signature] Date 9/14/19

AECOM

Well ID: TRC-101



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[10 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.372 L ; 0.372 L x 3 well vol. = 1.12 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ DTW (ft)	Color/Odor
1444	6.00	23.0	6.31	2230	0.04	-43.6	15.6	166	6.40	Clr/ Slight Solvent-like
1449	6.43	23.1	6.29	2233	0.04	-44.0	12.5	"	"	Slight Clay / "
1454	7.66	23.0	6.28	2240	0.07	-44.6	15.4	"	"	" "
1459	8.49	23.0	6.27	2243	0.07	-44.3	13.4	"	"	" "
1504	9.32	22.9	6.25	2246	0.07	-43.4	8.23	"	6.42	Lt Particles/ mixed
1509	10.14	23.1	6.24	2246	0.07	-42.4	13.4	"	"	" "
1514	10.99	23.1	6.25	2248	0.08	-38.2	12.4	"	"	" "
1519	11.91	22.9	6.24	2247	0.07	-41.2	9.64	"	6.44	" "
1524	12.66	22.9	6.23	2249	0.07	-42.1	7.33	"	6.45	" "
1529	13.47	22.9	6.21	2251	0.07	-40.8	7.55	"	6.45	" "

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

AECOM

Well ID: **TRC-102**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/20/14 Time: Start 850 am/pm
Project No: 60552044 Finish ~~1145~~ 1130 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 60s Sunny Collector(s): Adam Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 12.25' c. Screen Length 10 (2.25' - 12.25') 1.25" PVC
b. Water Table Depth 5.10 d. Pump Intake 7.25'
c. Water Column (a-b) 7.15 e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Pro PSS	18H100703
	Geotech	MP meter	14081844

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	~~Drawdown~~ DW (feet)	Color/Odor
422	0	21.0	6.22	1100	0.35	-32.6	21.5	140	5.12	VT purple/grey Solvent-like
427	0.95	21.0	6.22	1034	0.17	-37.1	12.1	134	5.12	" "
432	1.92	21.0	6.21	1046	0.13	-36.3	7.50	210	"	" "
437	2.92	21.0	6.21	1072	0.04	-36.2	4.72	140	"	" "
442	3.92	21.2	6.19	1043	0.04	-34.3	2.31	"	"	" "
447	4.87	21.2	6.19	1084	0.02	-33.5	1.73	"	"	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

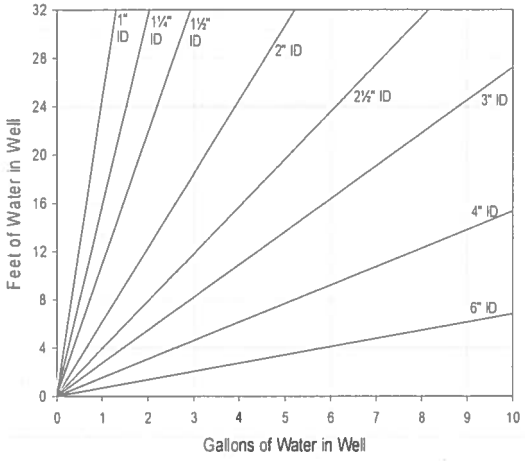
1417 Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-TRC102-042414-1	40mL VOA	3	HCL	VOCs 8260C	955
	40mL V	3	HCL	VPH	
	1L A	2	HCL	EPH	
	500mL P	1	HNO3	Total (Fe, Mn, As)	
	500mL P	1	HNO3	Diss. (Fe, Mn, As) FF	

Comments MS/MSD

Signature [signature] Date 4/20/14

AECOM

Well ID: TRC-102



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[10 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.372 L ; 0.372 L x 3 well vol. = 1.12 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor

AECOM

Well ID: **TRC-103**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/19/19 Time: Start 1354 am/pm
Project No: 60552044 Finish 1450 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: sunny, 68°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 11.25' c. Screen Length 10 (1.25' - 11.25') 1.25" PVC
b. Water Table Depth 5.77 d. Pump Intake 6.25'
c. Water Column (a-b) 5.48 e. Calculated System Purge Volume 1.12 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	1050 MDS	03B 05037
	Insotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1354	1.4	23.00	6.38	1340	1.87	-65.4	376	275	0.12	clear/none
1359	2.7	23.40	6.51	1055	0.75	-77.7	58.1	275	0.12	
1404	~~3.0~~ 3.1	23.30	6.53	975	0.72	-75.8	30.5	280	0.12	
1409	4.5	23.28	6.53	950	0.73	-74.7	21.3	280	0.12	
1414	5.9	23.20	6.52	943	0.76	-74.1	26.6	280	0.12	
1419	~~7.3~~ 7.3	23.09	6.52	935	0.72	-74.1	10.9	280	0.12	
1424	8.7	23.14	6.49	996	0.83	-75.9	15.0	280	0.12	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

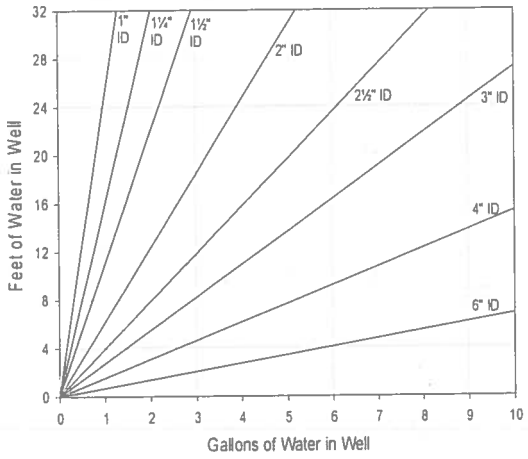
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
~~18A~~-TRC103-091919-1	40mL VOA	3	HCL	VOCs 8260C	
	40mL V	3	HCL	VPH	
	1L A	2	HCL	EPH	

Comments

Signature [signature] Date 9/19/19

AECOM

Well ID: TRC-103



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[10 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.372 L ; 0.372 L x 3 well vol. = 1.12 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1429	10.1	23.09	10.52	930	0.77	-74.4	10.8	250	0.12	clear / none
1434	10.115	23.05	10.51	927	0.79	-74.1	7.33	250	0.12	
1439	12.9	23.04	10.51	925	0.79	-74.4	8.12	250	0.12	
1444	14.3	23.52	10.49	954	0.93	-72.6	9.11	280	0.12	↓

AECOM

Well ID: **TRC-201R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/25/19 Time: Start 1358 am/pm
Project No: 60552044 Finish 1440 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 66°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 169.11 c. Screen Length open bedrock 4.75" open bedrock
b. Water Table Depth 8.38 d. Pump Intake 111.5'
c. Water Column (a-b) 160.73 e. Calculated System Purge Volume 4.17 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: Bladder pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	± 1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	6920 MDS	03D0902AD
	Geotech	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1358	0.75	18.11	7.90	987	2.99	-132.4	14.3	150	0	clear / none
1403	1.5	17.27	7.82	992	1.04	-133.6	4.37	150	0.01	
1408	2.25	17.11	7.83	992	0.57	-147.0	4.13	150	0.12	
1413	3	16.75	7.84	991	0.36	-152.8	3.64	150	0.20	
1418	3.75	18.20	7.83	992	0.32	-157.1	3.00	150	0.19	
1423	4.5	17.75	7.83	992	0.32	-158.6	3.64	150	0.19	
1428	5.25	17.31	7.83	991	0.30	-160.3		150	0.21	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☐	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: grab

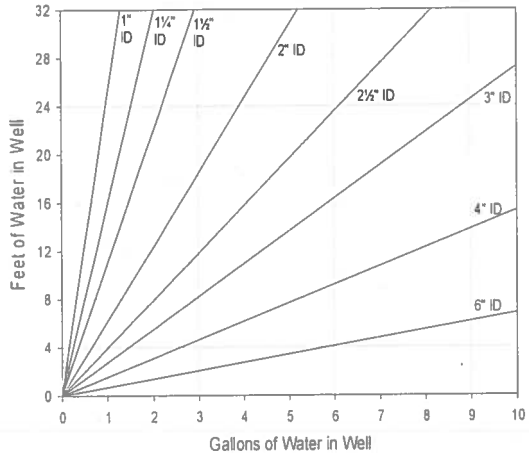
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
18A-TRC201R-092519-1	40mL VOA	3	HCL	VOCs 8260C	1435

Comments

Signature Date 9/25/19

AECOM

Well ID: TRC-201R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[115 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.39 L ; 1.39 L x 3 well vol. = 4.17 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1433	10	17.25	7.83	995	0.27	-161.2	9.05	150	0.20	clear/none

AECOM

Well ID: **TRC-301R2**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/17/14 Time: Start 930 am/pm
Project No: 60552044 Finish ~~1145~~ 1125 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70s partly cloudy Collector(s): John Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 85.5' c. Screen Length 4 (81.5' - 85.5') 0.5" CMT Channel
b. Water Table Depth 2.74 d. Pump Intake 83.5'
c. Water Column (a-b) 82.71 e. Calculated System Purge Volume 1.29 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	Cooler	97E 0508AB
	Cooler	Turbidimeter	18081844

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
951	0	11.32	6.67	661	2.21	61.0	0.02	200	—	Clear/none
957	1	11.52	6.44	803	1.37	-15.7	"	125	—	"
1002	1.63	11.47	7.23	824	1.14	-56.0	"	"	—	"
1007	2.26	11.31	7.34	825	1.00	-80.0	"	"	—	"
1012	2.88	11.32	7.43	842	0.84	-101.1	"	165	—	"
1017	3.71	11.14	7.50	915	0.77	-115.5	"	~~180~~ 160	—	"
1022	4.53	11.16	7.44	903	0.72	-126.4	"	~~180~~ 160	—	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: grab

Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
14A 18A-TRC301R2-041914-1	40mL VOA	3	HCL	VOCs 8260C	1120
	500mL P	2	HNO3	Total & Diss. (Fe, As, Mn)	"

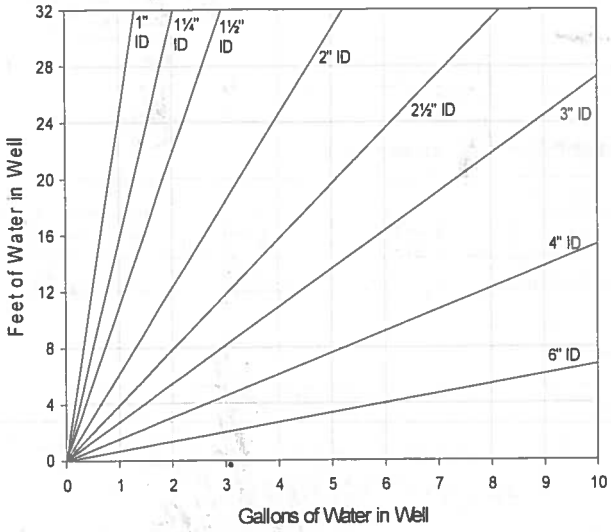
Comments

Signature John Grossman Date 4/17/14

2.76

AECOM

Well ID: TRC-301R2



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[105 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1027	5.33	11.13	7.48	875	0.64	-124.4	0.02	~~150~~ 160	—	Clear/none
1032	6.13	11.37	7.51	831	0.61	-134.8	"	160	"	"
1037	6.93	11.38	7.53	785	0.61	-136.2	"	160	—	"
1042	7.73	11.25	7.54	746	0.59	-137.5	"	"	—	"
1047	8.53	11.31	7.56	712	0.52	-139.6	0.02	175	—	"
1052	9.41	11.18	7.58	685	0.50	-141.8	"	175	—	"
1057	10.29	11.24	7.58	665	0.48	-142.8	"	"	—	"
1102	11.16	11.31	7.60	650	0.47	-142.4	"	"	—	"
1107	12.03	11.25	7.63	637	0.44	-143.7	0.02	"	—	"
1112	12.91	11.34	7.66	627	0.43	-145.1	"	"	—	"
1117	13.78	11.51	7.67	619	0.42	-145.9	"	"	—	"

AECOM

Well ID: **TRC-301R4**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 4/17/14 Time: Start 1130 am/pm
Project No: 60552044 Finish 1530 am/pm
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: 70s Partly (cloudy) Collector(s): Adam Grossman

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted)

a. Total Well Length 69.5' c. Screen Length 4 (65.5' - 69.5') 0.5" CMT Channel
b. Water Table Depth 2.78 d. Pump Intake 67.5'
c. Water Column (a-b) 66.72 e. Calculated System Purge Volume 1.29 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	600 XL	97E0508AB
	Geotech	Turbidity meter	18081464

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1215	0	13.44	8.42	605	2.52	-172.9	0.21	150	—	
1220	0.75	13.57	8.69	610	1.50	-181.4	0.34	"	—	
1225	1.5	13.52	8.31	621	1.46	-173.5	0.02	"	—	
1230	2.25	14.06	7.44	630	1.60	-174.3	"	"	—	
1235	3	13.50	7.61	637	2.53	-169.1	"	"	—	
1240	3.75	13.44	7.32	643	1.40	-156.2	"	"	—	
1245	4.25	15.34	7.02	664	1.42	-121.1	7.61	100		

1242
1247
1310
* 1315

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☑ @
Has required turbidity been reached	☑	☐	☐
Have parameters stabilized	☑	☐	☐

If no or N/A - Explain below.
0 FO

(continued on back)

3. SAMPLE COLLECTION: Method: grab

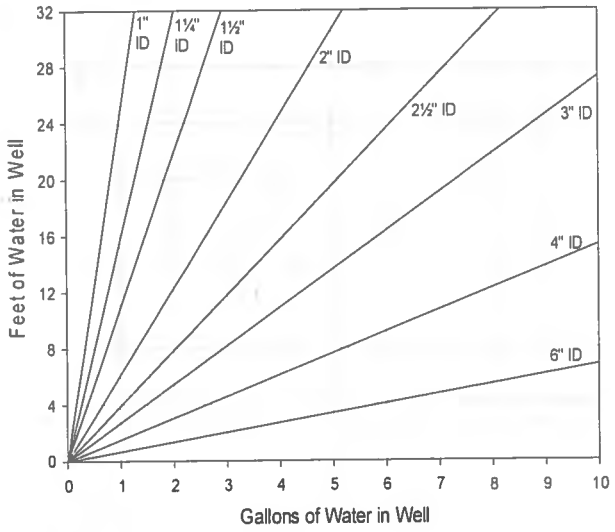
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
14A 18A-TRC301R4-041714-1	40mL VOA	3	HCL	VOCs 8260C	1350
	500 mL P	2	HNO3	Total & Diss. As, Fe, Mn	
	500mL P	1	none	Cl, NO2, NO3, SO4	
	500mL P	1	zinc acetate	Sulfide	
	40mL V	2	H3PO4	TOC	
	40mL V	3	belzal.chlor.	gases (Acet, Prop, Meth, Eth, Etha)	
	vial	1	none	diss. Hydrogen	

Comments YSI metal collar broke - bubbles entering flow cell, * used new flow cell - bubbles still appearing - possible degassing DO values possible biased high

Signature Adam Grossman Date 4/17/14

AECOM

Well ID: TRC-301R4



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[105 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 1.29 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1320	4.25	14.85	7.02	665	1.68	-122.4	0.02	100	—	
1329 ~~1325~~	5	15.02	7.04	666	2.10	-113.4	"	150	—	
1334	5.88	14.00	7.01	666	1.51	-120.7	"	175	—	
1334	6.76	14.05	6.99	671	1.52	-125.3	"	"	—	
1344	7.64	15.44	6.95	670	1.57	-122.5	"	"	—	

Hydrogen Bubble Strip Sampling:

Purge rate= 160 | Purge Duration= 20 min | Sample time= ~~1455~~ 1500-1520

AECOM

Well ID: **TRC-401R**

Low Flow Ground Water Sample Collection Record

Client: Lockheed Martin Corp. Date: 9/30/19 Time: Start 1126 ~~am~~/pm
Project No: 60552044 Finish 1230 am/~~pm~~
Site Location: 50 Fordham Rd Site, Wilmington, MA
Weather Conds: Sunny, 62°F Collector(s): D. Salvatore

1. WELL & WATER LEVEL DATA: (measured in feet from Top of Casing unless noted) 4"

a. Total Well Length 58' c. Screen Length 20 (38' - 58') ~~0.5~~" PVC
b. Water Table Depth 5.60 d. Pump Intake 48'
c. Water Column (a-b) 52.40 e. Calculated System Purge Volume 2.31 L (calculation on page 2)

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	- D.O.	< 0.5 mg/L	-Drawdown	<0.3 ft
- pH	±1.0 unit		>0.5 mg/L within 10%	-Turbidity	<10 NTU
- Sp. Cond.	3%	- ORP	± 10mV		>10NTU within 10%

c. Field Testing Equipment used:

	Make	Model	Serial Number
	YSI	1650 MDS	03D0903AD
	Hach	Turbidimeter	17111534

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1126	1.2	16.75	7.18	824	3.36	-100.7	40.3	240	0.40	clear/yellow
1131	2.4	16.72	8.06	795	0.34	-285.5	30.9	240	0.90	
1136	3.6	16.66	8.29	792	0.26	-318.5	31.7	240	1.05	
1141	4.8	16.74	8.41	793	0.23	-328.0	31.2	240	1.40	
1146	6	16.66	8.47	795	0.19	-332.7	33.0	240	1.70	
1151	7.2	16.33	8.51	799	0.17	-334.3	33.8	240	2.09	
1156	8	16.30	8.53	805	0.17	-332.4	35.4	100	2.40	

(continued on back)

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	☑	☐	☐
Has required turbidity been reached	☐	☑	☐
Have parameters stabilized	☐	☑	☐

If no or N/A - Explain below.
turbidity didn't stabilize, sample collected after 1 hour

3. SAMPLE COLLECTION: Method: grab

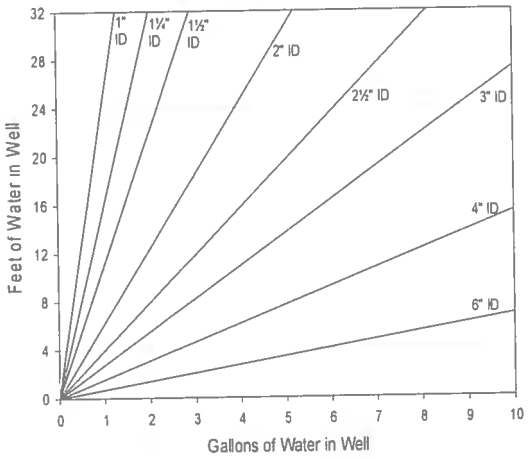
Sample ID	Container Type	No.	Preservation	Analysis Req.	Time
9 MA-TRC401R-093019-1	40mL VOA	3	HCL	VOCs 8260C	1230

Comments

Signature Date 9/30/19

AECOM

Well ID: TRC-401R



Volume / Linear Ft. of Pipe		
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	5.5600

Purge Volume Calculation

[51 ft (tubing length) x 0.0097 L/ft] + 0.275 L (flow cell vol.) = 0.770 L ; 0.770 L x 3 well vol. = 2.31 L

(continued from front)

Time (24 hr)	Volume Removed (Liters)	Temp (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (ft)	Color/Odor
1201	8.8	17.36	8.48	879	0.18	-319.3	43.4	160	2.58	clear/yellow
1206	9.0	17.20	8.45	832	0.18	-311.4	43.2	160	2.70	↓
1211	10.4	17.26	8.37	848	0.16	-288.2	39.9	160	2.78	
1216	11.2	17.27	8.32	863	0.18	-276.2	38.9	160	2.88	
1221	12	17.04	8.32	865	0.17	-272.8	43.4	160	2.89	
1226	12.8	17.08	8.32	867	0.16	-273.3	46.8	160	2.89	

Hydrogen Bubble Strip Sampling:

Purge rate=	Purge Duration=	Sample time=

Location LMC Wilmington Date 6/5/19

Project / Client AUL Inspection / LNAPL Gauging

1525 – D. Potter on site. Begin AUL inspection
weather: cloudy, 80s
1530 – Speak w[illegible] Olsen about demolition of old[illegible] to conduc[illegible] take photos
1600 – Comple[illegible] NAPL gaugin[illegible]
1655 – Condu[illegible] t shed sump.
1710 – Updat[illegible]. No signs [illegible] r than small [illegible] dge of the p[illegible] the const[illegible]

Location LMC Wilmington Date 9/12/19

Project / Client Annual GW sampling
605520.44

0820 – On site
Team: D. Potter, F. Burton, A. Grossman
Weather: Rain, 60s
Task: GW sampling, Mobilize
0915 – US Environmental drops off equipment. Unpack equipment and calibrate
1050 – Prepare bottle kits for AE3 and AE-4
1130-1200 – Lunch
1200 – Continue making bottle kits and mobilize equipment
1240 – FB to AE-4, AG to AE-3

Sample ID	TOS
19A-AE04-091219-1	1350
MA-AE04-091219-2	1355
19A-AE03-091219-1	1350
MA-AE03-091219-2	1355

1445 – Post cal and clean up
1615 – AG off site
1620 – FB off site
1815 – Received call from United Services. Porta-potty will not be delivered until tomorrow morning
1820 – Update S. Olson. off site.

Rite in the Rain

Location LMC Wilmington Date 9/13/19

Project / Client LMC

pg 1 of 2

0740- On site. Calibrate
Field Team: D. Potter, D. Salvatore, F. Burton, A. Grossman
Task: GW sampling
Weather: sunny, 60s
0800- Hold Tailgate meeting
0815- DP to begin purging AE-112R for A.G.
FB to AE-110R after calibration
DS to AE-112D after calibration

Sample ID	TOS
19A-AE112D-091319-1	0950
19A-AE-GZA102S-091319-1	1110
19A-IP1R2-091319-1	1220
19A-AE112R1-091319-1	1430
19A-AE112R3-091319-1	1433
19A-AE112R5-091319-1	1435
19A-AE112R6-091319-1	1440
19A-AE110R1-091319-1	1535
19A-AE110R2-091319-1	1540
19A-AE110R4-091319-1	1545
19A-AE110R6-091319-1	1550

0945- DP to conduct quarterly LNAPL gauging

Location LMC Wilmington Date 9/13/19

Project / Client LMC

pg 2 of 2

Time	ID	DTP	DTW	DTB
1023	AE-3	NP	6.19	12.65
1029	AE-4	ND	5.71	12.25
1018	TRC-101	NP	5.98	9.99
1033	CW-1	NP	4.74	8.15
1036	CW-2	NP	4.51	6.50
1012	GZA-102S	NP	6.57	10.93
1041	PZ-2S	NP	6.17	8.03

NOTES: No smears on probe or sheen in any well. Confirm CW-2 w/ bailer

1420- Phoenix courier off site
1500- DS and AG post cal
1600- DS off site
1745- DP, AG, FB off site

Rite in the Rain

Location LMC Wilmington Date 9/16/19

Project / Client LMC 2019 GW Sampling

0645- D. Potter on site. Calibrate
Weather: sunny, 60s
Task: GW sampling

0730- Field Team on site. A. Grossman and D. Salvatore

0815- FBurton on site. Complete calibrating, pack trucks, and hold tailgate meeting

0835- Mobilize to wells
- FB to AE-105R
- DP to AE-105S and AE-105D
- DS to AE-106S and AE-106D
- AG to AE-106R

Sample ID	TDS
19A-AE105S-091619-1	0953 diss H @ 1058
19A-AE105D-091619-1	1300
19A-AE105R1-091619-1	1255
19A-AE105R2-091619-1	1320 diss H @ 1425
19A-AE105R4-091619-1	1305
19A-AE105R5-091619-1	1300
19A-AE106R1-091619-1	1450
19A-AE106R3-091619-1	1515 diss H @ 1738
19A-AE106R5-091619-1	1500
19A-AE106S-091619-1	1220

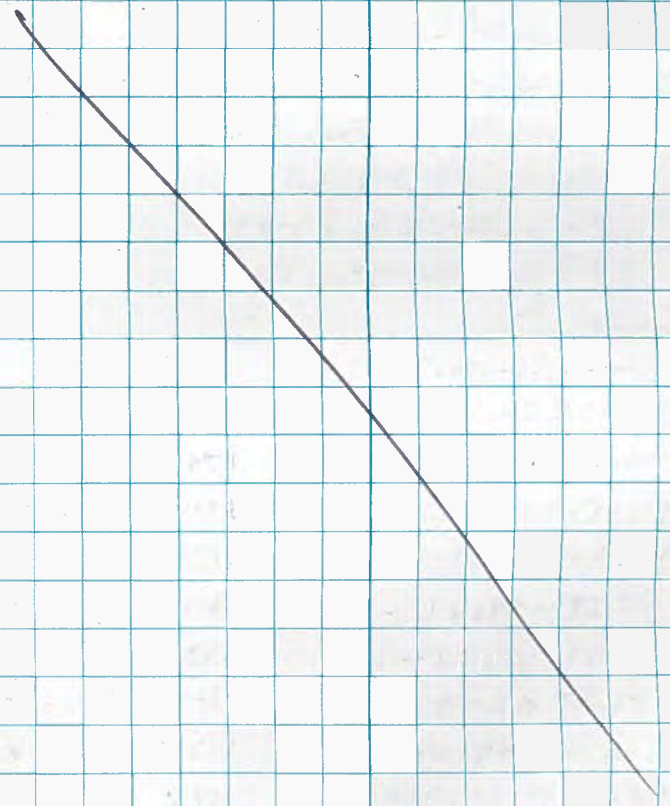
1000- courier on site

Location LMC Wilmington Date 9/16/19

Project / Client

Pg 2 of 2

1475- couriers off site
1500- post cal
1700- FB off site
1750- DS and AG return from wetlands
1820- off site. S. Olson stops by site to check in.



Rite in the Rain

Location LMC Wilmington Date 9/17/19

Project / Client LMC Wilmington 2019 GW Sampling

pg 1 of 2

0650- D. Polter on site. Begin mobilizing for day

Weather: Sunny, 60s

Task: GW sampling

0705- AG on site

0715- FB on site

0730- A. Border on site

0745- D.S. on site

0900- Calibrations complete. Mobilize to wells

- DP and AB to PS1S, PS1D, PS2D
- AG to TRC-301R2, R4
- DS to AE-106D, PS-8D
- FB to EMW-11R1, R2, R3

Sample ID	DTS	
19A-EMW11R1-091719-1	1000	
19A-EMW11R2-091719-1	1145	diss Hg @ 1240
19A-EMW11R3-091719-1	1040	
19A-PS1D-091719-1	1050	
19A-PS1S-091719-1	1135	
19A-PS2D-091719-1	1300	
19A-PS8D-091719-1	1335	
19A-TRC301R2-091719-1	1120	
19A-TRC301R4-091719-1	1350	diss Hg 1520
19A-AE106D-091719-1	1010	diss Hg 1045

1400- FB off site

Location LMC Wilmington Date 9/17/19

Project / Client

pg 2 of 2

1475- courier on site

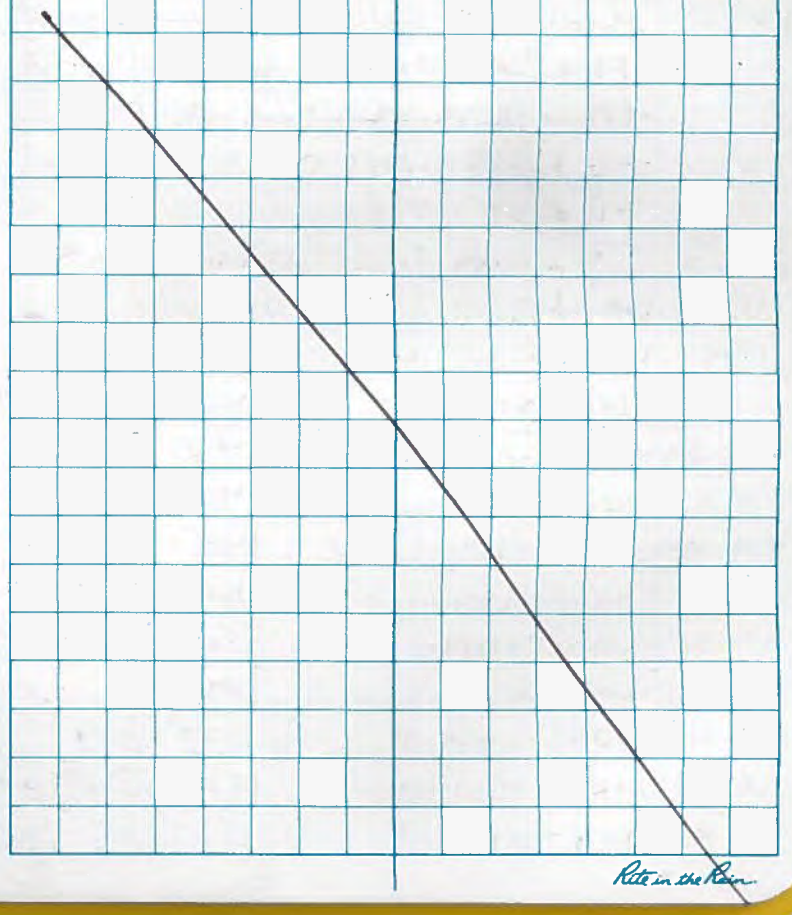
1445- courier off site, Post cal

1530- DS off site

1540- AB off site. DP continues to clean

1600- AG back to site from wetlands

1630- off site



Rite in the Rain

Location LMC-Wilmington Date 9/18/19

Project / Client LMC-Wilmington 2019 GW Sampling

pg 1 of 2

0700 - D. Potter on site. F Burton on site.
0730 - A. Borden, D. Salvatore on site. Begin calibration
0740 - A. Grossman on site
Weather: sunny, 60s
Task: EPL GW sampling
0840 - Mobilize to wells
- FB to AE-103R
- DS to ~~GZA-105S, D, R~~ AE-104R
- AG to GZA-105S, D, R
- AB to AE-109R
0950 - D.P. off site to get 2 drums
1130 - DP at Palms to get cylinder of Nitrogen
1145 - DP back on site

Sample ID	TOS
19A-AE109R1-091819-1	1440
19A-AE109R2-091819-1	1442
19A-AE109R3-091819-1	1447
19A-AE109R4-091819-1	1452
19A-AE109R5-091819-1	1500, diss H@ 1655
19A-AE109R6-091819-1	1515
19A-AE109R7-091819-1	1520
19A-AE109R7-091819-2	1520
19A-AE109R8-091819-1	1530

Location LMC Wilmington Date 9/18/19

Project / Client

pg 2 of 2

Sample ID	TOS
19A-AE103R1-091819-1	1350, diss H@ 1555
19A-AE103R3-091819-1	1425
19A-AE103R4-091819-1	1430
19A-AE103R5-091819-1	1405, diss H@ 1525
19A-AE103R7-091819-1	1435
19A-AE104R1-091819-1	1335
19A-AE104R3-091819-1	1340
19A-AE104R4-091819-1	1345
19A-AE104R5-091819-1	1350
19A-AE104R6-091819-1	1355
19A-GZA105S-091819-1	1005
19A-GZA105D-091819-1	1225
19A-GZA105R-091819-1	1515

1500 - DP off site to purge PS-5D at island.
Low worker: DP to check in with AG:
- Prior to entering wetland
- When island is reached
- Prior to heading back
- When vehicle is reached
- AG should reach out if 1 hour passes with no contact

1740 - PS5D purged. DTW (initial): 4.01
1820 - off site.

Rite in the Rain

Location LMC-Wilmington Date 9/19/19

Project / Client LMC-Wilmington 2019 GW Sampling

pg 1 of 2

0630- DP on site. Begin mobilizing
0700- AB on site. Begin calibrating
0730- FB, AG, DS on site
Weather: sunny, 60s
Task: GW sampling
0845- Hold Tailgate meeting
0900- Mobilize to wells:
- FB to EMW-11D, AE-103S, AE-103D
- DP, AG, AB, DS to island wells
0912- Disembark to island

Sample ID	TDS	
19A-MW4A-091919-1	1035	
19A-MW4-091919-1	1120	
19A-MW4-091914-2	1125	
19A-PS3-091919-1	1030	
19A-PS5D-091919-1	1075	
19A-AE103S-091919-1	1100	
19A-AE103D-091919-1	1150	diss Hg 1220
19A-EMW11D-091919-1	0940	

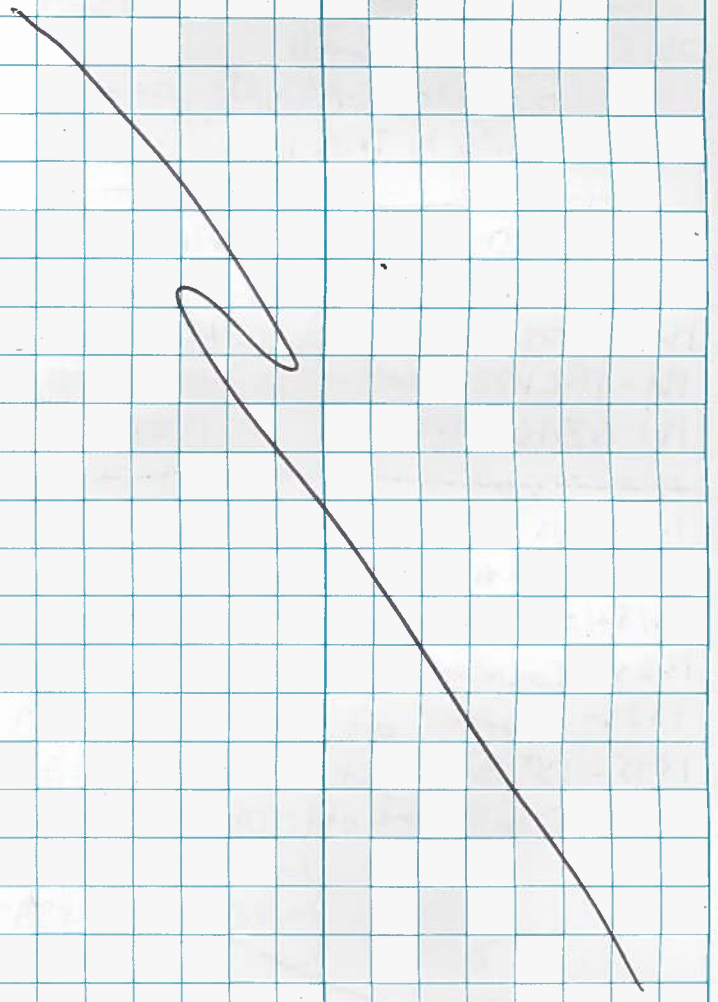
1215- Return from island
1400- AB off site. Courier on site
1430- Courier off site
1445- DS samples 19A-TRC103-091919-1
1550- AG samples 19A-TRC101-091919-1

Location LMC Wilmington Date 9/19/19

Project / Client LMC-Wilmington 2019 GW Sampling

pg 2 of 2

1700- off site. DP to FedEx to ship
Pace samples



Rite in the Rain

Location LMC Wilmington Date 9/20/19

Project / Client LMC-Wilmington 2019 GW Sampling

pg 1 of

0700- on site

Task: GW sampling - EPL

Weather: sunny, 70s

0815- Mobilize to wells

- DS to AE-104S, D, AE-109D
- AG to TRC-102

Sample ID	TOS	
19A-AE104D-092019-1	0910	
19A-AE104S-092019-1	0955	
19A-AE109D-092019-1	1040	
19A-TRC102-092019-1	0955	MS/MSD
19A-GEA6-092019-1	1328	

~~1315- DS off site~~

1130- US Env drops off Nitrogen, bladder pump, and hurricane pump

1315- DS off site

1325- Courier on site

1335- Courier off site

1345- DP to go get drums

1500- Drop drums off. Off site

Location LMC Wilmington Date 9/23/19

Project / Client LMC-Wilmington 2019 GW Sampling

pg 1 of 2

0700- DPotter on site. Begin mobilizing. DP to AE-100R

0730- FBurton and D. Salvatore on site. Begin calibrating

Task: Bld 1 GW sampling

Weather: sunny, 80s

0750- AGrassman on site.

0830- Begin mobilizing to wells. Gary on site

- FB to AE-23R, AE-24, AE-26S
- AG to AE-26R
- DS to AE-28R

Sample ID	TOS	
19A-AE23R-092319-1	1135	
19A-AE24-092319-1	1035	
19A-AE26S-092319-1	0950	
19A-AE26R1-092319-1	0920	diss Hg 1057
19A-AE26R2-092319-1	1255	
19A-AE26R5-092319-1	1200	
19A-AE28R1-092319-1	1350	
19A-AE28R2-092319-1	1040	diss Hg 1150
19A-AE28R3-092319-1	1330	
19A-AE28R4-092319-1	1005	
19A-AE100R1-092319-1	1235	
19A-AE100R3-092319-1	1240	

Rite in the Rain

Location _____ Date 9/23/19

Project / Client _____

pg 2 of 2

19A-AE100R4-092319-1	1245	
19A-AE100R5-092319-1	1230	diss He 1440
19A-AE100R6-092319-1	1250	

1215- FB off site
1310- Courier on site
1350- Courier off site. DS and AG clean up and post-cal
1530- Off site

Location Lmc-Wilmington Date 9/24/19

Project / Client _____

pg 1 of 2

0700- D. Potter on site, Begin bottle prep
0730- Team on site - F. Burton, ~~D. Salvatore~~ (AP)
A. Grossman, D. Salvatore
Task: Gw sample in parking lot
Weather: Sunny, 70s
0845- Mobilize to wells
- AG to AE-29R
- FB to AE-108R
- DS to AE-102RR

Sample ID	TOS	
19A-AE29R1-092419-1	1335	
19A-AE29R3-092419-1	(AP) ~~1150~~	1120
19A-AE29R5-092419-1	(AP) ~~1145~~	1510
19A-AE29R6-092419-1	1000	H@ 1147
19A-AE102RR2-092419-1	1355	
19A-AE102RR4-092419-1	1330	MS/MSD
19A-AE102RR6-092419-1	1320	H@ 1525
19A-AE102RR5-092419-1	1400	
19A-AE108R1-092419-1	1330	H@1355 MS/MSD
19A-AE108R3-092419-1	1150	
19A-AE108R5-092419-1	1145	

1325- Courier ~~off~~ on site
1407- Courier off site
1600- DP to Wilmington Masonry to

Rite in the Rain

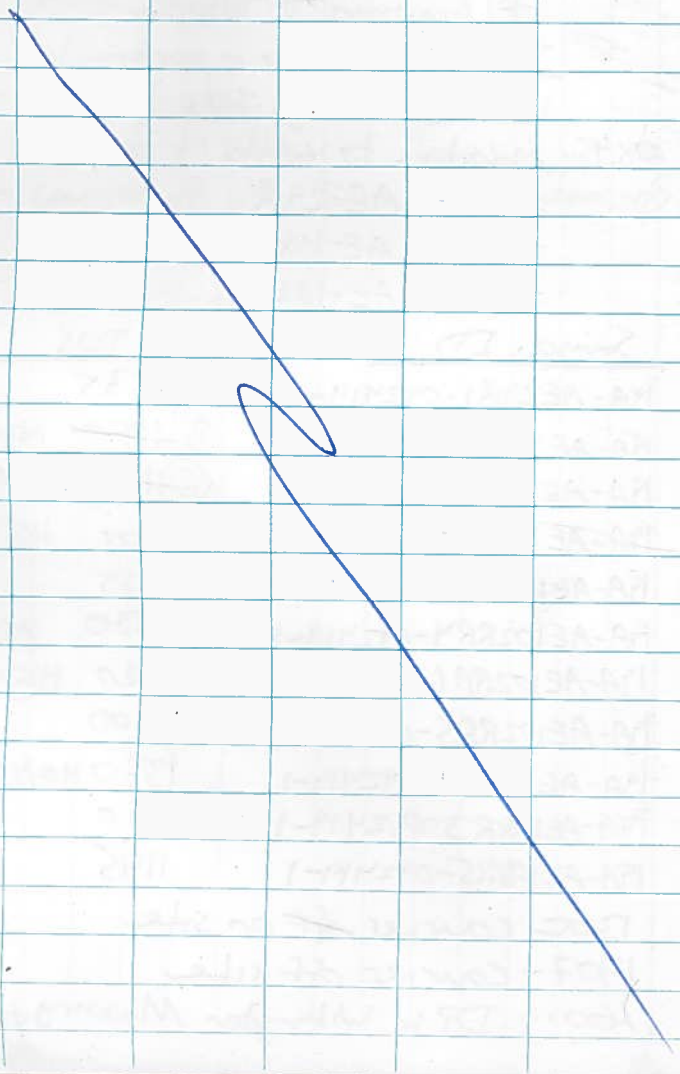
Location _____ Date 9/24/19

Project / Client _____

pg 2 of 2

Inform of STM-8R1 purging.

1645- DP off site



Location GMC-Wilmington Date 9/25/19

Project / Client 2019 Annual GW Sampling

pg 1 of 2

0730- D. Potter on site. Begin calibration and prep.

Field Team: D. Potter, F. Burton, A. Grossman, D. Salvatore

Weather: Sunny, 70s

0830- Calibration complete. Mobilize to wells

- AG to AE-111R
- FB to AE-101R
- DS to 102M, 102D, TRC-201R

Sample ID	TOS	
FA-AE101R1-092519-1	0925	
19A-AE101R2-092519-1	1005	
19A-AE101R3-092519-1	1055	MS/MSD
FA-AE101R5-092519-1	1440	
FA-AE111R1-092519-1	1415	
19A-AE111R3-092519-1	1420	
FA-AE111R5-092519-1	1425	
FA-AE111R6-092519-1	1430	
19A-AE102M-092519-1	0920	diss Hg @ 0959
FA-AE102D-092519-1	1055	
19A-TRC201R-092519-1	1435	
19A-EB01-092519-1	1045	hurricane pump
19A-EB02-092519-1	1540	bladder pump
FA-AE101R1-092519-2	0930	

Rite in the Rain

Location LMC-Wilmington Date 9/25/19

Project / Client

pg 2 of 2

19A-AE102M-092519-2	0925

1400- Courier on site
1430- Courier off site
1630- off site

Location LMC-Wilmington Date 9/26/19

Project / Client 2019 Annual GW Sampling

pg 1

0700- D. Potter on site

Field Team: DPotter, AGrossman, FBurton, DSalvatore

~~Or~~ Task Concord St GW sampling

Weather. sunny, 70's

0845- Calibration + prep complete. Mobilize to wells

- FB to STM8R, STM8R1, STM8D
- AG to STM3D
- DS to GZA-12, GZA-101R, GZA-10

Sample Time	TOS
19A-STM8R-092619-1	1230
19A-STM8D-092619-1	1310
19A-STM8R1-092619-1	0935 diss H @ 1000
19A-STM3D-092619-1	1215
19A-GZA12-092619-1	0925 diss H @ 0956
19A-GZA101R-092619-1	1130 diss H @ 1156

1330- FBurton off site
1345- DPotter off site
1405 19A-GZA10-092619-1
1535- 19A-MW-7-092619-1

pick up @ Shredder

Scheduled at Chelmsford 9/27/19

Rite in the Rain

Location LMC Wilmington Date 9/30/19

Project / Client 2019 Annual GW Sampling

pg 1 of 1

0645- On site.

Task: Conduct GW Sampling

Weather: sunny; 60s

Team: D. Potter, F Burton, D. Salvatore

0800- Mobilize to wells

- DP to MW-5, GZA-14A, PZ-2S
- DS to EMW-10D, EMW-10R, TRC-401R
- FB to AE-101RC, AE-101D, AE-101S

Sample ID	Tos	
19A-AE101RC-093019-1	0940	
19A-AE101D-093019-1	1015	MS/MSD
19A-AE101S-093019-1	1055	
19A-EMW10D-093019-1	1100	
19A-EMW10R-093019-1	0945	
19A-TRC401R-093019-1	1230	
19A-MW5-093019-1	0957	
19A-GZA14A-093019-1	1102	
19A-PZ2S-093019-1	1410	MS/MSD

1350- Courier on site

1400- Courier off site. Post cal and pack up

1630- off site. DP to Walmart to get water for Flute liners

Location LMC-Wilmington Date 10/1/19

Project / Client 2019 Annual GW Sampling

0720- on site.

Task: Purge Flutes

Weather: 60s, cloudy

Team: D. Potter, A. Grossman, D. Salvatore

	Well	Purge Time		Condition
1	AE-103R	0752-0757	5 minutes	Light oxidation
2	AE-104RR	0825-0831	6 minutes	Good
5	AE-100R	1013-1019	~6 min	Good
DUP 01	AE-109R	1114-1119	~5 min	Good
#1	AE-110R	1129-1134	5 min	~~Good~~ oxidation
3	AE-108R	0909-0914	5 minutes	Good
4	AE-102RR	939-944	6 min	Light oxidation Red cap missing
	AE-111R	1259-1324	7 min	Lt oxidation
	AE-112R	1321-1325		" "
	AE-105R		5 minutes	Post 6 damaged -red cap missing
	AE-106R		5 minutes	

1020- DS off site to bring EDW samples to office. AG to RNW to pick up N cylinder

1100- AG on site. Resume purging

~~1340~~ DP

1140-1215- Lunch

Rite in the Rain

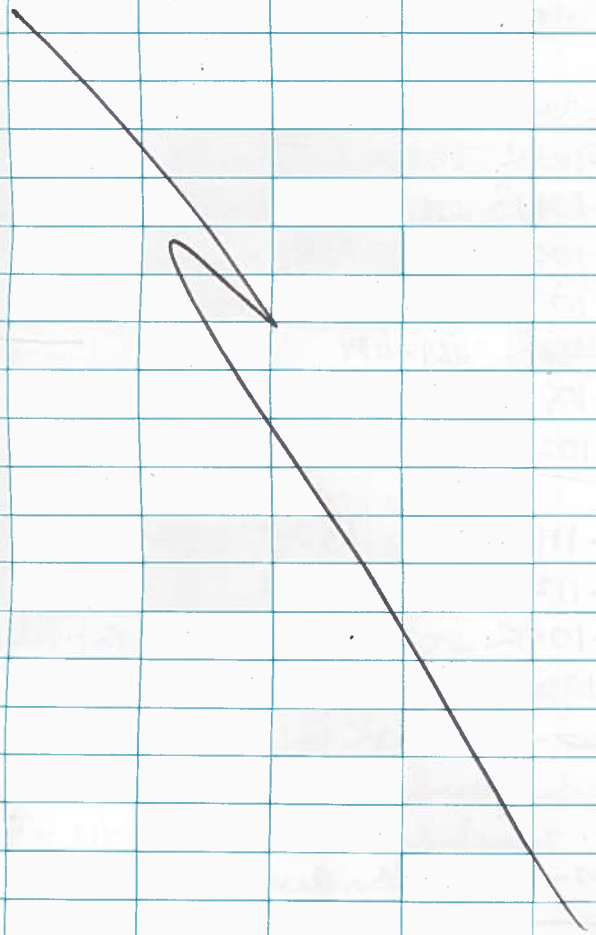
80

Location CMC Wilmington Date 10/1/19

Project / Client 2019 annual GW sampling

1415 - completed Flute purges. Head back to shed to clean up.

1515 - off site



81

Location _____ Date 10/2/19

Project / Client _____

Pg 1 of 2

0730 - on site

Field Team: D. Potter, A. Grossman, F. Burton, A. Borden, B Hoch, B MacDonald, M. Fitzgerald, B Sulvanture

Weather: cloudy, 70s, rain possible, cooling in the PM

Task: Synoptic Gauging

WL S/N	1' measurement @ 50'	@ 100'
1316-T	0.93	49.96	100.01
04-07710	0.99	49.97	99.97
2500048	0.97	50.00	100.02
1317-T	0.93	49.96	99.98
10223241	0.93	49.98	99.98
3020-1320	0.97	50.04	100.05

0900 - Begin gauging:

- AB and MF to inside B12 1
- FB and DS to EPL
- AG and BH to concord ST
- DP and BM to wetlands

1145-1245 Lunch

1520 - BM off site

1630 - Re-connect to distribute remaining wells

1700 - AB, AG, MF, BH, DS off site. FB and DP to unknown well and SG-2

Rite in the Rain

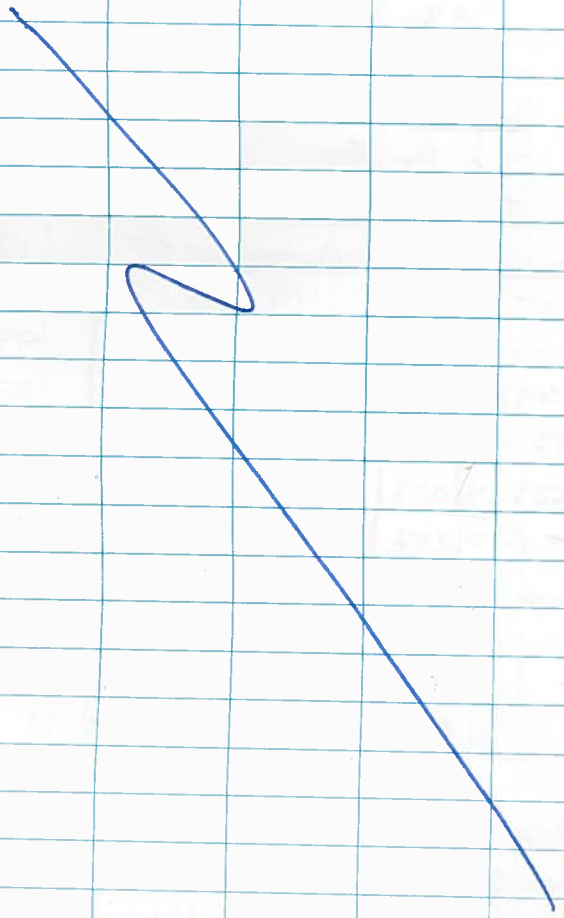
82

Location _____ Date 8/2/18

Project / Client _____

pg 2 of 2

1730- FB off site. DP de-mobilizes
1750- DP off site



83

Location _____ Date _____

Project / Client _____

Rite in the Rain

APPENDIX B – LNAPL MONITORING FIELD RECORDS

Former GE Facility - Wilmington, MA

Building 3 - EPL LNAPL Gauging Record

Date: December 4, 2019

Weather: cloudy, 30s

Recorder: Floyd Burton

Gauging Information

Well	Time	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Depth to DNAPL (ft btoc)	Depth to Bottom (ft btoc)	Confirm Product w/ Bailer (Y/N/NA)	Product Removed (Y/N/NA)	Comments
AE-3	1207	ND	5.50	ND	12.65	NA	NA	
AE-4	1219	ND	5.09	ND	12.25	NA	NA	
CW-1	1253	ND	4.12	ND	8.35	NA	NA	
CW-2	1310	ND	3.89	ND	6.90	NA	NA	
GZA-102S	1234	ND	5.61	ND	10.95	NA	NA	
PZ-2S	1229	ND	5.37	ND	8.05	NA	NA	
TRC-101	1240	ND	5.06	ND	10.00	NA	NA	

Gauging device (Mnfr./Model No.): Solinst Model 122

Note: If LNAPL is detected at thickness > 0.1 feet, insert absorbant sock and wire basket into well and secure tightly.

(Place spent socks, if used, in 5-gallon bucket within treatment building.)

Notes:

NA = Not Applicable

ND = Not Detected

NR = Not Recorded

ft btoc = feet below top of casing

AECOM

Former GE Facility - Wilmington, MA

Building 3 - EPL LNAPL Gauging Record

Date: February 11, 2020

Weather: 40 °F, Cloudy, Light Rain Recorder: Dylan Potter

Gauging Information

Well	Time	Depth to LNAPL (ft btoc)	Depth to Water (ft btoc)	Depth to DNAPL (ft btoc)	Depth to Bottom (ft btoc)	Confirm Product w/ Bailer (Y/N/NA)	Product Removed (Y/N/NA)	Comments
AE-3	13:45	ND	5.26	ND	12.67	NA	NA	
AE-4	13:50	ND	4.74	ND	12.24	NA	NA	
CW-1	14:02	ND	3.83	ND	8.05	NA	NA	slight sheen in well
CW-2	14:09	ND	3.59	ND	6.50	NA	NA	slight sheen in well
GZA-102S	13:40	ND	5.40	ND	10.91	NA	NA	
PZ-2S	13:36	ND	5.24	ND	8.02	NA	NA	
TRC-101	13:57	ND	5.12	ND	10.00	NA	NA	

Gauging device (Mnfr./Model No.):

Note: If LNAPL is detected at thickness > 0.1 feet, insert absorbant sock and wire basket into well and secure tightly.

(Place spent socks, if used, in 5-gallon bucket within treatment building.)

Notes:

	NA = Not Applicable
	ND = Not Detected
	NR = Not Recorded
	ft btoc = feet below top of casing

APPENDIX C – WASTE MANIFESTS

TK 5435

WO 1905810944-002 SC PPW 12/9/2008

Please print or type. Form Approved. OMB No. 2050-0039

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Manifest Tracking Number
	MAD985290873	1	(800) 483-3718	014133019 FLE

5. Generator's Name and Mailing Address
Lockheed Martin Corporation
2940 University Parkway
Sarasota, FL 34243
Generator's Phone: (240) 876-5392

Generator's Site Address (if different than mailing address)
50 Fordham Road
Wilmington, MA 01887

6. Transporter 1 Company Name: Clean Harbors Environmental Services, Inc.
U.S. EPA ID Number: MAD039322250

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Clean Harbors El Dorado LLC
309 American Circle
El Dorado, AR 71730
Facility's Phone: (870) 863-7173
U.S. EPA ID Number: ARD069748192

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	13. Waste Codes		
X	1. NA3082, HAZARDOUS WASTE, LIQUID, N.O.S., (TRICHLOROETHYLENE, TETRACHLOROETHYLENE), 9, PG III	006	DM	2752 (350)	P (G) SD	D039	D040	
	2.							
	3.							
	4.							

14. Special Handling Instructions and Additional Information
1 CR1569550 EXG171
6X55 17H Drums
Contract retained by generator confers agency authority on initial transporter to add or substitute additional transporters on generator's behalf for purposes of transportation efficiency, convenience, or safety

15. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations. If export shipment and I am the Primary Exporter, I certify that the contents of this consignment conform to the terms of the attached EPA Acknowledgment of Consent.
I certify that the waste minimization statement identified in 40 CFR 262.27(a) (if I am a large quantity generator) or (b) (if I am a small quantity generator) is true.

GENERATOR

X Generator's/Offeror's Printed/Typed Name: Abigail Baranowski as agent for Lockheed Martin
Signature
Month: 10 Day: 30 Year: 19

INT'L

16. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter signature (for exports only): Date leaving U.S.:

TRANSPORTER

17. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name: Samuel D. Cicco
Signature
Month: 11 Day: 4 Year: 19
Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

18. Discrepancy
18a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
18b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:
18c. Signature of Alternate Facility (or Generator)
Month Day Year

19. Hazardous Waste Report Management Method Codes (i.e., codes for hazardous waste treatment, disposal, and recycling systems)

1.	2.	3.	4.
H040			

20. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 18a
Printed/Typed Name: Brittany Machen
Signature
Month: 11 Day: 24 Year: 19

EPA Form 8700-22 (Rev. 12-17) Previous editions are obsolete.

Clean Harbors has the appropriate permits for and will accept the waste the generator is shipping

DESIGNATED FACILITY TO GENERATOR

CleanHarbors
ENVIRONMENTAL SERVICES®

Land Disposal Restriction Notification Form

Printed Date :Oct 29, 2019

MANIFEST INFORMATION

Generator : Lockheed Martin Corporation

Address: 50 Fordham Road
Wilmington,MA 01887

EPA ID #: M A D 9 8 5 2 9 0 8 7 3

Manifest Tracking Info.

014133019 FLE

Sales Order No: 1905810944-002

LINE ITEM INFORMATION

Line Item:	Page No:	Profile No:	Treatability Group:	LDR Disposal Category
1.	1	CH1563550	NON-WASTEWATER	2 (This is subject to LDR.)

EPA Waste Code	EPA Waste SubCategory
D039D040	NONE

LDR Chemical Data

Chemical	Underlying Hazardous Constituents	Constituents of Concern	Contaminants Subject to Treatment
1,1,1-TRICHLOROETHANE	Y	N	N
1,1,2-TRICHLORETHANE	Y	N	N
1,1-DICHLOROETHANE	Y	N	N
1,1-DICHLOROETHYLENE	Y	N	N
1,4-DIOXANE	Y	N	N
ACETONE	Y	N	N
TOLUENE	Y	N	N
TRANS-1,2-DICHLOROETHYLENE	Y	N	N
VINYL CHLORIDE	Y	N	N

Certification	Applies to Manifest Line Items
Pursuant to 40 CFR 268.7(a), I hereby notify that this shipment contains waste restricted under 40 CFR Part 268.	1.

Waste analysis data, where available, is attached.

Signature : _____ Print Name Margaret Bakenhaster as agent for Lockheed Martin

Title : Engineer Date : 10/30/19

APPENDIX D – ACTIVITY AND USE LIMITATION

NOTICE OF ACTIVITY AND USE LIMITATION

M.G.L. c. 21E, §6 and 310 CMR 40.0000

Note: Pursuant to 310 CMR 40.1074(5), upon transfer of any interest in or a right to use the property or a portion thereof that is subject to this Notice of Activity and Use Limitation, the Notice of Activity and Use Limitation shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer. Within 30 days of so incorporating the Notice of Activity and Use Limitation in a deed that is recorded or registered, a copy of such deed shall be submitted to the Department of Environmental Protection.

Disposal Site Name: 50 Fordham Road
DEP Release Tracking No.: 3-0000518

This Notice of Activity and Use Limitation ("Notice") is made as of this ____ day of _____, 2015, by Rosemarie Stanieich, Victoria J. Miyara, and Annette Maria Given as Trustees of the Wilmington Realty Trust, established by Declaration of Trust dated September 7, 1973, registered in the Middlesex North Registry District of the Land Court as Document No. 63541 and noted on Certificate of Title No. 19837 and registered further in the Middlesex South Registry of the Land Court as Document No. 515729 and noted on Certificate of Title No. 142138, together with their successors and assigns (collectively "Owner").

W I T N E S S E T H:

WHEREAS, the Wilmington Realty Trust, of Wilmington, Middlesex County, Massachusetts is the owner in fee simple of those certain parcels of land located at 40 and 50 Fordham Road in Wilmington, Middlesex County, Massachusetts, with the buildings and improvements thereon;

WHEREAS, said parcels of land, which are more particularly bounded and described in Exhibit A, attached hereto and made a part hereof ("Property"), are subject to this Notice of Activity and Use Limitation. The Property is shown on plans registered in the Middlesex County North Registry District of the Land Court as Land Court Plan Nos. 31713-C, 34588-B, 34588-E, and 36899-B, and in the Middlesex County South Registry District of the Land Court as Land Court Plan No. 31713-D;

WHEREAS, a portion of the Property ("Portion of the Property") is more specifically subject to this Notice of Activity and Use Limitation. This Portion of the Property is more particularly bounded and described in Exhibit A-1, attached hereto and made a part hereof. The Portion of the Property is shown on a sketch plan attached hereto and filed herewith for registration;

WHEREAS, the Portion of the Property comprises part of a disposal site as the result of a release of oil and/or hazardous materials. Exhibit B is a sketch plan showing the relationship of the Portion of the Property subject to this Notice of Activity and Use Limitation to the boundaries of said disposal site existing within the limits of the Property and to the extent such boundaries have been established. Exhibit B is attached hereto and made a part hereof; and

WHEREAS, one or more response actions have been selected for the Portion of the Disposal Site in accordance with M.G.L. c.21E ("Chapter 21E") and the Massachusetts Contingency Plan, 310 CMR 40.0000 ("MCP"). Said response actions are based upon (a) the restriction of human access to and contact with oil and/or hazardous material in soil and/or groundwater, and (b) the restriction of certain activities occurring in, on, through, over or under the Portion of the Property. A description of the basis for such restrictions, and the oil and/or hazardous material release event(s) or site history that resulted in the contaminated media subject to the Notice of Activity and Use Limitation is attached hereto as Exhibit C and made part hereof.

NOW, THEREFORE, Notice is hereby given that the activity and use limitations set forth in this Notice of Activity and Use Limitation are as follows:

1. Activities and Uses Consistent with Maintaining No Substantial Hazard Conditions. The following Activities and Uses are consistent with maintaining a condition of No Substantial Hazard and, as such, may occur on the Portion of the Property pursuant to 310 CMR 40.0000:

i. Industrial and commercial uses;

ii. Such other activities which, in the Opinion of a Licensed Site Professional, shall present no greater risk of harm to health, safety public welfare or the environment than the activities and uses set forth in this Paragraph; and

iii. Such other activities and uses not identified in Paragraph 2 as being Activities and Uses inconsistent with maintaining No Substantial Hazard Conditions.

2. Activities and Uses Inconsistent with Maintaining No Substantial Hazard. The following Activities and Uses are inconsistent with maintaining a condition of No Substantial Hazard pursuant to 310 CMR 40.0000, and, as such, may not occur on the Portion of the Property:

i. Residential, school, playground, park, or daycare use; and

ii. In the area as defined by the Activity and Use Limitation ("AUL") boundary presented in Figure 1 of the Activity and Use Limitation Opinion annexed hereto as Exhibit C, activities that would result in exposure to or the disturbance of potentially contaminated soils, bedrock, groundwater, and indoor air, unless appropriate precautions to prevent human exposure are taken as described in paragraph 3 below.

3. Obligations and Conditions. The following obligations or conditions are necessary and shall be undertaken and/or maintained at the Portion of the Property to maintain a condition of No Substantial Hazard:

i. The concrete floors within the footprint of the AUL boundary, if present, must be maintained in a condition that will prevent potential exposure to potentially contaminated soil, groundwater, and soil gas. Interior building floors will be inspected annually with repairs made to seal cracks larger than one-fourth (1/4) inch in width. The penetration of and the subsequent repairs made to the concrete floor of any buildings within the AUL boundary will be evaluated by a Licensed Site Professional to maintain the safety of construction and on-site workers.

ii. Excavated soil and bedrock removed from the AUL area must be managed in accordance with the Soil Management Procedures pursuant to 310 CMR 40.0030.

a. If the soils and bedrock are suspected or are pre-determined by a Licensed Site Professional to be Remediation Waste as defined under 310 CMR 40.0006, then the soils and bedrock will be managed under a Release Abatement Measure ("RAM") set forth by the MCP at 310 CMR 40.0440, as determined by a Licensed Site Professional.

b. If the excavated soils and bedrock from the AUL area are determined not to be Remediation Waste, then they will be managed under a RAM or in accordance with the Similar Soils Provisions Guidance, WSC#-13-500, as determined by a Licensed Site Professional.

iii. If groundwater dewatering activities are required within the AUL area, then the groundwater will be managed appropriately as described here:

a. If the groundwater is determined to be a Remediation Waste, then it will be managed under a Release Abatement Measure ("RAM") set forth by the MCP at 310 CMR 40.0440, as determined by a Licensed Site Professional.

b. If the groundwater removed from the AUL area is not determined to be a Remediation Waste, then other appropriate options may be used to manage the water as determined by a Licensed Site Professional.

iv. Activities that could result in exposure to or the disturbance of soils, bedrock or groundwater in the AUL area, must be conducted in accordance with the performance standards for RAMs set forth by the MCP at 310 CMR 40.0440, the Soil Management Procedures pursuant to 310 CMR 40.0030, the Similar Soils Provisions Guidance (WSC#-13-500), Construction of Buildings in Contaminated Areas (Policy WSC#-00-425) and applicable Health and Safety

procedures outlined in 310 CMR 40.0018, as determined by a Licensed Site Professional.

4. Proposed Changes in Activities and Uses. Any proposed changes in activities and uses at the Portion of the Property which may result in higher levels of exposure to oil and/or hazardous material than currently exist shall be evaluated by a Licensed Site Professional who shall render an Opinion, in accordance with 310 CMR 40.1080 *et seq.*, as to whether the proposed changes are inconsistent with maintaining a condition of No Substantial Hazard. Any and all requirements set forth in the Opinion to meet the objective of this Notice shall be satisfied before any such activity or use is commenced.

5. Violation of the AUL. The activities, uses and/or exposures upon which this Notice is based shall not change at any time to cause a significant risk of harm to health, safety, public welfare, or the environment or to create substantial hazards due to exposure to oil and/or hazardous material without the prior evaluation by a Licensed Site Professional in accordance with 310 CMR 40.1080, and without additional response actions, if necessary, to maintain a condition of No Substantial Hazard.

If the activities, uses, and/or exposures upon which this Notice is based change without the prior evaluation and additional response actions determined to be necessary by a Licensed Site Professional in accordance with 310 CMR 40.1080, the owner or operator of the Portion of the Property subject to this Notice at the time the activities, uses and/or exposures change, shall comply with the requirements set forth in 310 CMR 40.0020.

6. Incorporation Into Deeds, Mortgages, Leases, and Instruments of Transfer. This Notice shall be incorporated either in full or by reference into all future deeds, easements, mortgages, leases, licenses, occupancy agreements or any other instrument of transfer, whereby an interest in and/or a right to use the Property or a portion thereof is conveyed in accordance with 310 CMR 40.1074(5).

Owner herby authorizes and consents to the filing and recordation and/or registration of this Notice, said Notice to become effective when executed under seal by the undersigned Licensed Site Professional, and recorded and/or registered with the appropriate Registry(ies) of Deeds and/or Land Registration Office(s).

[Remainder of Page Intentionally Left Blank]

WITNESS the execution hereof under seal this 13th day of July, 2015.

Owner
Rosemarie Stanieich, as
Trustee of the Wilmington Realty Trust

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss July 13, 2015

On this 13th day of July, 2015, before me, the undersigned notary public, personally appeared Rosemarie Stanieich (name of document signer), proved to me through satisfactory evidence of identification, which were a Driver's License, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as trustee for Wilmington Realty Trust.

Notary Public:
My Commission Expires: 12-26-2019

ALEXANDRA DANILOV
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 26, 2019

WITNESS the execution hereof under seal this 14th day of July, 2015

Owner
Victoria J. Miyara, as
Trustee of the Wilmington Realty Trust

~~COMMONWEALTH OF MASSACHUSETTS~~
State of New Hampshire

Merrimack, ss July 14, 2015

On this 14th day of July, 2015 before me, the undersigned notary public, personally appeared Victoria J. Miyara (name of document signer), proved to me through satisfactory evidence of identification, which were Florida Drivers license to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as trustee for Wilmington Realty Trust

Notary Public:
My Commission Expires: 8-22-17

RHONDA L. ROLLINS
NOTARY PUBLIC
STATE OF NEW HAMPSHIRE
MY COMMISSION EXPIRES AUGUST 22, 2017

WITNESS the execution hereof under seal this 13th day of July, 2015

Owner
Annette Maria Given, as
Trustee of the Wilmington Realty Trust

COMMONWEALTH OF MASSACHUSETTS

Middlesex, ss July 13, 2015

On this 13th day of July, 2015 before me, the undersigned notary public, personally appeared Annette Maria Given (name of document signer), proved to me through satisfactory evidence of identification, which were Drivers License, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that she signed it voluntarily for its stated purpose as trustee for Wilmington Realty Trust

Notary Public:
My Commission Expires: 12-26-19

ALEXANDRA DANILOV
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 26, 2019

The undersigned Licensed Site Professional hereby certifies that in his Opinion this Notice of Activity and Use Limitation is consistent with maintaining a condition of No Substantial Hazard.

Date: _____

_____
Daniel W. Folan, PhD, PG, LSP, LEP
Licensed Site Professional Seal

COMMONWEALTH OF MASSACHUSETTS

_____,ss _____, 2015

On this ____ day of _____, 20__, before me, the undersigned notary public, personally appeared _____ (name of document signer), proved to me through satisfactory evidence of identification, which were _____, to be the person whose name is signed on the preceding or attached document, and acknowledged to me that he signed it voluntarily for its stated purpose.

_____
Notary Public:
My Commission Expires:

Upon recording, return to:

Ronald Dardeno, Esq.
Law Offices of Frank N. Dardeno LLP
424 Broadway
Somerville, MA 02145-2619

and

Beth M. Kramer, Esq.
Associate General Counsel -- Energy,
Environment, Safety & Health
Lockheed Martin Corporation
6801 Rockledge Drive
Bethesda, MD 20817

EXHIBIT A

DESCRIPTION OF PROPERTY SUBJECT TO THE AUL

LEGAL DESCRIPTION

LOT 4 and LOT 6

Two (2) certain parcels of land located in the Town of Wilmington, County of Middlesex, Massachusetts; said two (2) parcels of land located easterly of Fordham Road, in Wilmington, Massachusetts; and said two (2) parcels of land shown as Lot 4 and Lot 6 on "Plan of land in Wilmington, Mass." dated February 28, 1978, Dana F. Perkins & Assoc., Inc., Civil Engineers and Surveyors, Reading-Lowell, Massachusetts; which plan is filed in Middlesex North Registry District of the Land Court, as Plan No. 36899-B.

The said two (2) parcels of land are bounded and described as follows:

LOT 4 as shown on said plan.

NORTHWESTERLY:	by land now or formerly of Carl Realty, Inc., seven hundred thirty-one and 40/100 (731.40) feet;
NORTHEASTERLY:	by Lot 6 as shown on said plan, two hundred seventy-five and 02/100 (275.02) feet;
EASTERLY:	by Lot 3 as shown on said plan, ninety-two and 44/100 (92.44) feet; and
SOUTHEASTERLY:	by land now or formerly of George E. Dunn, along the Town Line dividing Wilmington and North Reading, seven hundred fifty-five and 87/100 (755.87) feet; and
SOUTHWESTERLY:	by land now or formerly of South Mass. Land Developers, Inc., two hundred thirty and 27/100 (230.27) feet.

LOT 6 as shown on said plan.

NORTHWESTERLY:	by land now or formerly of Carl Realty, Inc., two hundred ninety-seven and 00/100 (297) feet;
SOUTHEASTERLY:	by Lot 5 as shown on said plan, four hundred thirty-five and 67/100 (435.67) feet; and
NORTHEASTERLY:	by Lot 4 as shown on said plan, two hundred seventy-five and 02/100 (275.02) feet.

For title of Trustees of THE WILMINGTON REALTY TRUST to said Lot 4 and Lot 6, see Middlesex North Registry District of the Land Court, Certificate of Title No. 19842, recorded in Registration Book 102, Page 83.

LOT 7

A certain parcel of land, located in the Town of Wilmington, County of Middlesex, Commonwealth of Massachusetts, said parcel shown as Lot 7 upon a plan entitled "Plan of Land in NORTH READING & WILMINGTON, MASS.", dated September 21, 1983, DANA F. PERKINS and Assoc., Inc., Civil Engineers and Surveyors, and filed with the Engineering Division of the Land Court of Massachusetts as Plan 31713^{C} and Plan 31713^{D} bounded and described as follows:

NORTHWESTERLY	by the Northeasterly line of Fordham Road, eighty-four and 60/100 (84.60) feet;
NORTHWESTERLY	by a radius 1081.41 along the Northeasterly line of Fordham Road, six hundred fifty-nine and 84/100 (659.84) feet;
NORTHERLY	by the Northeasterly line of Fordham Road, two hundred (200) feet;
NORTHEASTERLY	by lands shown on said Plan as "Lot 30", six hundred twenty-one and 74/100 (621.74) feet;
NORTHERLY	by lands shown on said Plan as "Lot 30", ninety-two and 55/100 (92.55) feet;
NORTHEASTERLY	by lands shown on said Plan as "Lot 30", two hundred thirty and 29/100 (230.29) feet;
SOUTHWESTERLY	by the Town Line between Wilmington and North Reading, as shown on said plan, nine hundred seven and 9/100 (907.9) feet;
WESTERLY	by Lot 8, as shown on said Plan, eighty-eight and 69/100 (88.69) feet;
SOUTHEASTERLY	by Lot 8, as shown on said Plan, eighty (80) feet; and
SOUTHWESTERLY	by Lot 8 as shown on said Plan, two hundred fifty-five (255) feet.

Said Lot 7, all within the Town of Wilmington, comprises 12.63 acres, more or less, (549,973 square feet of land, more or less), as shown on said plan.

Said Lot 7 is a subdivision of certain lots, title to which is registered in the Land Registration Office, North Registry District of Middlesex County, and as follows:

- of Lot 31, as shown on Plan No. 34588-C (Certificate of Title No. 19837); Book 102-73

- ~~of Lot 35, as shown on Plan No. 34588-A (Certificate of Title No. 19841);~~ and

- of ~~Lot 4~~ 214, as shown on Plan No. 31713-A (Certificate of Title No. 19838), Book 102-75

For

LOT 10

A certain parcel of land, located in the Town of North Reading, County of Middlesex, Commonwealth of Massachusetts, said parcel shown as Lot 10 upon a plan entitled "Plan of Land in NORTH READING & WILMINGTON, MASS.", dated September 21, 1983, DANA F. PERKINS and Assoc., Inc., Civil Engineers and Surveyors, and filed with the Engineering Division of the Land Court of Massachusetts as Plan 31713C and Plan 31713D bounded and described as follows:

NORTHERLY	by the Town Line between North Reading and Wilmington, as shown on said Plan, nine hundred seven and 09/100 (907.09) feet;
NORTHWESTERLY	by land shown on said Plan as "Town of North Reading", ninety-eight and 43/100 (98.43) feet;
SOUTHEASTERLY	by Lot 9, as shown on said Plan, four hundred twenty-three and 16/100 (423.16) feet;
SOUTHWESTERLY	by Lot 9, as shown on said Plan, one hundred ten and 41/100 (110.41) feet;
SOUTHEASTERLY	by Lot 9, as shown on said Plan, three hundred ninety and 49/100 (390.49) feet; and
SOUTHWESTELRY	by Lot 9, as shown on said Plan, two hundred forty-eight and 36/100 (248.36) feet.

Said Lot 10, all within the town of North Reading, comprises 3.91 acres of land, more or less (170,477) square feet of land, more or less), as shown on said Plan.

Said Lot 10 is a subdivision of certain lots, title to which is registered in the Land Registration Office, South Registry District of Middlesex County, and as follows:

~~- of Lot 26, as shown on Plan No. 31508-A (Certificate of Title No. 142137)~~; and

Ø of Lot 6, as shown on Plan No. 31713-B (Certificate of Title No. 142138), Bk. 840-188

LOT 30

That certain parcel of land situate in Wilmington, County of Middlesex, Commonwealth of Massachusetts bounded and described as follows:

SOUTHWESTERLY	by the Northeasterly line of Fordham Road, two hundred fifty (250) feet;
NORTHWESTERLY	by land now or formerly of Carl Realty, Inc., six hundred seventy-two and 36/100 (672.36) feet;
EASTERLY	by land now or formerly of So. Mass. Land Oevelopers, Inc., two hundred fifty-five and 07/100 (255.07) feet; and
SOUTHEASTERLY	by land now or formerly of Carl Realty, Inc., six hundred twenty-one and 74/100 (621.74) feet.

All of said boundaries are determined by the Land Court to be located as shown on subdivision plan 34588-B, drawn by Dana F. Perkins & Sons, Inc., Surveyors, dated April 9, 1968, as approved by the Court, filed in the Land Registration Office, a copy of a portion of which is filed with Certificate of title 16261, and said land is shown as Lot thirty (30) on said plan.

Being the same premises evidenced by Certificate of Title No. 19839 (Middlesex North Registry District). Bk. 702-77

LOT 33

That certain parcel of land situate in Wilmington, in the County of Middlesex Commonwealth of Massachusetts, bounded and described as follows:

WESTERLY	by the Easterly line of Fordham Rd. by several lines measuring together, eleven hundred eighty-seven and 97/100 (1,187.97) feet;
NORTHEASTERLY	by land now or formerly of Carl Realty, Inc., five hundred thirty-two and 01/100 (532.01) feet;
NORTHEASTERLY	again by land now or formerly of Max Siegel et al, two hundred ninety-seven (297) feet;
EASTERLY	by land now or formerly of So. Mass. Land Developers, Inc., five hundred ninety-nine and 28/100 (599.28) feet; and
SOUTHEASTERLY	by Lot 30, six hundred seventy-two and 36/100 (672.36) feet.

All of said boundaries are determined by the Land Court to be located as shown on subdivision plan 34588-E, drawn by Dana F. Perkins and Sons, Inc., Surveyors, dated January 27, 1969, as approved by the Court, filed in the Land Registration Office, a copy of a portion of which is filed with Certificate of Title 16620, and said land is shown as Lot thirty-three (33) on said plan.

Being the same premises evidenced by Certificate of Title No. 19840 (Middlesex North Registry District). Bk. 102-77

THE ABOVE DESCRIPTIONS ARE TAKEN FROM LAND COURT RECORD DOCUMENT NUMBER 172247 NORTH MIDDLESEX COUNTY

Raymond P. Shea
Massachusetts PLS No. 33192
Holden Engineering & Surveying, Inc.

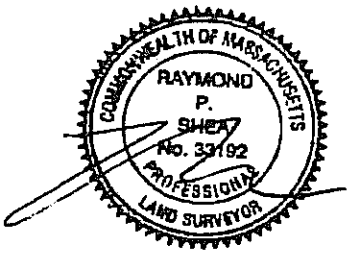


EXHIBIT A-1

LEGAL DESCRIPTION OF PORTION OF PROPERTY SUBJECT TO AUL

AUL BOUNDARY LEGAL DESCRIPTION

Beginning at a stone bound on the easterly sideline of Fordham Road at the northwest corner of lot ID 91-131 Lot 7 and the southwest corner of lot ID 91-131A Lot 30 and the point of beginning of the AUL Boundary, thence along the easterly sideline of Fordham Road North 11° 54' 17" West 285.10 feet past the northwest corner of lot ID 91-131 Lot 30 to lot ID 91-131A Lot 33, thence over lot ID 91-131A Lot 33 North 81° 02' 45" East 443.90 feet, thence over lot ID 91-131A Lot 33, North 16° 31' 27" West 142.97 feet, thence over lot ID 91-131A Lot 33, North 75° 45' 44" East 108.12 feet, thence over lot ID 91-131A Lot 33, North 01° 02' 35" West 85.99 feet, thence over lot ID 91-131A Lot 33, and lot ID 99-1 Lot 4 North 78° 32' 00" East 334.19 feet, thence over lot ID 99-1 Lot 4 South 07° 25' 18" East 335.96 feet, thence over lot ID 99-1 Lot 4 and lot ID 213-212 Lot 10 and along lot ID 213-2-11 South 12° 48' 00" East 847.35 feet, to the southeast corner of the AUL Boundary and southeast corner of lot ID 91-131 Lot 7 at land of lot ID 213-2-11 thence along lot ID 213-2-11 South 72° 23' 59" West 293.36 feet, thence along lot ID 213-2-11 South 63° 19' 49" West 26.31 feet, thence along lot ID 213-2-11 South 63° 19' 49" West 88.69 feet, thence along lot ID 213-2-11 South 25° 37' 41" East 80.00 feet, thence along lot ID 213-2-11 South 64° 22' 25" West 255.00 feet to the southwesterly corner of the AUL Boundary and southwesterly corner of lot ID 91-131 Lot 7 at the easterly sideline of Fordham Road, thence along the easterly sideline of Fordham Road North 48° 17' 49" West 84.60 feet to a point of curvature, thence along the easterly sideline of Fordham Road having a curve to the right having a Radius of 1081.41 feet and a length of 659.84 feet and a chord bearing of North 29° 23' 07" West 649.65 feet to the point of tangency, thence along the easterly sideline of Fordham Road North 11° 54' 17" West 200.00 feet to the point of beginning.

Containing 970,499 Square Feet or 22.280 Acres

Raymond P. Shea
Massachusetts PLS No. 33192
Holden Engineering & Surveying, Inc.

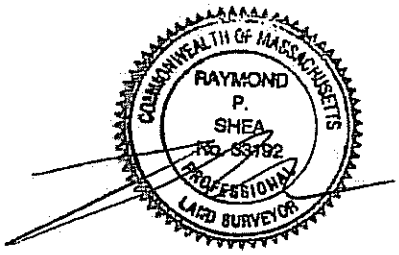
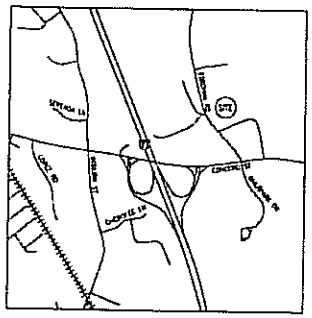


EXHIBIT A-2

PLAN OF THE PORTION OF THE PROPERTY SPECIFICALLY SUBJECT TO THE AUL PREPARED BY REGISTERED LAND SURVEYOR



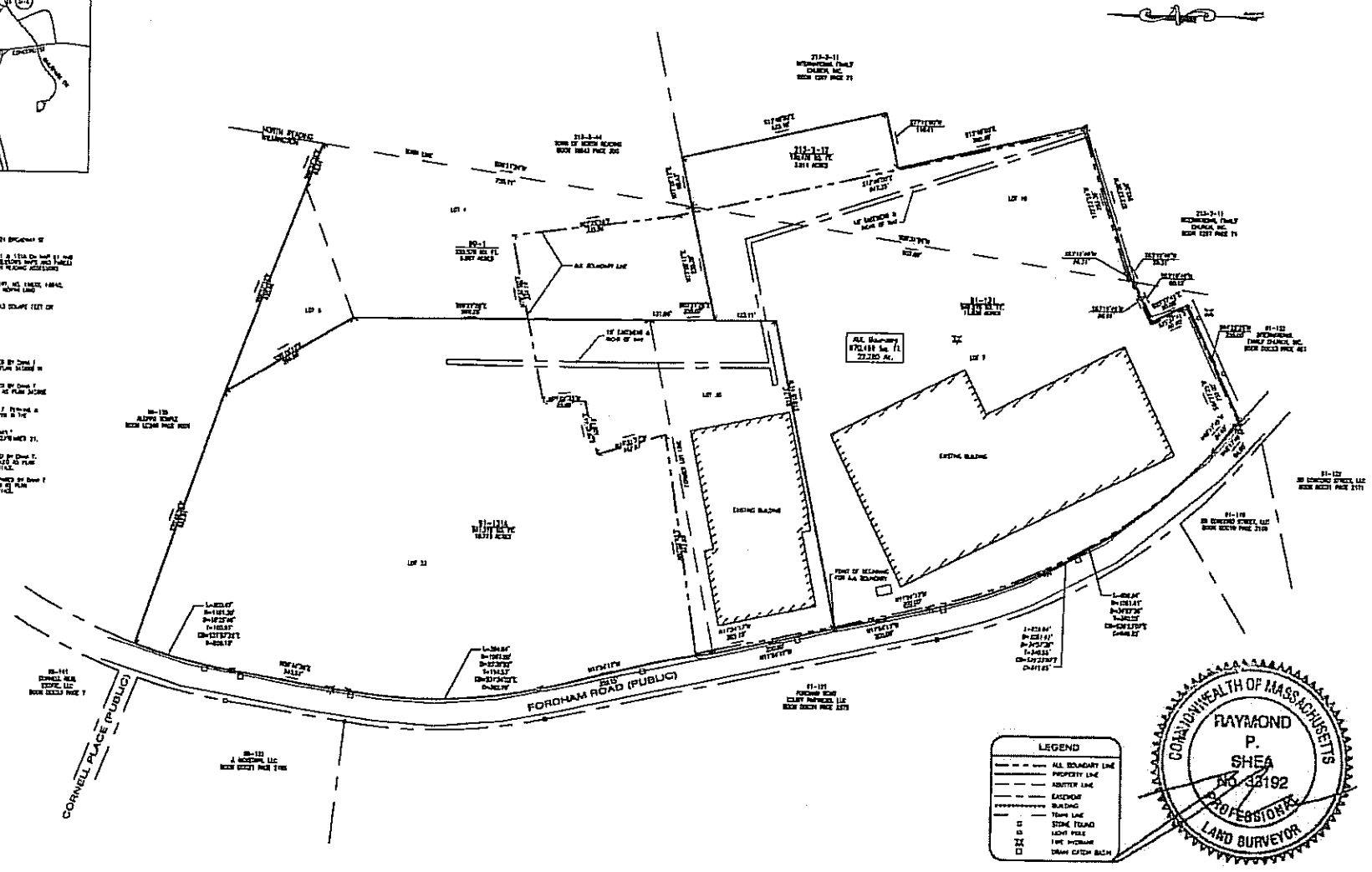
VICINITY MAP
SCALE: 1"=1000'

NOTES:

1. THE OWNER OF RECORD IS ROSEMARIE STANIEICH (DEED REF. BOOK 6421, PAGE 83, PLAN REF. BK 6315).
2. HORIZONTAL DATUM IS BASED ON MASSACHUSETTS STATE PLANE COORDINATES, NAD83 (2011) DATUM, UNITS ARE IN U.S. SURVEY FEET.
3. BEARINGS ARE BASED ON THE SUBJECT PARCEL AS SHOWN ON PLAN REF. 1, 2, 3, 4, 5, 6, 7 & 8.
4. THE TOTAL AREA OF SUBJECT PROPERTY IS 1,837,243 SQUARE FEET OR 42.169 ACRES.

PLAN REFERENCES:

1. SUBDIVISION PLAN OF LAND IN NORTH READING & WILMINGTON, MASS. PREPARED BY DANA P. LOVE, INC. DATED JUNE 1, 1966, RECORDED AS PLAN NO. 1119 OF 1966 IN THE MIDDLESEX NORTH LAND REGISTRATION OFFICE.
2. SUBDIVISION PLAN OF LAND IN NORTH READING, MASS. PREPARED BY DANA P. LOVE, INC. DATED JANUARY 21, 1966, RECORDED AS PLAN NO. 1118 OF 1966 IN THE MIDDLESEX NORTH LAND REGISTRATION OFFICE.
3. SUBDIVISION OF LOTS 1 AND 2 PREPARED BY DANA P. LOVE, INC. DATED APRIL 21, 1966, RECORDED AS PLAN NO. 1120 OF 1966 IN THE MIDDLESEX NORTH LAND REGISTRATION OFFICE.
4. PLAN OF LAND IN NORTH READING & WILMINGTON, MASS. PREPARED BY DANA P. LOVE, INC. DATED JANUARY 21, 1965.
5. SUBDIVISION PLAN OF LAND IN NORTH READING, MASS. PREPARED BY DANA P. LOVE, INC. DATED SEPTEMBER 21, 1964, RECORDED AS PLAN NO. 1119 OF 1966 IN THE MIDDLESEX NORTH LAND REGISTRATION OFFICE.
6. SUBDIVISION PLAN OF LAND IN NORTH READING, MASS. PREPARED BY DANA P. LOVE, INC. DATED JANUARY 28, 1964, RECORDED AS PLAN NO. 1120 OF 1966 IN THE MIDDLESEX NORTH LAND REGISTRATION OFFICE.



LEGEND

- ALL BOUNDARY LINE
- PROPERTY LINE
- ABUTTER LINE
- EASEMENT
- BUILDING
- TREE LINE
- STONE BOUND
- LIGHT POLE
- FIRE HYDRANT
- DRAIN CATCH BASIN

COMMONWEALTH OF MASSACHUSETTS
RAYMOND P. SHEA
No. 33192
PROFESSIONAL LAND SURVEYOR

RAYMOND P. SHEA
33192

HOLDEN ENGINEERING & SURVEYING, Inc.

20 Sunset Rock - Unit 5
PO Box 40 Dover, MA 02030
(781) 235-2442

1 Southern Ave
Salisbury, MA 01952
(978) 465-4370

AUL BOUNDARY PLAN
ROSEMARIE STANIEICH
NORTH READING/WILMINGTON, MA

Date	Revisions	By	Ck
5/21/15	CLIENT COMMENTS	PV	RV
6/17/15	CLIENT COMMENTS	PV	RV

Book | Page

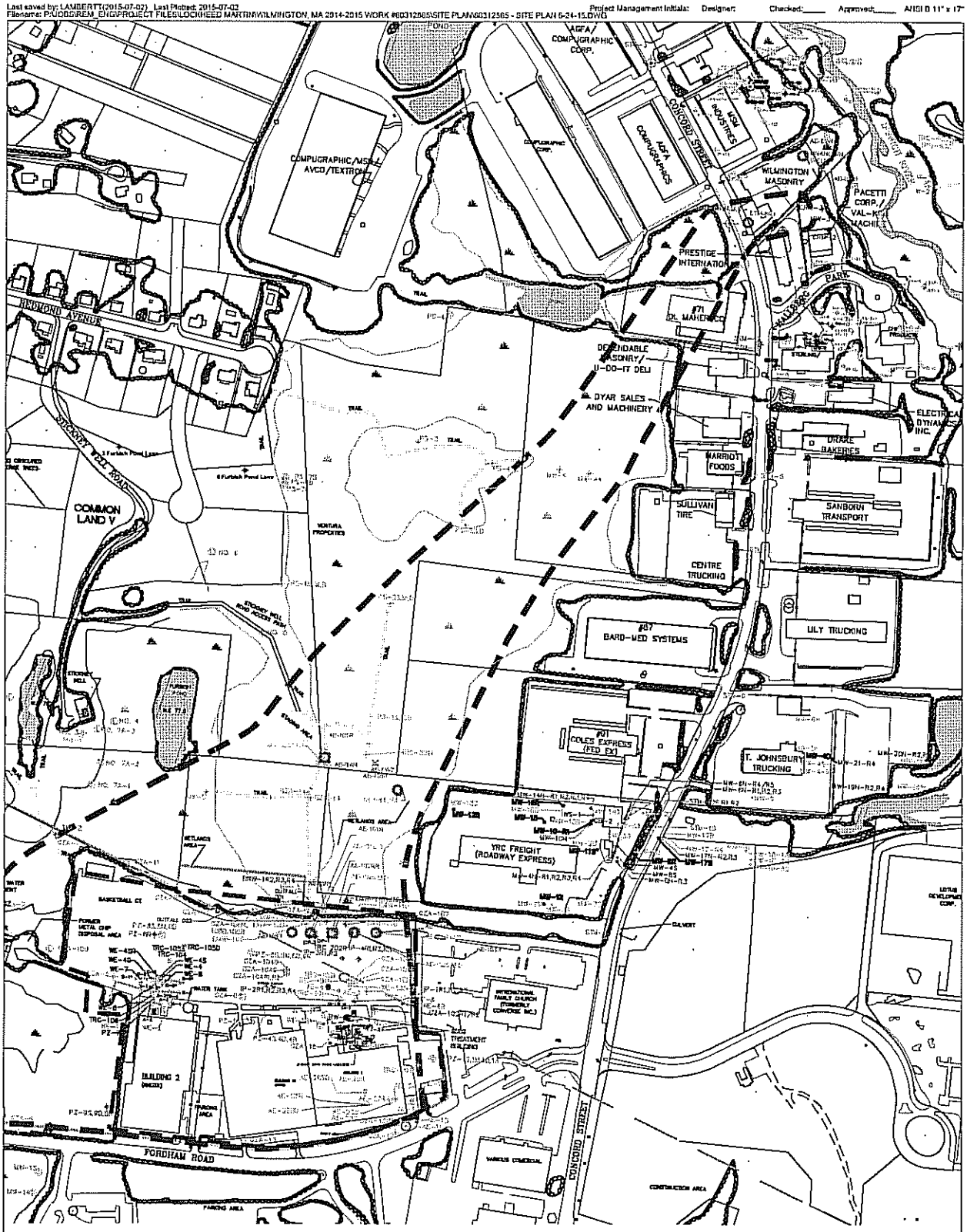
Date: 05/04/2015
Scale: 1" = 100'
Dr. By: SPG By: DJ
Job No. 1370358
Sheet no 1 of 1

© All Rights Reserved. No part of this plan may be reproduced or utilized without the express permission of Holden Engineering & Surveying, Inc.

EXHIBIT B

RELATIONSHIP OF THE PORTION OF THE PROPERTY SUBJECT TO THE AUL TO THE BOUNDARIES OF THE DISPOSAL SITE (Sketch Plan)

Last saved by: LAMBERTT(2015-07-02) Last Plotted: 2015-07-02 Project Management Initials: Designed: Checked:____ Approved:____ ANSI B 11" x 17"
Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON, MA 2014-2015 WORK #60312865\SITE PLAN\60312565 - SITE PLAN 6-24-15.DWG



LEGEND

BUILDING
APPROXIMATE PROPERTY LINE
APPROXIMATE TOWN LINE
EDGE OF PAVEMENT
FENCE LINE

BOUNDARY ARE APPROXIMATE

WORKPLAN
#50 FORDHAM ROAD, WILMINGTON, MA
Lockheed Martin
60312865 2015-07-01

SKETCH PLAN

AECOM

EXHIBIT B

EXHIBIT C

ACTIVITY AND USE LIMITATION OPINION

EXHIBIT C - ACTIVITY AND USE LIMITATION OPINION

Purpose of the AUL

This Notice of Activity and Use Limitation ("AUL") provides notice to current and future interest holders of the property commonly known as 50 Fordham Road (including the addresses of 40 and 50 Fordham Road), Wilmington, Massachusetts (the "Property") of residual contamination remaining at the Property. It should be noted that this AUL is being used voluntarily, in accordance with Section 40.1012(3)(h) of the Massachusetts Contingency Plan (MCP), 310 CMR 40.0000, and is not required by the MCP, to confirm certain assumptions regarding future uses at the Property for purposes of Risk Characterization of human health and ecological risks at the Disposal Site. This AUL describes certain restrictions upon the use of the Property to promote the ongoing protection of human health and the environment.

This AUL will serve as a notification, concerning appropriate health and safety measures to be taken during any future construction-related or other activities that disturb the subsurface, including (but not limited to) penetration of concrete building slabs, subsurface soil or bedrock excavations and groundwater dewatering activities. It will also be protective of human health and the environment by requiring that any contaminated media generated during construction activities be managed in accordance with Massachusetts Contingency Plan (MCP) Soil Management procedures as described in 310 CMR 40.0030 and the Massachusetts Department of Environmental Protection (MassDEP) guidance documents, including Construction of Buildings in Contaminated Areas (Policy WSC#-00-425) and the Similar Soils Provisions Guidance (WSC#-13-500), as determined by a Licensed Site Professional ("LSP").

Relevant Property History

Contamination of the Stickney Well, a currently inactive public supply well for the town of North Reading, was discovered in the late 1970s. Subsequent investigations of multiple surrounding properties, including the Property (formerly owned and operated by GE Aerospace (sometimes referred to as "GE" herein)), began in the early 1980s. The Property has been subject to remedial investigations and cleanup since 1986, when the MassDEP (then the Department of Environmental Quality Engineering or DEQE) issued GE a Notice of Responsibility. In 1987, the MassDEP

classified the former GE facility as a Priority Disposal Site,[1] and in 1994 the MassDEP assigned Release Tracking Number (RTN) RTN-3-0518 to the site.[2]

The Property has had a history of manufacturing processes that have contributed to releases of fuels, oils, solvents, and metals to the environment. Analytical data have shown that six primary types of organic and inorganic compounds are associated with RTN 3-0518. These include chlorinated volatile organic compounds (CVOCs); total petroleum hydrocarbons (TPH); benzene, toluene, ethyl benzene and xylenes (BTEX) compounds; methyl tertiary butyl ether (MTBE); several metals; and light non-aqueous phase liquids (LNAPL) identified as Stoddard fuel (solvent). Known impacted areas of the Property include four separate operating units (OU), as well as the Tank F and Building 1 Areas, and are summarized in the following table and shown on the attached Figure 1. These areas are designated "Restricted Areas."

Restricted Areas	Description	Affected Media	Compounds of Concern	Regulatory Status
OU-1	Former Tank Farm source area and adjacent Eastern Parking Lot (EPL). Tank Farm had 4 underground storage tanks (USTs) removed in 1987.	Vadose zone soils, and shallow groundwater	Stoddard Solvent LNAPL in groundwater and extractable petroleum hydrocarbons (EPH)-volatile petroleum hydrocarbons (VPH) in both soils and groundwater; associated arsenic	Open
OU-2	Former Tank Farm source area and down-gradient plume on- and off-property	Groundwater	CVOCs and 1,4-dioxane	Open
OU-3	Storm water/Waste water Outfalls 001 and 002	Sediment	Metals and petroleum hydrocarbons	Closed, Partial Class A-2 Response Action Outcome (RAO) (Submitted 2004)

[1] Under 310 CMR 40.0006 (1)(b), the term "Disposal Site" is used to refer to a place or area where an uncontrolled release of oil and/or hazardous material from or at a site or vessel has come to be located.

[2] Martin Marietta acquired GE Aerospace in 1993 and subsequently Martin Marietta and Lockheed merged to form Lockheed Martin Corporation.

Restricted Areas	Description	Affected Media	Compounds of Concern	Regulatory Status
OU-4	Former Tank K source area and immediately down-gradient of plume.	Vadose zone soils and shallow groundwater	Gasoline related petroleum hydrocarbons (VOCs) from former gasoline UST. UST was removed in 1986.	Closed, Partial Class A-2 RAO (Submitted 2010)
Tank F/Building 1 Area	Former Tank F area and area below concrete slab of Building 1	Vadose zone soils and groundwater	CVOCs and petroleum hydrocarbons	Open

OU-1 Area

The Response Actions taken at the Tank Farm/EPL Petroleum Area (OU-1) have included LNAPL recovery, removal of Building 3 and the Oil House/drum storage, and excavation and off-site disposal of petroleum contaminated soil. Since 2011, LNAPL gauging has indicated the absence of measurable LNAPL in any wells that have been gauged. Soil impacts in the OU-1 appear to be consistent with current MCP Industrial/Commercial standards; however, the deeper groundwater and down-gradient plume is impacted with the CVOCs emanating from the former Tank Farm OU-2 Area (see below).

OU-2 Area

The Response Actions taken at the Tank Farm CVOC Source Area (OU-2) have been extensive and included:

- Removal in 1987 of four Underground Storage Tanks ("USTs") at the Tank Farm (Tank D, a 10,000-gal "waste fuel" tank that received waste fuel and oil, thinners, and solvents; Tank G, a 10,000-gal tank used for storing jet fuel and oil; Tank H, a 1,000- gal tank used for storing JP-4 jet fuel; and Tank I, a 500-gal tank used for storing methanol).
- Groundwater pump and treat at the Tank Farm Area between 1993 and 2002. During operation, approximately 1.9 million gallons of groundwater were treated, and approximately 31 pounds of VOCs were removed from the groundwater.
- Groundwater pump and treat in a bedrock well (TRC-202R) located down-gradient of the Tank Farm Area between 2003 and 2008. During operation, approximately 4.3 million gallons of groundwater were treated, and approximately 159 pounds of VOCs were

removed from the groundwater. Groundwater data trends did not indicate significant reductions in contaminant concentrations. The system remains shut down at the present time.

- Addition of a remedial treatment solution known as Emulsified Zero Valent Iron (EZVI) in 2005 through 2006. EZVI was injected directly into bedrock fractures and into the overburden-bedrock interface within the Tank Farm Area. The EZVI treatment was not considered successful.

- Analysis of monitored natural attenuation (MNA) geochemical and microbiological parameters in 2012 for groundwater, indicating conditions supportive of limited enhanced reductive dechlorination. A review of plume geometry and other trends indicate that the off-site CVOC impacts appear to be stable or shrinking.

- Additional groundwater investigation activities from 2012 through 2014 in the Tank Farm, the EPL and off-site in the adjacent wetland areas. This work is on-going and the data will be evaluated and presented in a Supplemental Phase II report in the future.

OU-3 and OU-4 Areas

Areas within OU-3 and OU-4 have been remediated and closed under the MCP in 2004 and 2010, respectively. Response Actions taken at OU-3 included excavation of metal-impacted sediments and wetland restoration. Response Actions taken at OU-4 have included UST removal, soil excavation, and biosparge/soil vapor extraction. Although these areas have been closed under the MCP, it should be noted that contaminated media were cleaned up to Industrial/Commercial standards and that low level impacts may remain. That is, the soil, sediments and groundwater have not been cleaned up to conditions such that these locations would be suitable for Residential, Institutional, or park/playground land use without first completing further response actions.

Tank F and Building 1 Areas

Tank F, formerly located on the southwest side of Building 1 on the former GE facility property, which received acid and caustic wastes plus other degreasing solvent and fuel wastes through floor drains from Building 1, was removed from the Property in 1990. No obvious impacts were

observed during its removal or from samples obtained from soils and other liquids associated with the tank prior to its removal. No remedial efforts have been associated with this tank area.

Investigation results suggest CVOC impacts in the southwestern area of Building 1 and/or the former Tank F area. Shallow groundwater in the overburden does not exhibit elevated CVOC concentrations; however, bedrock wells in this area exhibited much higher concentrations of both PCE and TCE. In June 1987, a small tank was removed adjacent to Tank F and field screening levels of VOCs ranging from 100 to 200 parts per million (ppm) were encountered near the bottom of the excavation. In addition, sampling of sediment from within the chase troughs in Building 1 exhibited petroleum hydrocarbon and CVOC impacts. Soils within the top foot under the metals finishing floor sumps indicated low levels of CVOCs.

Sub-slab and indoor air sampling has been conducted within Building 1 between 2009 through 2014. Elevated levels of petroleum hydrocarbons and CVOCs have been detected below the concrete slab of Building 1. Low levels of CVOCs have also been detected in indoor air samples, however, they have consistently been below MassDEP available MA Commercial/Industrial (C/I) Threshold Values and do not pose a risk to industrial/ commercial workers. It is therefore the opinion of the LSP that industrial and commercial use is a permissible use under the AUL.

In 2013 and 2014, additional soil and groundwater investigation activities have been performed underneath Building 1. This work is on-going and the data will be evaluated and presented in a Supplemental Phase II report in the future.

Nature and Extent of Contamination

The lateral extent of the MCP Disposal Site encompasses a large portion of the Property as shown on the attached **Figure 1**. Within this site boundary, residual levels of contaminants are likely present within soil or groundwater or both. Higher concentrations are expected within the Operable Units and the Tank F/Building 1 Areas than in areas outside of these designated areas. However, low level residual contamination above applicable MCP standards may be present in areas outside of these areas within the Disposal Site boundary. The AUL boundary has been set to encompass a large portion of the Property, including the Restricted Areas, but exclusive of the

northern wetland areas where future construction-related activities are considered to be highly unlikely, and exclusive of the areas beneath and between Buildings 1A and 2.

Recommendations

It is the opinion of the LSP that the restrictions on Activities and Uses of the Property and the Obligations and Conditions contained in the AUL are appropriate, based on the foregoing.

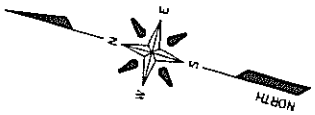
File: J:\Rem_Eng\Project Files\Lockheed Martin\Wilmington, MA 2012 #60267214\Project Implementation Files\CADD\ROS_2013-04\AUL Site Plan 2.dwg Layout: _ACM-0 (3) User: barryk Plotted: Oct 13, 2014 - 2:04pm Xref's:

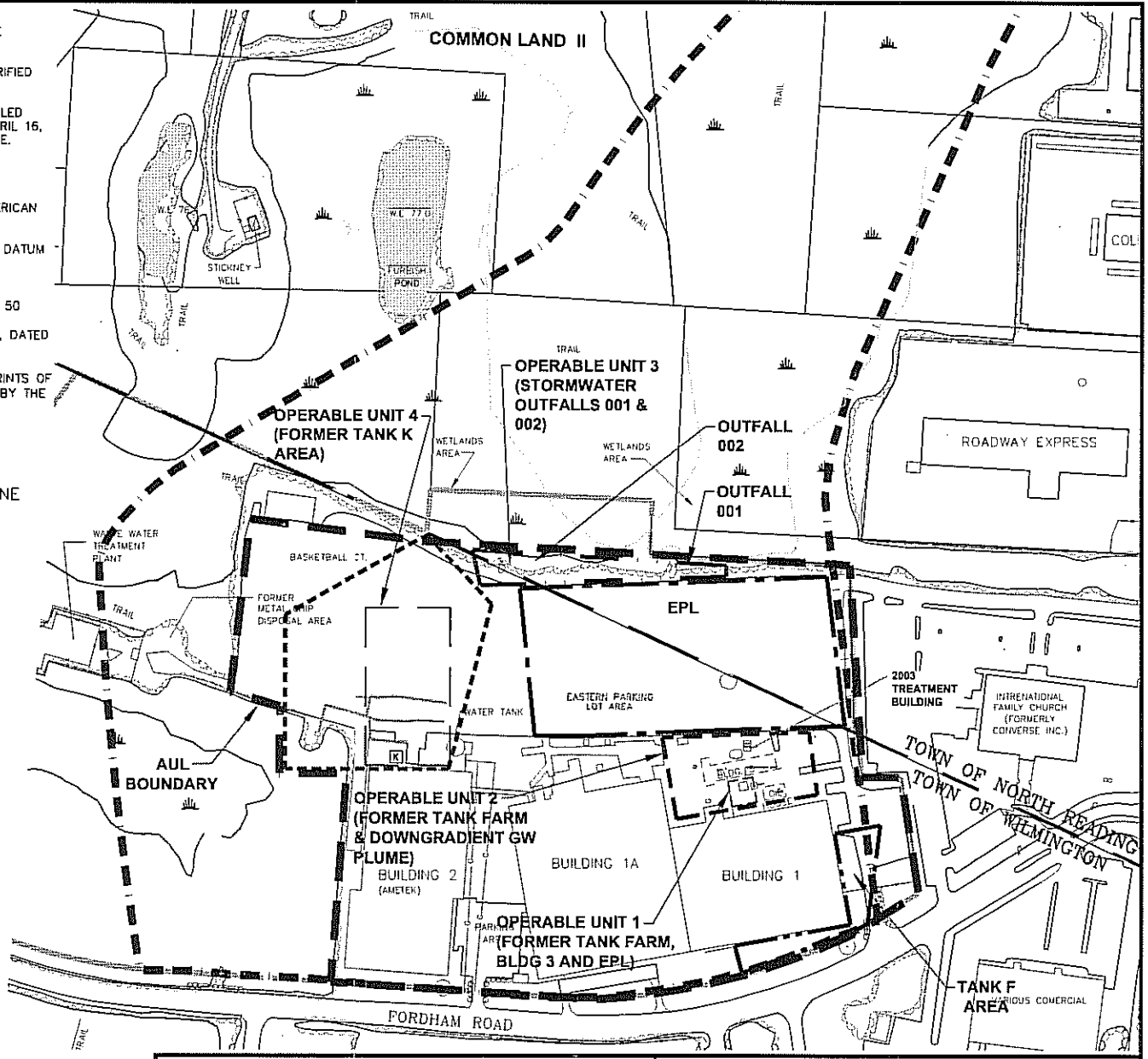
NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL COORDINATE SYSTEM AND THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 16, 1992 BY EAST COAST MAPPING INC., CONCORD, NEW HAMPSHIRE. MAPPING GROUND CONTROL ESTABLISHED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
3. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1929.
4. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
5. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM:
   A) "REGIONAL EXPLORATION PLAN", GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD PROPERTY, WILMINGTON/NORTH READING, MASSACHUSETTS, BY GOLDBERG – ZOINO & ASSOCIATES, INC., DATED APRIL 1990;
   B) MODIFIED PER NORTH READING GIS DATA, JUNE 2002; AND
   C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 125:000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.

LEGEND

- APPROXIMATE PROPERTY LINE
- APPROXIMATE TOWN LINE
- MCP SITE BOUNDARY
- AUL BOUNDARY





0' 150' 300' 600'

APPROXIMATE SCALE IN FEET
1"=300'

AECOM

FORMER GE FACILITY 50 FORDHAM ROAD WILMINGTON, MA			AUL SITE PLAN
DATE: 10/14	DRWN: K.P.B.		FIGURE 1

EXHIBIT D

TRUSTEE CERTIFICATE

WILMINGTON REALTY TRUST
TRUSTEES' CERTIFICATE

The undersigned, Rosemarie Stanieich, Victoria J. Maiyara, and Annette Maria Given, as Trustees of Wilmington Realty Trust under Declaration of Trust dated September 7, 1973, registered in the Middlesex North Registry District of the Land Court as Document No. 63541 and noted on Certificate of Title No. 19837 and registered further in the Middlesex South Registry of the Land Court as Document No. 515729 and noted on Certificate of Title No. 142138 (the "Trust"), hereby certify as follows:

1. That they are all of the current Trustees of the Trust;

2. That the Trust is in full force and effect and has not been revoked, terminated or rescinded in whole or in part;

3. That the undersigned Trustees have been duly authorized and specifically directed by all of the beneficiaries of the Trust to execute, acknowledge and deliver that certain Activity and Use Limitation with respect to the property owned by the Trust and having an address of 50 Fordham Road in Wilmington, Massachusetts, and:

4. No beneficiary of the Trust is a minor, a Massachusetts corporation selling all or substantially of all its Massachusetts assets, or a personal representative of an estate subject to an estate tax lien, deceased, or under any other legal incapacity.

EXECUTED as a sealed instrument this 13th day of July, 2015

WILMINGTON REALTY TRUST

Rosemarie Stanieich, as Trustee and not individually

Victoria J. Maiyara, as Trustee and not individually

Annette Maria Given, as Trustee and not individually

THE COMMONWEALTH OF MASSACHUSETTS

County of Middlesex, ss.

On this 13th day of July, 2015 before me, the undersigned notary public, personally appeared Rosemarie Stanieich, proved to me through satisfactory evidence of identification, which was [✓] photographic identification with signature issued by a federal or state government agency, [ ] oath or affirmation of a credible witness, or [ ] personal knowledge of the undersigned, to be the person whose name is signed on the preceding document as Trustee of Wilmington Realty Trust as aforesaid and acknowledged to me that she signed it voluntarily, for its stated purpose.

Rhonda L. Rollins
7-14-15

RHONDA L. ROLLINS
NOTARY PUBLIC
STATE OF NEW HAMPSHIRE
- MY COMMISSION EXPIRES AUGUST 22, 2017 -

Notary Public
Name: Alexandra Danilov
My Commission Expires: 12-26-19

ALEXANDRA DANILOV
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 26, 2019

~~THE COMMONWEALTH OF MASSACHUSETTS~~
THE STATE OF NEW HAMPSHIRE

Merrimack
County of ~~Middlesex~~, ss.

On this 14th day of July, 2015 before me, the undersigned notary public, personally appeared Victoria J. Maiyara proved to me through satisfactory evidence of identification, which was [x] photographic identification with signature issued by a federal or state government agency, [ ] oath or affirmation of a credible witness, or [ ] personal knowledge of the undersigned, to be the person whose name is signed on the preceding document as Trustee of Wilmington Realty Trust as aforesaid and acknowledged to me that she signed it voluntarily, for its stated purpose.

RHONDA L. ROLLINS
STATE OF
- MY -
COMMISSION
EXPIRES
AUGUST 22,
2017
NEW HAMPSHIRE
NOTARY PUBLIC

Rhonda L. Rollins
Notary Public
Name: Rhonda L. Rollins
My Commission Expires: 8/22/17

THE COMMONWEALTH OF MASSACHUSETTS

County of Middlesex, ss.

On this 13th day of July, 2015 before me, the undersigned notary public, personally appeared Annette Maria Given proved to me through satisfactory evidence of identification, which was [X] photographic identification with signature issued by a federal or state government agency, [ ] oath or affirmation of a credible witness, or [ ] personal knowledge of the undersigned, to be the person whose name is signed on the preceding document as Trustee of Wilmington Realty Trust as aforesaid and acknowledged to me that she signed it voluntarily, for its stated purpose.

Alexandra Danilov
Notary Public
Name: Alexandra Danilov
My Commission Expires:
12.26.19

ALEXANDRA DANILOV
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 26, 2019

APPENDIX E – LABORATORY ANALYTICAL REPORTS AND DATA VALIDATION MEMOS – GROUNDWATER

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED WILMINGTON MA 60552044.13**
SDG ID: **GCE09538**
Sample ID#s: **CE09538 - CE09546**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE09538

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 4
Modified EPH acceptance ranges.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE09538

Project ID: LOCKHEED WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-AE04-091219-1	CE09538	GROUND WATER
19A-AE04-091219-2	CE09539	GROUND WATER
19A-AE03-091219-1	CE09540	GROUND WATER
19A-AE03-091219-2	CE09541	GROUND WATER
19A-TB01-091219-1	CE09542	GROUND WATER
19A-AE112D-091319-1	CE09543	GROUND WATER
19A-GZA102S-091319-1	CE09544	GROUND WATER
19A-TB01-091319-1	CE09545	GROUND WATER
19A-IP1R2-091319-1	CE09546	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09538

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE04-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	2.0	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	1.1	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	4.5	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	2.4	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	8.9	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	09/15/19	HM	70 - 130 %
% Bromofluorobenzene	106		%	1	09/15/19	HM	70 - 130 %
% Dibromofluoromethane	99		%	1	09/15/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	102		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	56		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	56		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	52		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	86		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	132		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	114		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	93		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	120	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09538

Client ID: 19A-AE04-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	102		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	104		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09539

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE04-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	2.0	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	1.0	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	4.6	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	2.4	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	9.0	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	09/15/19	HM	70 - 130 %
% Bromofluorobenzene	102		%	1	09/15/19	HM	70 - 130 %
% Dibromofluoromethane	106		%	1	09/15/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	101		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	0.12	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	53		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	51		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	50		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	83		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	132		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	116		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	99		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	120	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09539

Client ID: 19A-AE04-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	1.5	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.7	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	94		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	99		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09540

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE03-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.058	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	0.057	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	10.9	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	1.43	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	10.3	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	1.49	0.001	mg/L	1	09/17/19	CPP	SW6010D
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	4.6	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	9.4	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	6.0	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	12	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	7.7	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	6.3	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	103		%	1	09/15/19	HM	70 - 130 %	
% Bromofluorobenzene	108		%	1	09/15/19	HM	70 - 130 %	
% Dibromofluoromethane	102		%	1	09/15/19	HM	70 - 130 %	
% Toluene-d8	103		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	3.3	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	5.1	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	64		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	92		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	50		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	62		%	1	09/18/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	96		%	1	09/17/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	98		%	1	09/17/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	09/17/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	580	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	340	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	240	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	7.9	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.4	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	101		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	104		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09541

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE03-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.056	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	0.058	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	10.8	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	1.43	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	10.4	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	1.47	0.001	mg/L	1	09/17/19	CPP	SW6010D
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/16/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/16/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/16/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C
Isopropylbenzene	4.6	1.0	ug/L	1	09/16/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Naphthalene	9.5	1.0	ug/L	1	09/16/19	HM	SW8260C
n-Butylbenzene	5.8	1.0	ug/L	1	09/16/19	HM	SW8260C
n-Propylbenzene	12	1.0	ug/L	1	09/16/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
sec-Butylbenzene	7.6	1.0	ug/L	1	09/16/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
tert-Butylbenzene	6.2	1.0	ug/L	1	09/16/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/16/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/16/19	HM	70 - 130 %	
% Bromofluorobenzene	110		%	1	09/16/19	HM	70 - 130 %	
% Dibromofluoromethane	102		%	1	09/16/19	HM	70 - 130 %	
% Toluene-d8	102		%	1	09/16/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/16/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	3.2	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	5.0	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	61		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	87		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	47		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	77		%	1	09/18/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/17/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/17/19	AW	40 - 140 %
% o-terphenyl (aromatic)	75		%	1	09/17/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	540	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	300	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	240	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	8.3	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.3	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	99		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	102		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	9:00
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09542

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/14/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09542

Client ID: 19A-TB01-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/14/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/14/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/14/19	HM	70 - 130 %
% Bromofluorobenzene	92		%	1	09/14/19	HM	70 - 130 %
% Dibromofluoromethane	97		%	1	09/14/19	HM	70 - 130 %
% Toluene-d8	103		%	1	09/14/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/14/19	HM	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09542

Client ID: 19A-TB01-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)

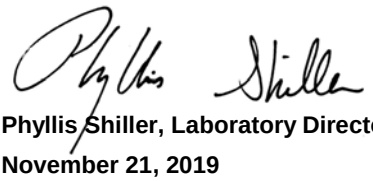
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	9:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09543

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE112D-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	0.018	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	0.055	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	0.045	0.001	mg/L	1	09/17/19	CPP	SW6010D
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09543

Client ID: 19A-AE112D-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09543
Client ID: 19A-AE112D-091319-1

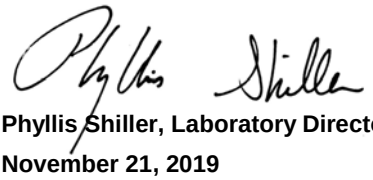
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	102		%	1	09/15/19	HM	70 - 130 %	
% Bromofluorobenzene	99		%	1	09/15/19	HM	70 - 130 %	
% Dibromofluoromethane	109		%	1	09/15/19	HM	70 - 130 %	
% Toluene-d8	99		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	11:10
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09544

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA102S-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/18/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/18/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
cis-1,2-Dichloroethene	2.7	1.0	ug/L	1	09/18/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Tetrachloroethene	2.0	1.0	ug/L	1	09/18/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/18/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Trichloroethene	2.9	1.0	ug/L	1	09/18/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Vinyl chloride	1.3	1.0	ug/L	1	09/18/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/18/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	09/18/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	09/18/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	103		%	1	09/18/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/18/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	62		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	66		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	105		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	136		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	116		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	103		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09544

Client ID: 19A-GZA102S-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.2	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	94		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09545

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/14/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/14/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09545

Client ID: 19A-TB01-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/14/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/14/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/14/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/14/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/14/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/14/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/14/19	HM	70 - 130 %
% Bromofluorobenzene	95		%	1	09/14/19	HM	70 - 130 %
% Dibromofluoromethane	104		%	1	09/14/19	HM	70 - 130 %
% Toluene-d8	102		%	1	09/14/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/14/19	HM	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09545

Client ID: 19A-TB01-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/14/19	HM	SW8260C (OXY)

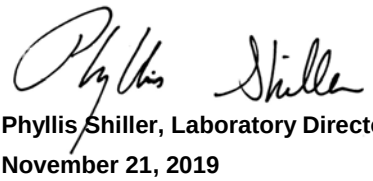
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	12:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09546

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-IP1R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1,1-Trichloroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1,2-Trichloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloroethane	130	40	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloroethene	34	20	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloropropene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dibromoethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,3-Dichloropropane	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,4-Dichlorobenzene	ND	20	ug/L	40	09/18/19	MH	SW8260C
2,2-Dichloropropane	ND	40	ug/L	40	09/18/19	MH	SW8260C
2-Chlorotoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C
2-Hexanone	ND	80	ug/L	40	09/18/19	MH	SW8260C
4-Chlorotoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C
4-Methyl-2-pentanone	ND	200	ug/L	40	09/18/19	MH	SW8260C
Acetone	ND	1000	ug/L	40	09/18/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09546

Client ID: 19A-IP1R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Benzene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Bromochloromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Bromodichloromethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromoform	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromomethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Carbon Disulfide	ND	200	ug/L	40	09/18/19	MH	SW8260C	
Carbon tetrachloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Chlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloroform	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
cis-1,2-Dichloroethene	120	40	ug/L	40	09/18/19	MH	SW8260C	
cis-1,3-Dichloropropene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dibromochloromethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dibromomethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dichlorodifluoromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Ethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Hexachlorobutadiene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Isopropylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
m&p-Xylene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Methyl ethyl ketone	ND	80	ug/L	40	09/18/19	MH	SW8260C	
Methyl t-butyl ether (MTBE)	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Methylene chloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Naphthalene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
n-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
n-Propylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
o-Xylene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
p-Isopropyltoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
sec-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Styrene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
tert-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Tetrachloroethene	3400	400	ug/L	400	09/14/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	100	ug/L	40	09/18/19	MH	SW8260C	
Toluene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Trichloroethene	7300	400	ug/L	400	09/14/19	MH	SW8260C	
Trichlorofluoromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Vinyl chloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (40x)	93		%	40	09/18/19	MH	70 - 130 %	
% Bromofluorobenzene (40x)	96		%	40	09/18/19	MH	70 - 130 %	
% Dibromofluoromethane (40x)	93		%	40	09/18/19	MH	70 - 130 %	
% Toluene-d8 (40x)	140		%	40	09/18/19	MH	70 - 130 %	3
% 1,2-dichlorobenzene-d4 (400x)	103		%	400	09/14/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	99		%	400	09/14/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	98		%	400	09/14/19	MH	70 - 130 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/14/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	1600	ug/l	40	09/18/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	

3 = This parameter exceeds laboratory specified limits.
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated surrogate recovery was observed for volatiles due to matrix interference.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 496849 (mg/L), QC Sample No: CE09226 (CE09540, CE09541, CE09543)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	95.9	94.2	1.8	105			75 - 125	20
Iron	BRL	0.011	<0.011	<0.011	NC	94.5	93.3	1.3	91.0			75 - 125	20
Manganese	BRL	0.001	2.30	2.35	2.20	92.6	92.3	0.3	89.7			75 - 125	20
QA/QC Batch 497119 (mg/L), QC Sample No: CE09522 (CE09540, CE09541, CE09543)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	100	95.9	4.2	99.4			75 - 125	20
Iron	BRL	0.05	0.054	0.052	3.80	101	96.8	4.2	97.4			75 - 125	20
Manganese	BRL	0.001	0.029	0.029	0	101	95.8	5.3	97.5			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497006 (ug/L), QC Sample No: CE06207 (CE09538, CE09539, CE09540, CE09541, CE09544)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	77	85	9.9				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	86	82	4.8				40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	57	54	5.4				40 - 140	25	
Total TPH 1,2*	ND	100	74	70	5.6				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	66	%	87	85	2.3				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	99	%	90	101	11.5				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	95	%	90	96	6.5				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	73	%	71	78	9.4				40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 496857 (ug/L), QC Sample No: CE08570 (CE09538, CE09539, CE09540, CE09541, CE09544)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	64	68	6.1				40 - 140	20	
Acenaphthene	ND	0.50	79	85	7.3				40 - 140	20	
Acenaphthylene	ND	0.10	77	82	6.3				40 - 140	20	
Anthracene	ND	0.10	84	90	6.9				40 - 140	20	
Benz(a)anthracene	ND	0.02	74	85	13.8				40 - 140	20	
Benzo(a)pyrene	ND	0.02	60	78	26.1				40 - 140	20	r
Benzo(b)fluoranthene	ND	0.02	80	100	22.2				40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	64	101	44.8				40 - 140	20	r
Benzo(k)fluoranthene	ND	0.02	79	102	25.4				40 - 140	20	r
Chrysene	ND	0.02	69	80	14.8				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	57	87	41.7				40 - 140	20	r
Fluoranthene	ND	0.50	78	81	3.8				40 - 140	20	
Fluorene	ND	0.10	82	86	4.8				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	55	85	42.9				40 - 140	20	r
Naphthalene	ND	0.50	61	63	3.2				40 - 140	20	
Phenanthrene	ND	0.06	76	80	5.1				40 - 140	20	
Pyrene	ND	0.07	78	82	5.0				40 - 140	20	
% 2-Fluorobiphenyl	68	%	69	73	5.6				40 - 140	20	
% Nitrobenzene-d5	79	%	66	77	15.4				40 - 140	20	
% Terphenyl-d14	66	%	54	64	16.9				40 - 140	20	
Comment:											
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)											

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 497168 (ug/L), QC Sample No: CE08043 (CE09541)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	1.0	92	98	6.3				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	87	93	6.7				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	94	101	7.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	93	97	4.2				70 - 130	30
1,1-Dichloroethane	ND	1.0	89	98	9.6				70 - 130	30
1,1-Dichloroethene	ND	1.0	88	99	11.8				70 - 130	30
1,1-Dichloropropene	ND	1.0	90	95	5.4				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	91	95	4.3				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	90	100	10.5				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	88	94	6.6				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	88	93	5.5				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	103	104	1.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	94	97	3.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	89	94	5.5				70 - 130	30
1,2-Dichloroethane	ND	1.0	92	95	3.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	96	98	2.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	88	96	8.7				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	90	95	5.4				70 - 130	30
1,3-Dichloropropane	ND	1.0	95	100	5.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	88	94	6.6				70 - 130	30
1,4-dioxane	ND	100	96	99	3.1				40 - 160	30
2,2-Dichloropropane	ND	1.0	89	94	5.5				70 - 130	30
2-Chlorotoluene	ND	1.0	88	95	7.7				70 - 130	30
2-Hexanone	ND	5.0	91	92	1.1				40 - 160	30
4-Chlorotoluene	ND	1.0	87	93	6.7				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	106	112	5.5				40 - 160	30
Acetone	ND	5.0	87	92	5.6				40 - 160	30
Benzene	ND	0.70	92	96	4.3				70 - 130	30
Bromobenzene	ND	1.0	89	92	3.3				70 - 130	30
Bromochloromethane	ND	1.0	91	95	4.3				70 - 130	30
Bromodichloromethane	ND	0.50	96	102	6.1				70 - 130	30
Bromoform	ND	1.0	101	107	5.8				70 - 130	30
Bromomethane	ND	1.0	77	89	14.5				40 - 160	30
Carbon Disulfide	ND	1.0	91	103	12.4				70 - 130	30
Carbon tetrachloride	ND	1.0	90	97	7.5				70 - 130	30
Chlorobenzene	ND	1.0	87	94	7.7				70 - 130	30
Chloroethane	ND	1.0	88	95	7.7				70 - 130	30
Chloroform	ND	1.0	85	94	10.1				70 - 130	30
Chloromethane	ND	1.0	82	87	5.9				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	88	96	8.7				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	98	103	5.0				70 - 130	30
Dibromochloromethane	ND	0.50	94	101	7.2				70 - 130	30
Dibromomethane	ND	1.0	97	97	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	100	104	3.9				40 - 160	30
Ethyl ether	ND	1.0	89	92	3.3				70 - 130	30
Ethylbenzene	ND	1.0	87	93	6.7				70 - 130	30
Hexachlorobutadiene	ND	0.40	91	96	5.3				70 - 130	30
Isopropylbenzene	ND	1.0	86	92	6.7				70 - 130	30
m&p-Xylene	ND	1.0	89	93	4.4				70 - 130	30
Methyl ethyl ketone	ND	5.0	112	111	0.9				40 - 160	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Methyl t-butyl ether (MTBE)	ND	1.0	97	104	7.0				70 - 130	30
Methylene chloride	ND	1.0	89	95	6.5				70 - 130	30
Naphthalene	ND	1.0	94	101	7.2				70 - 130	30
n-Butylbenzene	ND	1.0	90	96	6.5				70 - 130	30
n-Propylbenzene	ND	1.0	86	91	5.6				70 - 130	30
o-Xylene	ND	1.0	90	95	5.4				70 - 130	30
p-Isopropyltoluene	ND	1.0	88	93	5.5				70 - 130	30
sec-Butylbenzene	ND	1.0	95	102	7.1				70 - 130	30
Styrene	ND	1.0	91	97	6.4				70 - 130	30
tert-Butylbenzene	ND	1.0	87	95	8.8				70 - 130	30
Tetrachloroethene	ND	1.0	91	96	5.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	94	94	0.0				70 - 130	30
Toluene	ND	1.0	92	96	4.3				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	89	98	9.6				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	95	96	1.0				70 - 130	30
Trichloroethene	ND	1.0	87	92	5.6				70 - 130	30
Trichlorofluoromethane	ND	1.0	91	99	8.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	94	102	8.2				70 - 130	30
Vinyl chloride	ND	1.0	81	85	4.8				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	100	101	1.0				70 - 130	30
% Bromofluorobenzene	98	%	97	100	3.0				70 - 130	30
% Dibromofluoromethane	94	%	97	95	2.1				70 - 130	30
% Toluene-d8	99	%	102	101	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497037 (ug/L), QC Sample No: CE08250 (CE09542, CE09545, CE09546 (400X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	99	102	3.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	90	97	7.5				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	111	119	7.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	99	104	4.9				70 - 130	30
1,1-Dichloroethane	ND	1.0	99	105	5.9				70 - 130	30
1,1-Dichloroethene	ND	1.0	108	106	1.9				70 - 130	30
1,1-Dichloropropene	ND	1.0	96	101	5.1				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	102	111	8.5				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	103	115	11.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	103	107	3.8				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	104	109	4.7				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	116	115	0.9				70 - 130	30
1,2-Dibromoethane	ND	1.0	103	110	6.6				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	102	106	3.8				70 - 130	30
1,2-Dichloroethane	ND	1.0	93	98	5.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	106	112	5.5				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	106	111	4.6				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	106	113	6.4				70 - 130	30
1,3-Dichloropropane	ND	1.0	102	113	10.2				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	102	110	7.5				70 - 130	30
1,4-dioxane	ND	100	94	108	13.9				40 - 160	30
2,2-Dichloropropane	ND	1.0	95	102	7.1				70 - 130	30
2-Chlorotoluene	ND	1.0	105	111	5.6				70 - 130	30
2-Hexanone	ND	5.0	83	90	8.1				40 - 160	30

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
4-Chlorotoluene	ND	1.0	105	111	5.6				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	94	102	8.2				40 - 160	30
Acetone	ND	5.0	80	75	6.5				40 - 160	30
Benzene	ND	0.70	105	109	3.7				70 - 130	30
Bromobenzene	ND	1.0	104	109	4.7				70 - 130	30
Bromochloromethane	ND	1.0	104	109	4.7				70 - 130	30
Bromodichloromethane	ND	0.50	98	107	8.8				70 - 130	30
Bromoform	ND	1.0	106	111	4.6				70 - 130	30
Bromomethane	ND	1.0	87	90	3.4				40 - 160	30
Carbon Disulfide	ND	1.0	97	102	5.0				70 - 130	30
Carbon tetrachloride	ND	1.0	93	97	4.2				70 - 130	30
Chlorobenzene	ND	1.0	103	104	1.0				70 - 130	30
Chloroethane	ND	1.0	81	83	2.4				70 - 130	30
Chloroform	ND	1.0	98	101	3.0				70 - 130	30
Chloromethane	ND	1.0	77	79	2.6				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	103	106	2.9				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	111	5.6				70 - 130	30
Dibromochloromethane	ND	0.50	103	111	7.5				70 - 130	30
Dibromomethane	ND	1.0	100	104	3.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	77	79	2.6				40 - 160	30
Ethyl ether	ND	1.0	85	88	3.5				70 - 130	30
Ethylbenzene	ND	1.0	102	106	3.8				70 - 130	30
Hexachlorobutadiene	ND	0.40	109	108	0.9				70 - 130	30
Isopropylbenzene	ND	1.0	104	110	5.6				70 - 130	30
m&p-Xylene	ND	1.0	103	108	4.7				70 - 130	30
Methyl ethyl ketone	ND	5.0	92	102	10.3				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	83	89	7.0				70 - 130	30
Methylene chloride	ND	1.0	109	106	2.8				70 - 130	30
Naphthalene	ND	1.0	107	116	8.1				70 - 130	30
n-Butylbenzene	ND	1.0	107	111	3.7				70 - 130	30
n-Propylbenzene	ND	1.0	103	109	5.7				70 - 130	30
o-Xylene	ND	1.0	103	105	1.9				70 - 130	30
p-Isopropyltoluene	ND	1.0	105	109	3.7				70 - 130	30
sec-Butylbenzene	ND	1.0	113	119	5.2				70 - 130	30
Styrene	ND	1.0	106	108	1.9				70 - 130	30
tert-Butylbenzene	ND	1.0	105	110	4.7				70 - 130	30
Tetrachloroethene	ND	1.0	98	105	6.9				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	89	90	1.1				70 - 130	30
Toluene	ND	1.0	101	107	5.8				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	105	107	1.9				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	101	106	4.8				70 - 130	30
Trichloroethene	ND	1.0	97	104	7.0				70 - 130	30
Trichlorofluoromethane	ND	1.0	77	80	3.8				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	91	94	3.2				70 - 130	30
Vinyl chloride	ND	1.0	73	80	9.2				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	95	%	96	97	1.0				70 - 130	30
% Dibromofluoromethane	100	%	99	104	4.9				70 - 130	30
% Toluene-d8	99	%	99	100	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497046 (ug/L), QC Sample No: CE09233 (CE09538, CE09539, CE09540, CE09543)											
Volatiles - Ground Water											
1,1,1,2-Tetrachloroethane	ND	1.0	102	110	7.5	113	108	4.5	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	95	98	3.1	120	111	7.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	114	116	1.7	127	120	5.7	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	103	110	6.6	121	114	6.0	70 - 130	30	
1,1-Dichloroethane	ND	1.0	99	102	3.0	120	110	8.7	70 - 130	30	
1,1-Dichloroethene	ND	1.0	95	99	4.1	128	117	9.0	70 - 130	30	
1,1-Dichloropropene	ND	1.0	97	100	3.0	120	111	7.8	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	110	114	3.6	116	115	0.9	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	109	115	5.4	122	118	3.3	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	107	110	2.8	115	105	9.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	105	103	1.9	112	104	7.4	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	122	135	10.1	132	127	3.9	70 - 130	30	l,m
1,2-Dibromoethane	ND	1.0	107	116	8.1	119	113	5.2	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	106	108	1.9	112	108	3.6	70 - 130	30	
1,2-Dichloroethane	ND	1.0	105	109	3.7	123	110	11.2	70 - 130	30	
1,2-Dichloropropane	ND	1.0	102	110	7.5	128	113	12.4	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	105	103	1.9	113	106	6.4	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	107	104	2.8	112	104	7.4	70 - 130	30	
1,3-Dichloropropane	ND	1.0	108	115	6.3	121	114	6.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	104	104	0.0	114	103	10.1	70 - 130	30	
1,4-dioxane	ND	100	102	101	1.0	98	104	5.9	40 - 160	30	
2,2-Dichloropropane	ND	1.0	103	109	5.7	106	101	4.8	70 - 130	30	
2-Chlorotoluene	ND	1.0	105	102	2.9	111	104	6.5	70 - 130	30	
2-Hexanone	ND	5.0	91	102	11.4	102	92	10.3	40 - 160	30	
4-Chlorotoluene	ND	1.0	105	103	1.9	110	103	6.6	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	107	115	7.2	133	120	10.3	40 - 160	30	
Acetone	ND	5.0	84	87	3.5	103	94	9.1	40 - 160	30	
Benzene	ND	0.70	100	103	3.0	117	110	6.2	70 - 130	30	
Bromobenzene	ND	1.0	103	102	1.0	112	104	7.4	70 - 130	30	
Bromochloromethane	ND	1.0	103	108	4.7	118	114	3.4	70 - 130	30	
Bromodichloromethane	ND	0.50	106	113	6.4	125	112	11.0	70 - 130	30	
Bromoform	ND	1.0	111	129	15.0	124	122	1.6	70 - 130	30	
Bromomethane	ND	1.0	68	74	8.5	50	56	11.3	40 - 160	30	
Carbon Disulfide	ND	1.0	88	91	3.4	113	103	9.3	70 - 130	30	
Carbon tetrachloride	ND	1.0	95	100	5.1	123	113	8.5	70 - 130	30	
Chlorobenzene	ND	1.0	98	105	6.9	110	105	4.7	70 - 130	30	
Chloroethane	ND	1.0	74	84	12.7	90	88	2.2	70 - 130	30	
Chloroform	ND	1.0	97	97	0.0	117	106	9.9	70 - 130	30	
Chloromethane	ND	1.0	66	69	4.4	77	75	2.6	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	95	102	7.1	117	108	8.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	107	112	4.6	122	113	7.7	70 - 130	30	
Dibromochloromethane	ND	0.50	110	120	8.7	122	114	6.8	70 - 130	30	
Dibromomethane	ND	1.0	110	115	4.4	127	116	9.1	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	63	66	4.7	93	80	15.0	40 - 160	30	
Ethyl ether	ND	1.0	82	91	10.4	104	103	1.0	70 - 130	30	
Ethylbenzene	ND	1.0	95	101	6.1	107	104	2.8	70 - 130	30	
Hexachlorobutadiene	ND	0.40	106	108	1.9	114	111	2.7	70 - 130	30	
Isopropylbenzene	ND	1.0	98	98	0.0	112	102	9.3	70 - 130	30	
m&p-Xylene	ND	1.0	98	105	6.9	109	105	3.7	70 - 130	30	
Methyl ethyl ketone	ND	5.0	109	109	0.0	122	121	0.8	40 - 160	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Methyl t-butyl ether (MTBE)	ND	1.0	90	97	7.5	109	103	5.7	70 - 130	30
Methylene chloride	ND	1.0	95	95	0.0	107	97	9.8	70 - 130	30
Naphthalene	ND	1.0	116	120	3.4	128	122	4.8	70 - 130	30
n-Butylbenzene	ND	1.0	109	107	1.9	116	108	7.1	70 - 130	30
n-Propylbenzene	ND	1.0	100	98	2.0	109	104	4.7	70 - 130	30
o-Xylene	ND	1.0	97	104	7.0	110	105	4.7	70 - 130	30
p-Isopropyltoluene	ND	1.0	104	101	2.9	113	106	6.4	70 - 130	30
sec-Butylbenzene	ND	1.0	111	110	0.9	124	116	6.7	70 - 130	30
Styrene	ND	1.0	103	110	6.6	111	104	6.5	70 - 130	30
tert-Butylbenzene	ND	1.0	103	102	1.0	116	106	9.0	70 - 130	30
Tetrachloroethene	ND	1.0	95	102	7.1	121	109	10.4	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	94	107	12.9	119	99	18.3	70 - 130	30
Toluene	ND	1.0	99	104	4.9	116	107	8.1	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	95	97	2.1	118	110	7.0	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	109	114	4.5	124	113	9.3	70 - 130	30
Trichloroethene	ND	1.0	97	100	3.0	115	108	6.3	70 - 130	30
Trichlorofluoromethane	ND	1.0	74	75	1.3	103	94	9.1	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	83	85	2.4	114	104	9.2	70 - 130	30
Vinyl chloride	ND	1.0	63	65	3.1	84	79	6.1	70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	103	99	4.0	102	103	1.0	70 - 130	30
% Bromofluorobenzene	97	%	99	103	4.0	99	100	1.0	70 - 130	30
% Dibromofluoromethane	99	%	96	103	7.0	106	104	1.9	70 - 130	30
% Toluene-d8	98	%	102	100	2.0	103	101	2.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497636 (ug/L), QC Sample No: CE09904 (CE09546 (40X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	102	109	6.6				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	105	106	0.9				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	101	115	13.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	93	108	14.9				70 - 130	30
1,1-Dichloroethane	ND	1.0	100	101	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	117	110	6.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	105	105	0.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	90	99	9.5				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	97	107	9.8				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	94	104	10.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	101	100	1.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	97	112	14.4				70 - 130	30
1,2-Dibromoethane	ND	1.0	98	107	8.8				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	101	104	2.9				70 - 130	30
1,2-Dichloroethane	ND	1.0	95	107	11.9				70 - 130	30
1,2-Dichloropropane	ND	1.0	100	104	3.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	103	100	3.0				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	100	100	0.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	96	107	10.8				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	101	103	2.0				70 - 130	30
1,4-dioxane	ND	100	97	106	8.9				40 - 160	30
2,2-Dichloropropane	ND	1.0	98	96	2.1				70 - 130	30
2-Chlorotoluene	ND	1.0	105	102	2.9				70 - 130	30
2-Hexanone	ND	5.0	70	89	23.9				40 - 160	30
4-Chlorotoluene	ND	1.0	100	98	2.0				70 - 130	30

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
4-Methyl-2-pentanone	ND	5.0	72	90	22.2				40 - 160	30	
Acetone	ND	5.0	57	91	45.9				40 - 160	30	r
Benzene	ND	0.70	98	101	3.0				70 - 130	30	
Bromobenzene	ND	1.0	103	103	0.0				70 - 130	30	
Bromochloromethane	ND	1.0	96	103	7.0				70 - 130	30	
Bromodichloromethane	ND	0.50	99	109	9.6				70 - 130	30	
Bromoform	ND	1.0	98	115	16.0				70 - 130	30	
Bromomethane	ND	1.0	94	96	2.1				40 - 160	30	
Carbon Disulfide	ND	1.0	98	94	4.2				70 - 130	30	
Carbon tetrachloride	ND	1.0	110	110	0.0				70 - 130	30	
Chlorobenzene	ND	1.0	102	102	0.0				70 - 130	30	
Chloroethane	ND	1.0	93	88	5.5				70 - 130	30	
Chloroform	ND	1.0	100	104	3.9				70 - 130	30	
Chloromethane	ND	1.0	92	88	4.4				40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	100	100	0.0				70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	96	104	8.0				70 - 130	30	
Dibromochloromethane	ND	0.50	106	118	10.7				70 - 130	30	
Dibromomethane	ND	1.0	96	110	13.6				70 - 130	30	
Dichlorodifluoromethane	ND	1.0	122	112	8.5				40 - 160	30	
Ethyl ether	ND	1.0	75	87	14.8				70 - 130	30	
Ethylbenzene	ND	1.0	101	102	1.0				70 - 130	30	
Hexachlorobutadiene	ND	0.40	123	111	10.3				70 - 130	30	
Isopropylbenzene	ND	1.0	101	101	0.0				70 - 130	30	
m&p-Xylene	ND	1.0	100	101	1.0				70 - 130	30	
Methyl ethyl ketone	ND	5.0	81	96	16.9				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	78	93	17.5				70 - 130	30	
Methylene chloride	ND	1.0	89	94	5.5				70 - 130	30	
Naphthalene	ND	1.0	93	111	17.6				70 - 130	30	
n-Butylbenzene	ND	1.0	104	104	0.0				70 - 130	30	
n-Propylbenzene	ND	1.0	103	100	3.0				70 - 130	30	
o-Xylene	ND	1.0	101	103	2.0				70 - 130	30	
p-Isopropyltoluene	ND	1.0	101	102	1.0				70 - 130	30	
sec-Butylbenzene	ND	1.0	105	109	3.7				70 - 130	30	
Styrene	ND	1.0	98	100	2.0				70 - 130	30	
tert-Butylbenzene	ND	1.0	100	101	1.0				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	75	89	17.1				70 - 130	30	
Toluene	ND	1.0	101	104	2.9				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	105	103	1.9				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	95	107	11.9				70 - 130	30	
Trichlorofluoromethane	ND	1.0	100	95	5.1				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	102	99	3.0				70 - 130	30	
Vinyl chloride	ND	1.0	96	89	7.6				70 - 130	30	
% 1,2-dichlorobenzene-d4	93	%	98	99	1.0				70 - 130	30	
% Bromofluorobenzene	95	%	96	100	4.1				70 - 130	30	
% Dibromofluoromethane	100	%	98	99	1.0				70 - 130	30	
% Toluene-d8	91	%	102	101	1.0				70 - 130	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497430 (ug/L), QC Sample No: CE11504 (CE09544)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	96	102	6.1				70 - 130	30	

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,1,1-Trichloroethane	ND	1.0	97	103	6.0				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	98	104	5.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	93	101	8.2				70 - 130	30
1,1-Dichloroethane	ND	1.0	99	107	7.8				70 - 130	30
1,1-Dichloroethene	ND	1.0	100	110	9.5				70 - 130	30
1,1-Dichloropropene	ND	1.0	100	104	3.9				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	94	102	8.2				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	94	108	13.9				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	94	100	6.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	99	102	3.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	105	116	10.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	99	100	1.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	94	99	5.2				70 - 130	30
1,2-Dichloroethane	ND	1.0	95	102	7.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	100	107	6.8				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	100	104	3.9				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	96	101	5.1				70 - 130	30
1,3-Dichloropropane	ND	1.0	98	101	3.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	96	98	2.1				70 - 130	30
1,4-dioxane	ND	100	101	104	2.9				40 - 160	30
2,2-Dichloropropane	ND	1.0	103	112	8.4				70 - 130	30
2-Chlorotoluene	ND	1.0	97	100	3.0				70 - 130	30
2-Hexanone	ND	5.0	74	85	13.8				40 - 160	30
4-Chlorotoluene	ND	1.0	97	104	7.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	92	104	12.2				40 - 160	30
Acetone	ND	5.0	84	84	0.0				40 - 160	30
Benzene	ND	0.70	98	103	5.0				70 - 130	30
Bromobenzene	ND	1.0	92	100	8.3				70 - 130	30
Bromochloromethane	ND	1.0	94	105	11.1				70 - 130	30
Bromodichloromethane	ND	0.50	101	104	2.9				70 - 130	30
Bromoform	ND	1.0	103	105	1.9				70 - 130	30
Bromomethane	ND	1.0	81	83	2.4				40 - 160	30
Carbon Disulfide	ND	1.0	91	96	5.3				70 - 130	30
Carbon tetrachloride	ND	1.0	99	109	9.6				70 - 130	30
Chlorobenzene	ND	1.0	96	97	1.0				70 - 130	30
Chloroethane	ND	1.0	87	96	9.8				70 - 130	30
Chloroform	ND	1.0	97	103	6.0				70 - 130	30
Chloromethane	ND	1.0	80	88	9.5				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	93	101	8.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	99	107	7.8				70 - 130	30
Dibromochloromethane	ND	0.50	101	106	4.8				70 - 130	30
Dibromomethane	ND	1.0	97	97	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	105	111	5.6				40 - 160	30
Ethyl ether	ND	1.0	78	85	8.6				70 - 130	30
Ethylbenzene	ND	1.0	97	99	2.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	109	107	1.9				70 - 130	30
Isopropylbenzene	ND	1.0	96	99	3.1				70 - 130	30
m&p-Xylene	ND	1.0	97	99	2.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	92	103	11.3				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	82	93	12.6				70 - 130	30
Methylene chloride	ND	1.0	91	97	6.4				70 - 130	30
Naphthalene	ND	1.0	98	108	9.7				70 - 130	30
n-Butylbenzene	ND	1.0	103	108	4.7				70 - 130	30

QA/QC Data

SDG I.D.: GCE09538

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
n-Propylbenzene	ND	1.0	96	100	4.1				70 - 130	30
o-Xylene	ND	1.0	97	100	3.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	99	104	4.9				70 - 130	30
sec-Butylbenzene	ND	1.0	108	112	3.6				70 - 130	30
Styrene	ND	1.0	99	102	3.0				70 - 130	30
tert-Butylbenzene	ND	1.0	100	103	3.0				70 - 130	30
Tetrachloroethene	ND	1.0	98	102	4.0				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	79	95	18.4				70 - 130	30
Toluene	ND	1.0	97	100	3.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	97	105	7.9				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	98	106	7.8				70 - 130	30
Trichloroethene	ND	1.0	96	102	6.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	92	100	8.3				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	94	101	7.2				70 - 130	30
Vinyl chloride	ND	1.0	85	94	10.1				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	100	104	3.9				70 - 130	30
% Bromofluorobenzene	99	%	99	101	2.0				70 - 130	30
% Dibromofluoromethane	99	%	99	101	2.0				70 - 130	30
% Toluene-d8	101	%	102	102	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497163 (ug/L), QC Sample No: CE08459 (CE09538, CE09539, CE09540, CE09541, CE09544)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	98	95	3.1	99	95	4.1	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	103	96	7.0	99	97	2.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	98	95	3.1	99	95	4.1	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	103	96	7.0	95	92	3.2	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	99	99	0.0	99	96	3.1	70 - 130	20
Benzene	ND	1.0	92	92	0.0	94	92	2.2	70 - 130	20
Ethyl Benzene	ND	1.0	93	92	1.1	95	93	2.1	70 - 130	20
MTBE	ND	1.0	105	104	1.0	105	104	1.0	70 - 130	20
Naphthalene	ND	5.0	112	111	0.9	112	110	1.8	70 - 130	20
Toluene	ND	1.0	91	90	1.1	93	91	2.2	70 - 130	20
m,p-Xylenes	ND	2.0	93	93	0.0	95	93	2.1	70 - 130	20
o-Xylene	ND	1.0	92	92	0.0	94	92	2.2	70 - 130	20
% 2,5-Dibromotoluene (PID)	99	%	101	97	4.0	106	97	8.9	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE09538 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE09538	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09538	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09538	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09538	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09538	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09538	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09538	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09538	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09539	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09539	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09539	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09539	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09539	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09539	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09539	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09539	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09540	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09540	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09540	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09540	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09540	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09540	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09540	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09540	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09540	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / Client Specified Criteria / LOCKHEED WILMINGTO	240	100	200	200	ug/L
CE09540	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / CMR 310.40.1600 / GW-1 (mg/l)	240	100	200	200	ug/L
CE09540	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / GROUNDWATER STANDARDS / GW-1	240	100	200	200	ug/L
CE09540	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.058	0.004	0.01	0.01	mg/L
CE09540	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.058	0.004	0.01	0.01	mg/L
CE09540	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.058	0.004	0.01	0.01	mg/L
CE09540	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.057	0.004	0.01	0.01	mg/L
CE09540	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.057	0.004	0.01	0.01	mg/L
CE09540	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.057	0.004	0.01	0.01	mg/L
CE09540	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.43	0.001	0.43	0.43	mg/L
CE09540	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.49	0.001	0.43	0.43	mg/L
CE09541	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09541	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09541	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09541	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09541	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE09538 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE09541	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09541	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09541	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09541	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / Client Specified Criteria / LOCKHEED WILMINGTO	240	100	200	200	ug/L
CE09541	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / CMR 310.40.1600 / GW-1 (mg/l)	240	100	200	200	ug/L
CE09541	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / GROUNDWATER STANDARDS / GW-1	240	100	200	200	ug/L
CE09541	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.056	0.004	0.01	0.01	mg/L
CE09541	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.056	0.004	0.01	0.01	mg/L
CE09541	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.056	0.004	0.01	0.01	mg/L
CE09541	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.058	0.004	0.01	0.01	mg/L
CE09541	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.058	0.004	0.01	0.01	mg/L
CE09541	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.058	0.004	0.01	0.01	mg/L
CE09541	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.43	0.001	0.43	0.43	mg/L
CE09541	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.47	0.001	0.43	0.43	mg/L
CE09542	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09542	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09542	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09542	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09542	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09542	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09542	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09542	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09543	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09543	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09543	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09543	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09543	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09543	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09543	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09543	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09544	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09544	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09544	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE09544	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09544	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09544	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09544	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09544	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09545	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE09538 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE09545	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE09545	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE09545	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE09545	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE09545	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE09545	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE09545	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE09546	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.47	0.47	ug/L
CE09546	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	7	7	ug/L
CE09546	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	80	38	38	ug/L
CE09546	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.6	0.6	ug/L
CE09546	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	3	3	ug/L
CE09546	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	8.3	8.3	ug/L
CE09546	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.0075	0.0075	ug/L
CE09546	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.00033	0.00033	ug/L
CE09546	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	3	3	ug/L
CE09546	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	120	40	20	20	ug/L
CE09546	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	80	38	38	ug/L
CE09546	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	7300	400	5	5	ug/L
CE09546	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	4	4	ug/L
CE09546	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	130	40	70	70	ug/L
CE09546	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	7	7	ug/L
CE09546	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.00075	0.00075	ug/L
CE09546	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3400	400	5	5	ug/L
CE09546	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	20	0.47	0.47	ug/L
CE09546	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	7	7	ug/L
CE09546	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.5	0.5	ug/L
CE09546	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE09538 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE09546	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7300	400	5	5	ug/L
CE09546	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.6	0.6	ug/L
CE09546	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3400	400	5	5	ug/L
CE09546	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.5	0.5	ug/L
CE09546	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	120	40	20	20	ug/L
CE09546	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	34	20	7	7	ug/L
CE09546	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	40	70	70	ug/L
CE09546	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	3	3	ug/L
CE09546	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.02	0.02	ug/L
CE09546	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	3	3	ug/L
CE09546	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	4	4	ug/L
CE09546	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7300	400	5	5	ug/L
CE09546	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	3400	400	5	5	ug/L
CE09546	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	130	40	70	70	ug/L
CE09546	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	10	10	ug/L
CE09546	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	34	20	7	7	ug/L
CE09546	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	120	40	70	70	ug/L
CE09546	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	3	3	ug/L
CE09546	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE09546	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	0.6	0.6	ug/L
CE09546	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	20	4	4	ug/L
CE09546	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	0.02	0.02	ug/L
CE09546	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE09546	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1600	0.3	0.3	ug/l
CE09546	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1600	3	3	ug/l
CE09546	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	1600	0.3	0.3	ug/l

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE09538 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED WILMINGTON MA 60552044 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE09538, CE09539, CE09540, CE09541, CE09542, CE09543, CE09544, CE09545, CE09546

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: SVOASIM, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

SDG Comments

Metals Analysis: CE09540, CE09541, CE09543
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

Not all requested reporting levels were achieved due to the presence of target compounds. Please refer to the Sample Criteria Exceedances section of this report.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/16/19-1 Adam Werner, Chemist 09/16/19

CE09540, CE09541

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/16/19-1 Adam Werner, Chemist 09/16/19

CE09538, CE09539, CE09544

The initial calibration (AL0730BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/18/19-1 Adam Werner, Chemist 09/18/19

CE09540, CE09541

The initial calibration (AL0730BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 497006 (CE06207)

CE09538, CE09539, CE09540, CE09541, CE09544

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 09/14/19 08:36 Cindy Pearce, Tina Hall, Chemist 09/14/19

CE09540, CE09541, CE09543

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE09538

ICP Metals Narration

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/17/19 08:08 Cindy Pearce, Tina Hall, Chemist 09/17/19

CE09540, CE09541, CE09543

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/19/19 01:12 Cindy Pearce, Tina Hall, Chemist 09/19/19

CE09540, CE09541, CE09543

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 496849 (CE09226)

CE09540, CE09541, CE09543

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 497119 (CE09522)

CE09540, CE09541, CE09543

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOASIM Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 496857 (Samples: CE09538, CE09539, CE09540, CE09541, CE09544): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes. These analytes were not reported in the sample(s). No significant variability is suspected. (Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene)

Instrument:

CHEM25 09/15/19-1 Wes Bryon, Chemist 09/15/19

CE09538, CE09539, CE09540, CE09541, CE09544

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM25/25_BNSIM18_0910):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM25/0915_03-25_BNSIM18_0910) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 496857 (CE08570)

CE09538, CE09539, CE09540, CE09541, CE09544

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: Benzo(a)pyrene(26.1%), Benzo(b)fluoranthene(22.2%), Benzo(ghi)perylene(44.8%), Benzo(k)fluoranthene(25.4%), Dibenz(a,h)anthracene(41.7%), Indeno(1,2,3-cd)pyrene(42.9%)
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 497046 (Samples: CE09538, CE09539, CE09540, CE09543): -----

The LCS/LCSD recovery is below the lower range, but within the method criteria. The Batch MS/MSD recovery is acceptable. A slight low bias for this analyte is possible. (Vinyl chloride)

The LCSD and Batch MS recovery for one analyte is above the upper range but was not reported in the sample(s). No significant bias is suspected. (1,2-Dibromo-3-chloropropane)

QC Batch 497636 (Samples: CE09546): -----

The LCS/LCSD RPD exceeds the method criteria for one analyte. This analyte was not reported in the sample(s). No significant variability is suspected. (Acetone)

Instrument:

CHEM02 09/14/19-1 Harry Mullin, Chemist 09/14/19

CE09542, CE09545, CE09546

Initial Calibration Evaluation (CHEM02/VT-P091119):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 29% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.065 (0.1), 4-Methyl-2-pentanone 0.071 (0.1), Acetone 0.036 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0914_04-VT-P091119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.224 (0.3), 1,2-Dibromo-3-chloropropane 0.036 (0.05), 2-Hexanone 0.055 (0.1), 4-Methyl-2-pentanone 0.073 (0.1), Acetone 0.029 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 09/15/19-1 Harry Mullin, Chemist 09/15/19

CE09538, CE09539, CE09540, CE09543

Initial Calibration Evaluation (CHEM02/VT-P091119):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 29% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.065 (0.1), 4-Methyl-2-pentanone 0.071 (0.1), Acetone 0.036 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0915_02-VT-P091119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
91% of target compounds met criteria.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

VOA Narration

The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.240 (0.3), 1,2-Dibromo-3-chloropropane 0.049 (0.05), 2-Hexanone 0.072 (0.1), 4-Methyl-2-pentanone 0.093 (0.1), Acetone 0.035 (0.1), Methyl ethyl ketone 0.052 (0.1), Tetrahydrofuran (THF) 0.033 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 09/16/19-1 Harry Mullin, Chemist 09/16/19

CE09541

Initial Calibration Evaluation (CHEM02/VT-P091119):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 29% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.065 (0.1), 4-Methyl-2-pentanone 0.071 (0.1), Acetone 0.036 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0916_02-VT-P091119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.228 (0.3), 1,2-Dibromo-3-chloropropane 0.041 (0.05), 2-Hexanone 0.052 (0.1), 4-Methyl-2-pentanone 0.070 (0.1), Acetone 0.028 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 09/18/19-1 Michael Hahn, Chemist 09/18/19

CE09544

Initial Calibration Evaluation (CHEM02/VT-P091119):
96% of target compounds met criteria.
The following compounds had %RSDs >20%: Acetone 29% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), 2-Hexanone 0.065 (0.1), 4-Methyl-2-pentanone 0.071 (0.1), Acetone 0.036 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0918_04-VT-P091119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.227 (0.3), 1,2-Dibromo-3-chloropropane 0.043 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.075 (0.1), Acetone 0.029 (0.1), Methyl ethyl ketone 0.040 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM17 09/18/19-1 Michael Hahn, Chemist 09/18/19

CE09546

Initial Calibration Evaluation (CHEM17/VT-S091819):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

VOA Narration

99% of target compounds met criteria.
The following compounds had %RSDs >20%: Methylene chloride 23% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.058 (0.1), Bromoform 0.060 (0.1), Methyl ethyl ketone 0.082 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0918_11-VT-S091819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.040 (0.05), Acetone 0.052 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.081 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497037 (CE08250)

CE09542, CE09545, CE09546

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 497046 (CE09233)

CE09538, CE09539, CE09540, CE09543

All LCS recoveries were within 70 - 130 with the following exceptions: Vinyl chloride(63%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2-Dibromo-3-chloropropane(135%), Vinyl chloride(65%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 497168 (CE08043)

CE09541

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 497430 (CE11504)

CE09544

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 497636 (CE09904)

CE09546

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE09538

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: Acetone(45.9%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/16/19-1 Caleb Githinji, Chemist 09/16/19

CE09538, CE09539, CE09540, CE09541, CE09544

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 497163 (CE08459)

CE09538, CE09539, CE09540, CE09541, CE09544

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE09538

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE09538

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

Temp 1.0 °C Pg of

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herbierich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Samplers Signature Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 (FF)	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
09538	MA-AE04-091219-1	GW	9/12/19	1350	5	2						3		2	2						
09539	MA-AE04-091219-2	GW	9/12/19	1355	5	2						3		2	2						
09540	MA-AE03-091219-1	GW	9/12/19	1350	5	2		2				3		2	2	1	1				
09541	MA-AE03-091219-2	GW	9/12/19	1355	5	2		2				3		2	2	1	1				
09542	MA-TB01-091219-1	GW	9/12/19	0900	2							2									
09543	MA-AE112D-091319-1	GW	9/13/19	0950	3			2				3				1	1				
09544	MA-GZA1025-091319-1	GW	9/13/19	1110	5	2						3		2	2						
09545	MA-TB01-091319-1	GW	9/13/19	0800	2							2									
09546	MA-IP1R2-091319-1	GW	9/13/19	1220	3							3									

Relinquished by:	Accepted by:	Date:	Time:
		9-13-19	14:20
		9/13/19	16:29

Comments, Special Requirements or Regulations:
Dissolved Metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED WILMINGTON MA 605520044.13**
SDG ID: **GCE10295**
Sample ID#s: **CE10295 - CE10310**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE10295

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE10295

Project ID: LOCKHEED WILMINGTON MA 605520044.13

Client Id	Lab Id	Matrix
19A-AE110R1-091319-1	CE10295	GROUND WATER
19A-AE110R2-091319-1	CE10296	GROUND WATER
19A-AE110R4-091319-1	CE10297	GROUND WATER
19A-AE110R6-091319-1	CE10298	GROUND WATER
19A-AE112R1-091319-1	CE10299	GROUND WATER
19A-AE112R3-091319-1	CE10300	GROUND WATER
19A-AE112R5-091319-1	CE10301	GROUND WATER
19A-AE112R6-091319-1	CE10302	GROUND WATER
19A-TB02-091319-1	CE10303	GROUND WATER
19A-AE105S-091619-1	CE10304	GROUND WATER
19A-AE105D-091619-1	CE10305	GROUND WATER
19A-AE105R1-091619-1	CE10306	GROUND WATER
19A-AE105R2-091619-1	CE10307	GROUND WATER
19A-AE105R4-091619-1	CE10308	GROUND WATER
19A-AE105R5-091619-1	CE10309	GROUND WATER
19A-AE106S-091619-1	CE10310	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:35
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10295

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R1-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	15	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	94		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	94		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	94		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	94		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:40
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10296

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	30	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:45
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10297

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R4-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	15	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	90		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	90		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10298

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	9.1	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.3	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	75		%	1	09/20/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10299

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R1-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/18/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	0.815	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	2.28	0.011	mg/L	10	09/19/19	TH	SW6010D
Iron	0.835	0.010	mg/L	1	09/18/19	CPP	SW6010D
Manganese	2.08	0.010	mg/L	10	09/19/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R1-091319-1

Phoenix I.D.: CE10299

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	6.6	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

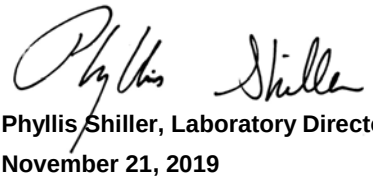
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane	95		%	1	09/20/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	95		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	94		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:33
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10300

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R3-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	1.9	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	4.4	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	96		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	92		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	95		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10301

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R5-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	3.5	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	3.9	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C
QA/QC Surrogates							

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	97		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10302

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/18/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	3.69	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	1.33	0.001	mg/L	1	09/18/19	EK	SW6010D
Iron	3.79	0.010	mg/L	1	09/18/19	CPP	SW6010D
Manganese	1.36	0.001	mg/L	1	09/18/19	CPP	SW6010D
EPH Extraction	Completed				09/17/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/16/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R6-091319-1

Phoenix I.D.: CE10302

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	8.6	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	5.3	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	1.9	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene	94		%	1	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	09/20/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	94		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	94		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	96		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	69		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	69		%	1	09/18/19	WB	40 - 140 %	
% Terphenyl-d14	56		%	1	09/18/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 605520044.13 Phoenix I.D.: CE10302
Client ID: 19A-AE112R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/19/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/19/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	69		%	1	09/19/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/18/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	92		%	1	09/18/19	AW	40 - 140 %
% o-terphenyl (aromatic)	65		%	1	09/18/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	1.7	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	110		%	1	09/19/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

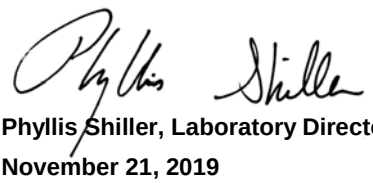
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

MA VPH method is not approved for drinking water matrices.
The analysis should not be used for compliance purposes.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:00
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10303

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-TB02-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/19/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/19/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/19/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/19/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13 Phoenix I.D.: CE10303
Client ID: 19A-TB02-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/19/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/19/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/19/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/19/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/19/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/19/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/19/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/19/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/19/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	91		%	1	09/19/19	MH	70 - 130 %
% Bromofluorobenzene	92		%	1	09/19/19	MH	70 - 130 %
% Dibromofluoromethane	95		%	1	09/19/19	MH	70 - 130 %
% Toluene-d8	91		%	1	09/19/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/19/19	HM	SW8260C	7
QA/QC Surrogates								

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	91		%	1	09/19/19	HM	70 - 130 %	7
% Bromofluorobenzene	92		%	1	09/19/19	HM	70 - 130 %	7
% Dibromofluoromethane	95		%	1	09/19/19	HM	70 - 130 %	7
% Toluene-d8	91		%	1	09/19/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/19/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/19/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/19/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/19/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	9:53
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10304

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105S-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.013	0.004	mg/L	1	09/18/19	CPP	SW6010D
Arsenic (Dissolved)	0.012	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	36.9	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	1.41	0.001	mg/L	1	09/18/19	EK	SW6010D
Iron	38.3	0.010	mg/L	1	09/18/19	CPP	SW6010D
Manganese	1.46	0.001	mg/L	1	09/18/19	CPP	SW6010D
Chloride	218	15.0	mg/L	5	09/17/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/16/19 21:04	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/16/19 21:04	B/E/G	E300.0
Sulfate	15.3	3.0	mg/L	1	09/16/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/17/19	GD	SM4500S-D-11
Total Organic Carbon	1.3	1.0	mg/L	1	09/18/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105S-091619-1

Phoenix I.D.: CE10304

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	13	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	1.8	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	3.5	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C	
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene	94		%	1	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane	95		%	1	09/20/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	94		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	95		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	94		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	13:00
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10305

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105D-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	29	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.6	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	12	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	94		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	101		%	1	09/20/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C
QA/QC Surrogates							

7

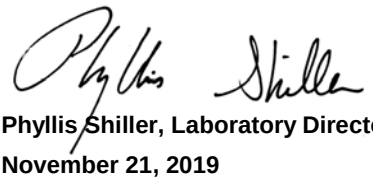
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	94		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	94		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	101		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.4	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/20/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	12:55
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10306

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105R1-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethane	3.3	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethene	2.3	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/22/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13 Phoenix I.D.: CE10306

Client ID: 19A-AE105R1-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/22/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
cis-1,2-Dichloroethene	26	1.0	ug/L	1	09/22/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	1.8	1.0	ug/L	1	09/22/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Tetrachloroethene	34	5.0	ug/L	5	09/22/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/22/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Trichloroethene	140	5.0	ug/L	5	09/22/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/22/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/22/19	MH	70 - 130 %
% Dibromofluoromethane	95		%	1	09/22/19	MH	70 - 130 %
% Toluene-d8	130		%	1	09/22/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (5x)	95		%	5	09/22/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	94		%	5	09/22/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	92		%	5	09/22/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (5x)	103		%	5	09/22/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/22/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/22/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/22/19	HM	70 - 130 %	7
% Dibromofluoromethane	95		%	1	09/22/19	HM	70 - 130 %	7
% Toluene-d8	130		%	1	09/22/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	13:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10307

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105R2-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/18/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	0.053	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	0.121	0.001	mg/L	1	09/18/19	EK	SW6010D
Iron	0.052	0.010	mg/L	1	09/18/19	TH	SW6010D
Manganese	0.129	0.001	mg/L	1	09/18/19	TH	SW6010D
Chloride	51.9	3.0	mg/L	1	09/16/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/16/19 21:34	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/16/19 21:34	BS/GD	E300.0
Sulfate	15.3	3.0	mg/L	1	09/16/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/17/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/18/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/17/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/16/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethane	3.9	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethene	2.8	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105R2-091619-1

Phoenix I.D.: CE10307

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/22/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/22/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
cis-1,2-Dichloroethene	30	1.0	ug/L	1	09/22/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.3	1.0	ug/L	1	09/22/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
Tetrachloroethene	52	5.0	ug/L	5	09/22/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/22/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C	
Trichloroethene	170	20	ug/L	20	09/20/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/22/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/22/19	MH	70 - 130 %	
% Dibromofluoromethane	92		%	1	09/22/19	MH	70 - 130 %	
% Toluene-d8	129		%	1	09/22/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (5x)	96		%	5	09/22/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	97		%	5	09/22/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	89		%	5	09/22/19	MH	70 - 130 %	
% Toluene-d8 (5x)	109		%	5	09/22/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	96		%	20	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	94		%	20	09/20/19	MH	70 - 130 %	
% Toluene-d8 (20x)	97		%	20	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/22/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/22/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/22/19	HM	70 - 130 %	7
% Dibromofluoromethane	92		%	1	09/22/19	HM	70 - 130 %	7
% Toluene-d8	129		%	1	09/22/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	60		%	1	09/18/19	WB	40 - 140 %
% Nitrobenzene-d5	61		%	1	09/18/19	WB	40 - 140 %
% Terphenyl-d14	62		%	1	09/18/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	5.9	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	85		%	1	09/20/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	93		%	1	09/18/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	120		%	1	09/18/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	107		%	1	09/18/19	AW	40 - 140 %
% o-terphenyl (aromatic)	90		%	1	09/18/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	2.4	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	103		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	106		%	1	09/19/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

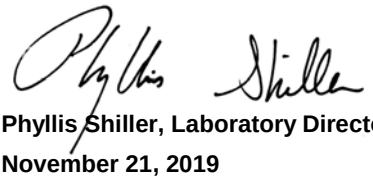
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

MA VPH method is not approved for drinking water matrices.
The analysis should not be used for compliance purposes.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	13:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10308

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105R4-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/17/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/16/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,1-Dichloroethane	3.9	2.0	ug/L	2	09/22/19	MH	SW8260C
1,1-Dichloroethene	2.7	2.0	ug/L	2	09/22/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	09/22/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	10	ug/L	2	09/22/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	09/22/19	MH	SW8260C
Acetone	ND	50	ug/L	2	09/22/19	MH	SW8260C
Benzene	ND	1.4	ug/L	2	09/22/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	09/22/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
cis-1,2-Dichloroethene	37	2.0	ug/L	2	09/22/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	09/22/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.5	2.0	ug/L	2	09/22/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Tetrachloroethene	55	2.0	ug/L	2	09/22/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	09/22/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	09/22/19	MH	SW8260C
Trichloroethene	190	20	ug/L	20	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
Vinyl chloride	ND	2.0	ug/L	2	09/22/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	97		%	2	09/22/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	96		%	2	09/22/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	94		%	2	09/22/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (2x)	120		%	2	09/22/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	96		%	20	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	97		%	20	09/20/19	MH	70 - 130 %	
% Toluene-d8 (20x)	96		%	20	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	09/22/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (2x)	97		%	2	09/22/19	HM	70 - 130 %	7
% Bromofluorobenzene (2x)	96		%	2	09/22/19	HM	70 - 130 %	7
% Dibromofluoromethane (2x)	94		%	2	09/22/19	HM	70 - 130 %	7
% Toluene-d8 (2x)	120		%	2	09/22/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	09/22/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	09/22/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	09/22/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	09/22/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	63		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	61		%	1	09/18/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/18/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	5.3	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/20/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/19/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/19/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	75		%	1	09/19/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/18/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	95		%	1	09/18/19	AW	40 - 140 %
% o-terphenyl (aromatic)	69		%	1	09/18/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	2.6	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	108		%	1	09/19/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

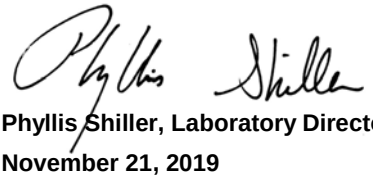
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

MA VPH method is not approved for drinking water matrices.
The analysis should not be used for compliance purposes.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	13:00
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10309

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE105R5-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethane	3.7	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloroethene	3.0	1.0	ug/L	1	09/22/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/22/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/22/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13 Phoenix I.D.: CE10309

Client ID: 19A-AE105R5-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/22/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
cis-1,2-Dichloroethene	41	5.0	ug/L	5	09/22/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/22/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/22/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	1.9	1.0	ug/L	1	09/22/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Tetrachloroethene	50	5.0	ug/L	5	09/22/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/22/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/22/19	MH	SW8260C
Trichloroethene	150	20	ug/L	20	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/22/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/22/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/22/19	MH	70 - 130 %
% Dibromofluoromethane	89		%	1	09/22/19	MH	70 - 130 %
% Toluene-d8	127		%	1	09/22/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (5x)	94		%	5	09/22/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	95		%	5	09/22/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	93		%	5	09/22/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (5x)	108		%	5	09/22/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	94		%	20	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	96		%	20	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	91		%	20	09/20/19	MH	70 - 130 %	
% Toluene-d8 (20x)	96		%	20	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/22/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/22/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/22/19	HM	70 - 130 %	7
% Dibromofluoromethane	89		%	1	09/22/19	HM	70 - 130 %	7
% Toluene-d8	127		%	1	09/22/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/22/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	12:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10310

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE106S-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	8.5	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	3.5	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	12	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	17	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	102		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C 7
QA/QC Surrogates							

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	99		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	103		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	102		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

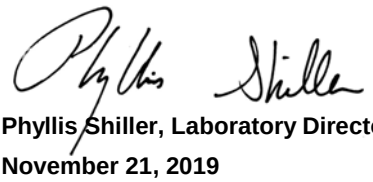
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE10295

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 497247 (mg/L), QC Sample No: CE09611 (CE10299, CE10302, CE10304, CE10307)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	105	104	1.0	108			75 - 125	20
Iron	BRL	0.010	0.198	0.202	2.00	106	105	0.9	109			75 - 125	20
Manganese	BRL	0.001	0.020	0.021	4.90	105	103	1.9	106			75 - 125	20
QA/QC Batch 497250 (mg/L), QC Sample No: CE09756 (CE10299, CE10302, CE10304, CE10307)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	98.1	102	3.9	105			75 - 125	20
Iron	BRL	0.011	0.042	0.043	NC	98.1	102	3.9	99.1			75 - 125	20
Manganese	BRL	0.001	0.033	0.033	0	96.5	101	4.6	96.8			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE10295

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497174 (mg/L), QC Sample No: CE06919 (CE10304, CE10307)														
Sulfide	BRL	0.05	<0.05	<0.05	NC	103			104			90 - 110	20	
QA/QC Batch 497616 (mg/L), QC Sample No: CE10214 (CE10304, CE10307)														
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	104			98.0			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 497274 (mg/L), QC Sample No: CE10246 (CE10304)														
Chloride	BRL	3.0	19.3	19.2	0.50	102			88.2			90 - 110	20	m
Nitrate as Nitrogen	BRL	0.05	0.93	0.99	6.20	101			92.6			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	99.5			91.8			90 - 110	20	
Sulfate	BRL	3.0	27.8	27.7	0.40	101			86.8			90 - 110	20	m
QA/QC Batch 497275 (mg/L), QC Sample No: CE10259 (CE10304, CE10307)														
Chloride	BRL	3.0	13.4	13.3	NC	101			101			90 - 110	20	
Sulfate	BRL	3.0	6.7	6.5	NC	100			96.7			90 - 110	20	
QA/QC Batch 497275 (mg/L), QC Sample No: CE10259 (CE10304, CE10307)														
Nitrate as Nitrogen	BRL	0.05	<0.05	<0.05	NC	99.7			103			90 - 110	20	
Nitrite as Nitrogen	BRL	0.01	<0.01	<0.01	NC	104			97.9			90 - 110	20	

m = This parameter is outside laboratory MS/MSD specified recovery limits.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE10295

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497167 (ug/L), QC Sample No: CE09863 (CE10302, CE10307, CE10308)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	68	68	0.0				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	68	69	1.5				40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	40	40	0.0				40 - 140	25	
Total TPH 1,2*	ND	100	56	57	1.8				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	61	%	63	63	0.0				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	85	%	87	85	2.3				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	81	%	87	84	3.5				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	62	%	63	58	8.3				40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 497683 (ug/l), QC Sample No: CE10298 (CE10298, CE10305, CE10307, CE10308)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	90	94	4.3	94			30 - 130	20	
% 1,4-dioxane-d8	89	%	83	89	7.0	88			30 - 130	20	
QA/QC Batch 497242 (ug/L), QC Sample No: CE10302 (CE10302, CE10307, CE10308)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	64	59	8.1				40 - 140	20	
Acenaphthene	ND	0.50	69	76	9.7				40 - 140	20	
Acenaphthylene	ND	0.10	65	73	11.6				40 - 140	20	
Anthracene	ND	0.10	79	86	8.5				40 - 140	20	
Benz(a)anthracene	ND	0.02	84	79	6.1				40 - 140	20	
Benzo(a)pyrene	ND	0.02	73	60	19.5				40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	97	77	23.0				40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	92	65	34.4				40 - 140	20	r
Benzo(k)fluoranthene	ND	0.02	93	73	24.1				40 - 140	20	r
Chrysene	ND	0.02	75	67	11.3				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	86	60	35.6				40 - 140	20	r
Fluoranthene	ND	0.50	78	80	2.5				40 - 140	20	
Fluorene	ND	0.10	73	79	7.9				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	84	61	31.7				40 - 140	20	r
Naphthalene	ND	0.50	57	54	5.4				40 - 140	20	
Phenanthrene	ND	0.06	74	79	6.5				40 - 140	20	
Pyrene	ND	0.07	77	81	5.1				40 - 140	20	
% 2-Fluorobiphenyl	55	%	58	65	11.4				40 - 140	20	
% Nitrobenzene-d5	61	%	61	70	13.7				40 - 140	20	
% Terphenyl-d14	67	%	64	59	8.1				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 498091 (ug/L), QC Sample No: CE10273 (CE10295, CE10296, CE10297, CE10298, CE10299, CE10300, CE10301, CE10302, CE10304, CE10305, CE10310)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	91	95	4.3				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	89	86	3.4				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	103	103	0.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	97	96	1.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	91	89	2.2				70 - 130	30
1,1-Dichloroethene	ND	1.0	96	97	1.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	89	91	2.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	95	98	3.1				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	94	95	1.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	94	96	2.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	86	87	1.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	98	100	2.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	95	95	0.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	89	91	2.2				70 - 130	30
1,2-Dichloroethane	ND	1.0	92	92	0.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	95	92	3.2				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	87	87	0.0				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	86	87	1.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	95	95	0.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	87	89	2.3				70 - 130	30
1,4-dioxane	ND	100	91	94	3.2				40 - 160	30
2,2-Dichloropropane	ND	1.0	90	89	1.1				70 - 130	30
2-Chlorotoluene	ND	1.0	88	88	0.0				70 - 130	30
2-Hexanone	ND	5.0	86	91	5.6				40 - 160	30
4-Chlorotoluene	ND	1.0	85	86	1.2				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	95	93	2.1				40 - 160	30
Acetone	ND	5.0	84	82	2.4				40 - 160	30
Benzene	ND	0.70	91	92	1.1				70 - 130	30
Bromobenzene	ND	1.0	89	89	0.0				70 - 130	30
Bromochloromethane	ND	1.0	95	93	2.1				70 - 130	30
Bromodichloromethane	ND	0.50	94	100	6.2				70 - 130	30
Bromoform	ND	1.0	90	92	2.2				70 - 130	30
Bromomethane	ND	1.0	88	90	2.2				40 - 160	30
Carbon Disulfide	ND	1.0	94	93	1.1				70 - 130	30
Carbon tetrachloride	ND	1.0	95	92	3.2				70 - 130	30
Chlorobenzene	ND	1.0	89	91	2.2				70 - 130	30
Chloroethane	ND	1.0	90	91	1.1				70 - 130	30
Chloroform	ND	1.0	94	85	10.1				70 - 130	30
Chloromethane	ND	1.0	95	93	2.1				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	92	91	1.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	94	94	0.0				70 - 130	30
Dibromochloromethane	ND	0.50	95	99	4.1				70 - 130	30
Dibromomethane	ND	1.0	97	94	3.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	111	112	0.9				40 - 160	30
Ethyl ether	ND	1.0	89	91	2.2				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Ethylbenzene	ND	1.0	89	90	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	92	94	2.2				70 - 130	30
Isopropylbenzene	ND	1.0	87	87	0.0				70 - 130	30
m&p-Xylene	ND	1.0	87	87	0.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	93	99	6.3				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	103	103	0.0				70 - 130	30
Methylene chloride	ND	1.0	88	84	4.7				70 - 130	30
Naphthalene	ND	1.0	102	104	1.9				70 - 130	30
n-Butylbenzene	ND	1.0	92	94	2.2				70 - 130	30
n-Propylbenzene	ND	1.0	91	90	1.1				70 - 130	30
o-Xylene	ND	1.0	88	89	1.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	88	88	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	95	95	0.0				70 - 130	30
Styrene	ND	1.0	87	87	0.0				70 - 130	30
tert-Butylbenzene	ND	1.0	87	88	1.1				70 - 130	30
Tetrachloroethene	ND	1.0	91	88	3.4				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	100	108	7.7				70 - 130	30
Toluene	ND	1.0	92	90	2.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	90	90	0.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	95	95	0.0				70 - 130	30
Trichloroethene	ND	1.0	88	88	0.0				70 - 130	30
Trichlorofluoromethane	ND	1.0	95	93	2.1				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	101	100	1.0				70 - 130	30
Vinyl chloride	ND	1.0	91	92	1.1				70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	100	100	0.0				70 - 130	30
% Bromofluorobenzene	95	%	99	100	1.0				70 - 130	30
% Dibromofluoromethane	95	%	104	101	2.9				70 - 130	30
% Toluene-d8	92	%	104	102	1.9				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498117 (ug/L), QC Sample No: CE10306 (CE10306 (1X, 5X) , CE10307 (1X, 5X) , CE10308 (2X) , CE10309 (1X, 5X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	88	94	6.6				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	87	89	2.3				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	79	90	13.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	76	87	13.5				70 - 130	30
1,1-Dichloroethane	ND	1.0	82	88	7.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	93	95	2.1				70 - 130	30
1,1-Dichloropropene	ND	1.0	89	92	3.3				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	74	81	9.0				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	80	90	11.8				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	82	91	10.4				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	85	87	2.3				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	84	94	11.2				70 - 130	30
1,2-Dibromoethane	ND	1.0	78	88	12.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	86	91	5.6				70 - 130	30
1,2-Dichloroethane	ND	1.0	76	88	14.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	84	92	9.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	90	93	3.3				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	88	92	4.4				70 - 130	30
1,3-Dichloropropane	ND	1.0	79	87	9.6				70 - 130	30

QA/QC Data

SDG I.D.: GCE10295

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,4-Dichlorobenzene	ND	1.0	87	92	5.6				70 - 130	30	
1,4-dioxane	ND	100	105	101	3.9				40 - 160	30	
2,2-Dichloropropane	ND	1.0	89	93	4.4				70 - 130	30	
2-Chlorotoluene	ND	1.0	91	93	2.2				70 - 130	30	
2-Hexanone	ND	5.0	68	80	16.2				40 - 160	30	
4-Chlorotoluene	ND	1.0	89	91	2.2				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	66	83	22.8				40 - 160	30	
Acetone	ND	5.0	70	66	5.9				40 - 160	30	
Benzene	ND	0.70	87	94	7.7				70 - 130	30	
Bromobenzene	ND	1.0	87	93	6.7				70 - 130	30	
Bromochloromethane	ND	1.0	74	84	12.7				70 - 130	30	
Bromodichloromethane	ND	0.50	81	92	12.7				70 - 130	30	
Bromoform	ND	1.0	78	89	13.2				70 - 130	30	
Bromomethane	ND	1.0	136	159	15.6				40 - 160	30	
Carbon Disulfide	ND	1.0	96	101	5.1				70 - 130	30	
Carbon tetrachloride	ND	1.0	86	93	7.8				70 - 130	30	
Chlorobenzene	ND	1.0	89	91	2.2				70 - 130	30	
Chloroethane	ND	1.0	119	124	4.1				70 - 130	30	
Chloroform	ND	1.0	76	91	18.0				70 - 130	30	
Chloromethane	ND	1.0	114	119	4.3				40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	82	89	8.2				70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	84	94	11.2				70 - 130	30	
Dibromochloromethane	ND	0.50	85	93	9.0				70 - 130	30	
Dibromomethane	ND	1.0	76	89	15.8				70 - 130	30	
Dichlorodifluoromethane	ND	1.0	130	133	2.3				40 - 160	30	
Ethyl ether	ND	1.0	69	81	16.0				70 - 130	30	I
Ethylbenzene	ND	1.0	83	86	3.6				70 - 130	30	
Hexachlorobutadiene	ND	0.40	101	101	0.0				70 - 130	30	
Isopropylbenzene	ND	1.0	89	91	2.2				70 - 130	30	
m&p-Xylene	ND	1.0	82	85	3.6				70 - 130	30	
Methyl ethyl ketone	ND	5.0	63	84	28.6				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	89	106	17.4				70 - 130	30	
Methylene chloride	ND	1.0	76	83	8.8				70 - 130	30	
Naphthalene	ND	1.0	75	84	11.3				70 - 130	30	
n-Butylbenzene	ND	1.0	85	92	7.9				70 - 130	30	
n-Propylbenzene	ND	1.0	90	93	3.3				70 - 130	30	
o-Xylene	ND	1.0	83	86	3.6				70 - 130	30	
p-Isopropyltoluene	ND	1.0	87	91	4.5				70 - 130	30	
sec-Butylbenzene	ND	1.0	89	96	7.6				70 - 130	30	
Styrene	ND	1.0	86	90	4.5				70 - 130	30	
tert-Butylbenzene	ND	1.0	86	91	5.6				70 - 130	30	
Tetrachloroethene	ND	1.0	88	94	6.6				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	63	77	20.0				70 - 130	30	I
Toluene	ND	1.0	83	88	5.8				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	87	90	3.4				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	80	92	14.0				70 - 130	30	
Trichloroethene	ND	1.0	87	91	4.5				70 - 130	30	
Trichlorofluoromethane	ND	1.0	114	118	3.4				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	98	101	3.0				70 - 130	30	
Vinyl chloride	ND	1.0	112	117	4.4				70 - 130	30	
% 1,2-dichlorobenzene-d4	95	%	99	101	2.0				70 - 130	30	
% Bromofluorobenzene	92	%	96	97	1.0				70 - 130	30	
% Dibromofluoromethane	95	%	88	97	9.7				70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
% Toluene-d8	90	%	101	103	2.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497816 (ug/L), QC Sample No: CE13125 (CE10303, CE10307 (20X) , CE10308 (20X) , CE10309 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	110	109	0.9				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	105	100	4.9				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	121	116	4.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	108	106	1.9				70 - 130	30
1,1-Dichloroethane	ND	1.0	105	101	3.9				70 - 130	30
1,1-Dichloroethene	ND	1.0	111	105	5.6				70 - 130	30
1,1-Dichloropropene	ND	1.0	104	100	3.9				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	102	105	2.9				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	111	109	1.8				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	108	107	0.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	104	99	4.9				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	115	115	0.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	106	110	3.7				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	108	105	2.8				70 - 130	30
1,2-Dichloroethane	ND	1.0	108	105	2.8				70 - 130	30
1,2-Dichloropropane	ND	1.0	108	106	1.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	104	100	3.9				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	104	102	1.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	109	108	0.9				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	105	102	2.9				70 - 130	30
1,4-dioxane	ND	100	86	93	7.8				40 - 160	30
2,2-Dichloropropane	ND	1.0	108	100	7.7				70 - 130	30
2-Chlorotoluene	ND	1.0	106	103	2.9				70 - 130	30
2-Hexanone	ND	5.0	87	90	3.4				40 - 160	30
4-Chlorotoluene	ND	1.0	104	101	2.9				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	92	90	2.2				40 - 160	30
Acetone	ND	5.0	72	88	20.0				40 - 160	30
Benzene	ND	0.70	105	101	3.9				70 - 130	30
Bromobenzene	ND	1.0	109	105	3.7				70 - 130	30
Bromochloromethane	ND	1.0	111	105	5.6				70 - 130	30
Bromodichloromethane	ND	0.50	111	108	2.7				70 - 130	30
Bromoform	ND	1.0	110	111	0.9				70 - 130	30
Bromomethane	ND	1.0	91	88	3.4				40 - 160	30
Carbon Disulfide	ND	1.0	93	87	6.7				70 - 130	30
Carbon tetrachloride	ND	1.0	113	103	9.3				70 - 130	30
Chlorobenzene	ND	1.0	105	104	1.0				70 - 130	30
Chloroethane	ND	1.0	87	82	5.9				70 - 130	30
Chloroform	ND	1.0	110	104	5.6				70 - 130	30
Chloromethane	ND	1.0	84	81	3.6				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	107	104	2.8				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	107	107	0.0				70 - 130	30
Dibromochloromethane	ND	0.50	116	111	4.4				70 - 130	30
Dibromomethane	ND	1.0	111	107	3.7				70 - 130	30
Dichlorodifluoromethane	ND	1.0	84	79	6.1				40 - 160	30
Ethyl ether	ND	1.0	92	87	5.6				70 - 130	30
Ethylbenzene	ND	1.0	103	101	2.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Hexachlorobutadiene	ND	0.40	112	107	4.6				70 - 130	30
Isopropylbenzene	ND	1.0	104	100	3.9				70 - 130	30
m&p-Xylene	ND	1.0	102	100	2.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	99	90	9.5				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	94	92	2.2				70 - 130	30
Methylene chloride	ND	1.0	98	95	3.1				70 - 130	30
Naphthalene	ND	1.0	113	115	1.8				70 - 130	30
n-Butylbenzene	ND	1.0	107	105	1.9				70 - 130	30
n-Propylbenzene	ND	1.0	106	103	2.9				70 - 130	30
o-Xylene	ND	1.0	105	102	2.9				70 - 130	30
p-Isopropyltoluene	ND	1.0	103	101	2.0				70 - 130	30
sec-Butylbenzene	ND	1.0	110	107	2.8				70 - 130	30
Styrene	ND	1.0	103	101	2.0				70 - 130	30
tert-Butylbenzene	ND	1.0	104	100	3.9				70 - 130	30
Tetrachloroethene	ND	1.0	104	99	4.9				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	95	93	2.1				70 - 130	30
Toluene	ND	1.0	107	102	4.8				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	108	101	6.7				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	112	108	3.6				70 - 130	30
Trichloroethene	ND	1.0	105	99	5.9				70 - 130	30
Trichlorofluoromethane	ND	1.0	90	85	5.7				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	98	91	7.4				70 - 130	30
Vinyl chloride	ND	1.0	85	80	6.1				70 - 130	30
% 1,2-dichlorobenzene-d4	93	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	94	%	99	100	1.0				70 - 130	30
% Dibromofluoromethane	97	%	99	99	0.0				70 - 130	30
% Toluene-d8	90	%	101	101	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 497676 (ug/L), QC Sample No: CE09863 (CE10302, CE10307, CE10308)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	104	107	2.8	107	94	12.9	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	106	106	0.0	106	102	3.8	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	104	107	2.8	107	94	12.9	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	106	106	0.0	106	102	3.8	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	99	103	4.0	103	94	9.1	70 - 130	20
Benzene	ND	1.0	95	97	2.1	99	89	10.6	70 - 130	20
Ethyl Benzene	ND	1.0	95	99	4.1	101	89	12.6	70 - 130	20
MTBE	ND	1.0	100	102	2.0	103	100	3.0	70 - 130	20
Naphthalene	ND	5.0	102	104	1.9	107	106	0.9	70 - 130	20
Toluene	ND	1.0	94	97	3.1	99	87	12.9	70 - 130	20
m,p-Xylenes	ND	2.0	96	99	3.1	101	90	11.5	70 - 130	20
o-Xylene	ND	1.0	93	96	3.2	98	88	10.8	70 - 130	20
% 2,5-Dibromotoluene (PID)	104	%	107	109	1.9	108	107	0.9	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

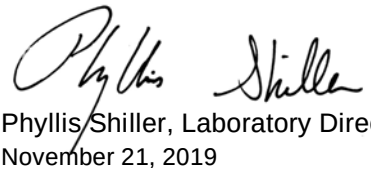
QA/QC Data

SDG I.D.: GCE10295

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference



Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE10295	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10295	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10295	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10295	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10295	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10295	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10295	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10295	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10296	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10296	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10296	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10296	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10296	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10296	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10296	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10296	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10297	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10297	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10297	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10297	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10297	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10297	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10297	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10297	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10298	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10298	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10298	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10298	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10298	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10298	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.3	0.20	0.3	0.3	ug/l
CE10298	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.3	0.20	0.3	0.3	ug/l
CE10298	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10299	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10299	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10299	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10299	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10299	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10299	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10299	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE10299	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10299	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2.28	0.011	0.43	0.43	mg/L
CE10299	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2.08	0.010	0.43	0.43	mg/L
CE10300	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10300	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10300	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10300	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10300	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10300	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10300	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10300	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10301	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10301	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10301	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10301	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10301	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10301	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10301	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10301	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10302	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10302	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10302	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10302	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10302	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10302	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10302	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10302	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10302	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.33	0.001	0.43	0.43	mg/L
CE10302	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.36	0.001	0.43	0.43	mg/L
CE10303	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10303	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10303	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10303	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10303	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10303	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10303	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10303	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10304	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE10304	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10304	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10304	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10304	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10304	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10304	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10304	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10304	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.013	0.004	0.01	0.01	mg/L
CE10304	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.013	0.004	0.01	0.01	mg/L
CE10304	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.013	0.004	0.01	0.01	mg/L
CE10304	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.012	0.004	0.01	0.01	mg/L
CE10304	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.012	0.004	0.01	0.01	mg/L
CE10304	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.012	0.004	0.01	0.01	mg/L
CE10304	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	36.9	0.011	14	14	mg/L
CE10304	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.41	0.001	0.43	0.43	mg/L
CE10304	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED WILMINGTO	38.3	0.010	14	14	mg/L
CE10304	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.46	0.001	0.43	0.43	mg/L
CE10305	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10305	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10305	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10305	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	29	1.0	20	20	ug/L
CE10305	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	12	1.0	5	5	ug/L
CE10305	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	1.0	20	20	ug/L
CE10305	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	12	1.0	5	5	ug/L
CE10305	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10305	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10305	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	12	1.0	5	5	ug/L
CE10305	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.4	0.20	0.3	0.3	ug/l
CE10305	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.4	0.20	0.3	0.3	ug/l
CE10305	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10306	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	34	5.0	5	5	ug/L
CE10306	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10306	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10306	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	26	1.0	20	20	ug/L
CE10306	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	140	5.0	5	5	ug/L
CE10306	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10306	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	140	5.0	5	5	ug/L
CE10306	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	34	5.0	5	5	ug/L
CE10306	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	26	1.0	20	20	ug/L
CE10306	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE10306	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	34	5.0	5	5	ug/L
CE10306	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	140	5.0	5	5	ug/L
CE10306	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10306	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10306	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10306	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10307	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	30	1.0	20	20	ug/L
CE10307	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10307	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	170	20	5	5	ug/L
CE10307	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	52	5.0	5	5	ug/L
CE10307	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10307	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10307	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10307	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	30	1.0	20	20	ug/L
CE10307	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	52	5.0	5	5	ug/L
CE10307	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	170	20	5	5	ug/L
CE10307	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	52	5.0	5	5	ug/L
CE10307	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	170	20	5	5	ug/L
CE10307	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10307	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	5.9	0.20	0.3	0.3	ug/l
CE10307	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.9	0.20	3	3	ug/l
CE10307	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	5.9	0.20	0.3	0.3	ug/l
CE10307	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10308	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	55	2.0	5	5	ug/L
CE10308	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE10308	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.0075	0.0075	ug/L
CE10308	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	190	20	5	5	ug/L
CE10308	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	37	2.0	20	20	ug/L
CE10308	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE10308	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE10308	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.6	0.6	ug/L
CE10308	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE10308	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	190	20	5	5	ug/L
CE10308	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE10308	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	55	2.0	5	5	ug/L
CE10308	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.6	0.6	ug/L
CE10308	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE10308	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	37	2.0	20	20	ug/L
CE10308	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.02	0.02	ug/L
CE10308	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	55	2.0	5	5	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE10308	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.6	0.6	ug/L
CE10308	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	190	20	5	5	ug/L
CE10308	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.02	0.02	ug/L
CE10308	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	5.3	0.20	0.3	0.3	ug/l
CE10308	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.3	0.20	3	3	ug/l
CE10308	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	5.3	0.20	0.3	0.3	ug/l
CE10308	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	80	0.3	0.3	ug/l
CE10309	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	50	5.0	5	5	ug/L
CE10309	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10309	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10309	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10309	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	150	20	5	5	ug/L
CE10309	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	41	5.0	20	20	ug/L
CE10309	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	50	5.0	5	5	ug/L
CE10309	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	150	20	5	5	ug/L
CE10309	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10309	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	41	5.0	20	20	ug/L
CE10309	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10309	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	150	20	5	5	ug/L
CE10309	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	50	5.0	5	5	ug/L
CE10309	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10309	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10309	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE10310	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE10310	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE10310	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE10310	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	17	1.0	5	5	ug/L
CE10310	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	12	1.0	5	5	ug/L
CE10310	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	17	1.0	5	5	ug/L
CE10310	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	12	1.0	5	5	ug/L
CE10310	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE10310	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	12	1.0	5	5	ug/L
CE10310	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	17	1.0	5	5	ug/L
CE10310	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE10310	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE10310	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE10310	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE10295 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED WILMINGTON MA 60552004 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE10295, CE10296, CE10297, CE10298, CE10299, CE10300, CE10301, CE10302, CE10303, CE10304, CE10305, CE10306, CE10307, CE10308, CE10309, CE10310

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: SVOASIM, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

SDG Comments

Metals Analysis: CE10299, CE10302, CE10304, CE10307
The client requested a site specific list of elements which is shorter than the 6010 RCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

Volatile Organic Analysis: CE10308
Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/18/19-1 Adam Werner, Chemist 09/18/19

CE10302, CE10308

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/16/19-1 Adam Werner, Chemist 09/16/19

CE10307

The initial calibration (AL0730BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/18/19-1 Adam Werner, Chemist 09/18/19

CE10302, CE10308

The initial calibration (AL0730BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 497167 (CE09863)

CE10302, CE10307, CE10308

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/17/19-1 Greg Danielewski, Chemist 09/17/19

CE10304, CE10307

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

Wet Chemistry Analysis

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 497174 (CE06919)

CE10304, CE10307

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 497616 (CE10214)

CE10304, CE10307

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/16/19-1 Brian Sheriden, Greg Danielewski, Chemist 09/16/19

CE10304, CE10307

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 497274 (CE10246)

CE10304

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 497275 (CE10259)

CE10304, CE10307

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE10295

ICP Metals Narration

BLUE 09/18/19 08:16 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/18/

CE10299, CE10302, CE10304, CE10307

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/19/19 01:12 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/19/

CE10299

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 497247 (CE09611)

CE10299, CE10302, CE10304, CE10307

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 497250 (CE09756)

CE10299, CE10302, CE10304, CE10307

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/20/19-1 Keith Aloisa, Chemist 09/20/19

CE10298, CE10305, CE10307, CE10308

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

SVOA-Dioxane

The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0920_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497683 (CE10298)

CE10298, CE10305, CE10307, CE10308

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 497242 (Samples: CE10302, CE10307, CE10308): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes. These analytes were not reported in the sample(s). No significant variability is suspected. (Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene)

Instrument:

CHEM25 09/18/19-1 Wes Bryon, Chemist 09/18/19

CE10302, CE10307, CE10308

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM25/25_BNSIM18_0910):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM25/0918_06-25_BNSIM18_0910) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

SVOASIM Narration

QC (Batch Specific):

Batch 497242 (CE10302)

CE10302, CE10307, CE10308

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: Benzo(b)fluoranthene(23.0%), Benzo(ghi)perylene(34.4%), Benzo(k)fluoranthene(24.1%), Dibenz(a,h)anthracene(35.6%), Indeno(1,2,3-cd)pyrene(31.7%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498117 (Samples: CE10306, CE10307, CE10308, CE10309): -----

The LCS recovery is below the lower range but within the method criteria. The LCSD is acceptable. No significant bias is suspected. (Ethyl ether, Tetrahydrofuran (THF))

Instrument:

CHEM17 09/19/19-2 Michael Hahn, Chemist 09/19/19

CE10303, CE10307, CE10308, CE10309

Initial Calibration Evaluation (CHEM17/VT-S091819):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Methylene chloride 23% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.058 (0.1), Bromoform 0.060 (0.1), Methyl ethyl ketone 0.082 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0919_30-VT-S091819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.057 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.082 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM17 09/20/19-1 Michael Hahn, Chemist 09/20/19

CE10295, CE10296, CE10297, CE10298, CE10299, CE10300, CE10301, CE10302, CE10304, CE10305, CE10310

Initial Calibration Evaluation (CHEM17/VT-S091819):
99% of target compounds met criteria.
The following compounds had %RSDs >20%: Methylene chloride 23% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

VOA Narration

0.058 (0.1), Bromoform 0.060 (0.1), Methyl ethyl ketone 0.082 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0920_06-VT-S091819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.058 (0.1), Bromoform 0.063 (0.1), Methyl ethyl ketone 0.089 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM17 09/22/19-1 Michael Hahn, Chemist 09/22/19

CE10306, CE10307, CE10308, CE10309

Initial Calibration Evaluation (CHEM17/VT-S092119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 22% (20%), Acetone 24% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.070 (0.1), Bromoform 0.065 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0922_03-VT-S092119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.049 (0.05), Acetone 0.068 (0.1), Bromoform 0.068 (0.1), Methyl ethyl ketone 0.098 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497816 (CE13125)

CE10303, CE10307, CE10308, CE10309

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498091 (CE10273)

CE10295, CE10296, CE10297, CE10298, CE10299, CE10300, CE10301, CE10302, CE10304, CE10305, CE10310

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498117 (CE10306)

CE10306, CE10307, CE10308, CE10309

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE10295

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: Ethyl ether(69%), Tetrahydrofuran (THF)(63%)
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/18/19-1 Ashraf Sheikh, Chemist 09/18/19

CE10302, CE10307, CE10308

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 497676 (CE09863)

CE10302, CE10307, CE10308

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE10295

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE10295

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 1.2 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	Total/#			VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
10295	MA-AE110R1-091319-1	GW	9/13/19	1535	3							X									
10296	MA-AE110R2-091319-1	GW	9/13/19	1540	3							X									
10297	MA-AE110R4-091319-1	GW	9/13/19	1545	3							X									
10298	MA-AE110R6-091319-1	GW	9/13/19	1550	3	2						X	X								
10299	MA-AE112R1-091319-1	GW	9/13/19	1430	3			2													
10300	MA-AE112R3-091319-1	GW	9/13/19	1433	3																
10301	MA-AE112R5-091319-1	GW	9/13/19	1435	3																
10302	MA-AE112R6-091319-1	GW	9/13/19	1440	~~3~~ 6	2			9			X		X	X						
10303	MA-TB02-091319-1	GW	9/13/19	1500	~~5~~ 4				2			X									
10304	MA-AE105S-091619-1	GW	9/16/19	0953	3	1		4				X				X	X	X	X	X	
10305	MA-AE105D-091619-1	GW	9/16/19	1300	3	2						X	X								
10306	MA-AE105R1-091619-1	GW	9/16/19	1255	3							X									

Relinquished by:	Accepted by:	Date:	Time:
		9/16/19	14:25
		9/16/19	16:26

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 1.2 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
10307	MA-AE105R2-091619-1	GW	9/16/19	1320	5	5		4	X	X	X	X	X	X	X	X	X	
10308	MA-AE105R4-091619-1	GW	9/16/19	1305	5	4			X	X	X	X						
10309	MA-AE105R5-091619-1	GW	9/16/19	1300	3				X									
10310	MA-AE1065-091619-1	GW	9/16/19	1220	3				X									

Relinquished by: **Accepted by:**

Date:	Time:
9-16-19	14:25
9/16/19	16:26

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

GCE 10295

Tara Banning

From: Potter, Dylan (Chelmsford) <Dylan.Potter2@aecom.com>
Sent: Monday, September 16, 2019 5:56 PM
To: Olson, Scott (Chelmsford); Tara Banning; Rebecca Merz; Greg Lawrence; Herberich, Lori
Cc: Shannon Wilhelm
Subject: Re: Lockheed

All,

Here is the correction for the three samples that were missing marked analyses on the chain of custody today.

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes / No
Coolant: Ice / Blue Ice / None
Temp: °C / °F
Data Delivery/Contact Options:

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-646-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)
Project P.O.: 1173701

Client Sample - Information - Identification

Sampler's Signature: Date:

Matrix Codes: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic			VOCs (8260) - HCl + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 to pH <4.5 sgl.	VPH - HCl (MassDEP VPH-04-1.1 Rev 1)	EPH + PAHs - HCl (MassDEP EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 (PF)	Dissolved As, Fe, Mn (6010C) - HNO3	Perchl., Nitrat, Nitrite, Sulfide (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H2SO4	Comments
10299	19A-AE112R1-091319-1	GW	9/13/19	1430	3			2			X				X	X				
10300	19A-AE112R3-091319-1	GW	9/13/19	1433	3						X									
10301	19A-AE112R5-091319-1	GW	9/13/19	1435	3						X									

Relinquished by	Accepted by:	Date:	Time:

RI: ☐ Direct Exposure (Residential) ☐ GW ☐ Other

QT: ☐ RCP Certification ☐ GW ☐ SW ☐ O

State where samples collected:

Comments, Special Requirements or Regulations:
Dissolved Metals field filtered
revised COC
GCE10295

Turnaround:
10 - 15 days

GCE 10295

Shannon Wilhelm

From: Rebecca Merz
Sent: Tuesday, September 17, 2019 08:12 AM
To: Tara Banning; Bobbi Aloisa; Shannon Wilhelm
Cc: Greg Lawrence
Subject: RE: Phoenix Labs - GCE10295, LOCKHEED WILMINGTON MA 605520044.13 - COC Acknowledgement

Please scratch the request to change the collection date – client hadn't realized the date was in the TB sample name.

They have confirmed they collected the metals bottles for AE-112R6, and that they are not onsite or the fridge at office, so hopefully we did get them.

Let me know.

Thank you,

Rebecca Merz

New England Sales Manager
Phoenix Environmental Laboratories, Inc.
860-212-9457 (mobile)
rebeccam@phoenixlabs.com
https://www.phoenixlabs.com/

From: Rebecca Merz
Sent: Tuesday, September 17, 2019 8:06 AM
To: Tara Banning; Bobbi Aloisa; Shannon Wilhelm
Cc: Greg Lawrence
Subject: FW: Phoenix Labs - GCE10295, LOCKHEED WILMINGTON MA 605520044.13 - COC Acknowledgement

Good morning,

Please see below for a collection date change. Can you let me know if there were bottles submitted for total and dissolved metals for CE10302?

Thank you,

Rebecca Merz

GCE 10295

New England Sales Manager
Phoenix Environmental Laboratories, Inc.
860-212-9457 (mobile)
rebeccam@phoenixlabs.com
https://www.phoenixlabs.com/

From: Olson, Scott (Chelmsford) [mailto:scott.olson@aecom.com]
Sent: Monday, September 16, 2019 10:16 PM
To: Client Services
Cc: Greg Lawrence; Rebecca Merz; Potter, Dylan (Chelmsford); Herberich, Lori
Subject: RE: Phoenix Labs - GCE10295, LOCKHEED WILMINGTON MA 605520044.13 - COC Acknowledgement

Samples appear to be logged in correctly per the COCs.

Only item to note is that the samples below 19A-TB02-091319-1 were all collected 9/16/19 versus 9/13/19 as indicated in the list below.

Also, we appear to have forgotten to check total and dissolved metals (As, Fe, Mn) for sample 19A-AE112R6-091319-1. Not sure if perhaps you have the sample bottles for these? If not we will check with our field crew.

Thank you.
Scott

Scott Olson, PG
Project Manager, 5803, Environment NE
D +1-978-905-2351
M +1-978-846-5238
scott.olson@aecom.com

AECOM
250 Apollo Drive
Chelmsford, MA 01824, USA
T +1-978-905-2100
aecom.com

Built to deliver a better world

LinkedIn Twitter Facebook Instagram

GCE 10295

From: Client Services <clientservices@phoenixlabs.com>
Sent: Monday, September 16, 2019 9:39 PM
To: Olson, Scott (Chelmsford) <scott.olson@aecom.com>
Subject: Phoenix Labs - GCE10295, LOCKHEED WILMINGTON MA 605520044.13 - COC Acknowledgement

Scott,

Please email client services only if you have a Price Quote# for this SDG, a Quote# was not listed on the COC.

Purchase Order#:117370

GCE10295 Criteria:
GROUND WATER(16): MA CAM, MA GW1 (GW-1)

Please email client services only if you require criteria different than what is listed.

Delivery group GCE10295 (LOCKHEED WILMINGTON MA 605520044.13) has been logged in for the following samples:

Phoenix Id	Client Id
CE10295	19A-AE110R1-091319-1
CE10296	19A-AE110R2-091319-1
CE10297	19A-AE110R4-091319-1
CE10298	19A-AE110R6-091319-1
CE10299	19A-AE112R1-091319-1
CE10300	19A-AE112R3-091319-1
CE10301	19A-AE112R5-091319-1
CE10302	19A-AE112R6-091319-1
CE10303	19A-TB02-091319-1
CE10304	19A-AE105S-091619-1
CE10305	19A-AE105D-091619-1

GCE 10295

CE10306	19A-AE105R1-091619-1
CE10307	19A-AE105R2-091619-1
CE10308	19A-AE105R4-091619-1
CE10309	19A-AE105R5-091619-1
CE10310	19A-AE106S-091619-1

The samples in this delivery group were received at 1.2°C. (Note acceptance criteria for relevant matrices is above freezing up to 6°C)

If there are any questions regarding this submittal, please call Phoenix Client Services at extension 200.

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06374
Tel. (860) 645-1102
Fax. (860) 645-0823
www.phoenixlabs.com

Please do not reply to this email.
cc'd:rebeccam@phoenixlabs.com;Nicole.Callahan@aecom.com;Lori.Herberich@aecom.com;scott.olson@aecom.com

Wednesday, March 18, 2020

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED-WILMINGTON MA 60552044.13**
SDG ID: **GCE11169**
Sample ID#s: CE11169 - CE11182

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 18, 2020

SDG I.D.: GCE11169

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Rev.2 Narrative: Due to insufficient volume samples 11171 (19A-AE106R3-091619-1), 11172 (19A-AE106R5-091619-1) and 11174 (19A-EMW11R2-091719-1) were not re-extracted for EPH target analytes. Batch 497291-LCSD recovered <10% for Acenaphthylene the LCS recovery was within criteria. A low bias is possible for this analyte.

Revision 3
The EPH acceptance ranges were modified.

Revision 4
This report has been revised to include the area of all peaks eluting within the retention time windows specified for the Unadjusted C5-C8 aliphatic range, excluding surrogates. The final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily PCE & TCE.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 18, 2020

SDG I.D.: GCE11169

Project ID: LOCKHEED-WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-091619-1	CE11169	GROUND WATER
19A-AE106R1-091619-1	CE11170	GROUND WATER
19A-AE106R3-091619-1	CE11171	GROUND WATER
19A-AE106R5-091619-1	CE11172	GROUND WATER
19A-EMW11R1-091719-1	CE11173	GROUND WATER
19A-EMW11R2-091719-1	CE11174	GROUND WATER
19A-EMW11R3-091719-1	CE11175	GROUND WATER
19A-PS1D-091719-1	CE11176	GROUND WATER
19A-PS1S-091719-1	CE11177	GROUND WATER
19A-PS2D-091719-1	CE11178	GROUND WATER
19A-AE106D-091719-1	CE11179	GROUND WATER
19A-TRC301R4-091719-1	CE11180	GROUND WATER
19A-PS8D-091719-1	CE11181	GROUND WATER
19A-TRC301R2-091719-1	CE11182	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11169

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091619-1

Phoenix I.D.: CE11169

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	111		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	100		%	1	09/24/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091619-1

Phoenix I.D.: CE11169

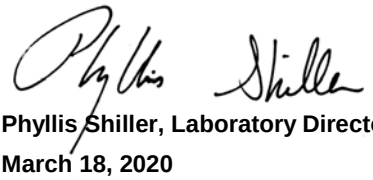
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	14:50
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11170

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R1-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.3	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	28	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	2.9	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	4.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	98		%	1	09/24/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	95		%	20	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	107		%	20	09/23/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11171

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R3-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.081	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.139	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	0.091	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.147	0.001	mg/L	1	09/21/19	CPP	SW6010D
Chloride	112	6.0	mg/L	2	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/17/19 22:56	BS/GD	E300.0
Nitrate as Nitrogen	0.13	0.05	mg/L	1	09/17/19 22:56	BS/GD	E300.0
Sulfate	11.9	3.0	mg/L	1	09/17/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11171

Client ID: 19A-AE106R3-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	33	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Tetrachloroethene	2.3	1.0	ug/L	1	09/24/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C	
Trichloroethene	4.8	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Vinyl chloride	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	108		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	100		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	101		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	76		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	75		%	1	09/18/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	48		%	1	09/18/19	WB	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	80		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/23/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/23/19	AW	40 - 140 %
% o-terphenyl (aromatic)	75		%	1	09/23/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	111		%	1	09/19/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

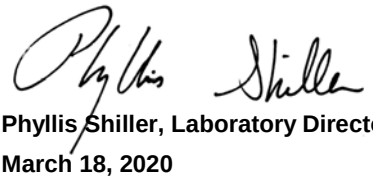
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	15:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11172

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R5-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	15	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	36	20	ug/L	20	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/24/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	99		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	100		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	66		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	67		%	1	09/18/19	WB	40 - 140 %	
% Terphenyl-d14	71		%	1	09/18/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	0.27	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	89		%	1	09/20/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	97		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	101		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	102		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	94		%	1	09/21/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11173

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R1-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloroethane	64	20	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloroethene	18	10	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/23/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/23/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/23/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/23/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R1-091719-1

Phoenix I.D.: CE11173

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/23/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/23/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,2-Dichloroethene	420	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/23/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/23/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/23/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/23/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/23/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/23/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/23/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/23/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Trichloroethene	5300	400	ug/L	400	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Vinyl chloride	71	20	ug/L	20	09/23/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	99		%	20	09/23/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	09/23/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/24/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	96		%	400	09/24/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	104		%	400	09/24/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	101		%	400	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/23/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	11:45
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11174

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R2-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.914	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.626	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	1.09	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.667	0.001	mg/L	1	09/21/19	CPP	SW6010D
Chloride	225	15.0	mg/L	5	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/18/19 20:04	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/18/19 02:06	BS/GD	E300.0
Sulfate	36.8	3.0	mg/L	1	09/18/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloroethane	130	100	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R2-091719-1

Phoenix I.D.: CE11174

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/24/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/24/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/24/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/24/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/24/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/24/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	1500	100	ug/L	100	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/24/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/24/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/24/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Tetrachloroethene	4200	400	ug/L	400	09/23/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/24/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Trichloroethene	11000	400	ug/L	400	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Vinyl chloride	140	100	ug/L	100	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	99		%	100	09/24/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	99		%	100	09/24/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	104		%	100	09/24/19	MH	70 - 130 %
% Toluene-d8 (100x)	97		%	100	09/24/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	97		%	400	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	106		%	400	09/23/19	MH	70 - 130 %
% Toluene-d8 (400x)	99		%	400	09/23/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	4000	ug/l	100	09/24/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	65		%	1	09/18/19	WB	40 - 140 %
% Nitrobenzene-d5	66		%	1	09/18/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	65		%	1	09/18/19	WB	40 - 140 %

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	91		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	76		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	87		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	87		%	1	09/21/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	4000	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	4000	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
Benzene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
MTBE	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
Naphthalene	ND	10	ug/L	2	09/23/19	PS	MA VPH 5/2004
Toluene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	4.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
o-Xylene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	97		%	2	09/23/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	2	09/23/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11175

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R3-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloroethane	100	40	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloroethene	25	20	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	40	ug/L	40	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	40	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	200	ug/L	40	09/24/19	MH	SW8260C
Acetone	ND	1000	ug/L	40	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11175

Client ID: 19A-EMW11R3-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Bromochloromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Bromodichloromethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromoform	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromomethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Carbon Disulfide	ND	200	ug/L	40	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
Chlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloroform	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	840	40	ug/L	40	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dibromochloromethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Ethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Isopropylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
m&p-Xylene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	80	ug/L	40	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	40	ug/L	40	09/24/19	MH	SW8260C
Methylene chloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
Naphthalene	ND	40	ug/L	40	09/24/19	MH	SW8260C
n-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
n-Propylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
o-Xylene	ND	40	ug/L	40	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Styrene	ND	40	ug/L	40	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Tetrachloroethene	3300	400	ug/L	400	09/23/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	100	ug/L	40	09/24/19	MH	SW8260C
Toluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	40	ug/L	40	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Trichloroethene	5100	400	ug/L	400	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Vinyl chloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (40x)	98		%	40	09/24/19	MH	70 - 130 %
% Bromofluorobenzene (40x)	98		%	40	09/24/19	MH	70 - 130 %
% Dibromofluoromethane (40x)	107		%	40	09/24/19	MH	70 - 130 %
% Toluene-d8 (40x)	98		%	40	09/24/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	93		%	400	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	96		%	400	09/23/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	1600	ug/l	40	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:50
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11176

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS1D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	9.0	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.2	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	3.1	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	13	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	1.2	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	110		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	100		%	1	09/24/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C

7

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS1D-091719-1

Phoenix I.D.: CE11176

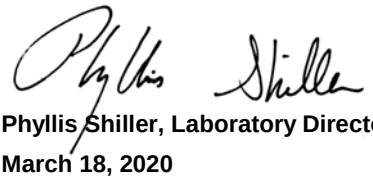
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	11:35
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11177

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS1S-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS1S-091719-1

Phoenix I.D.: CE11177

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	7.3	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	21	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	1.3	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	84		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	94		%	1	09/24/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11177
Client ID: 19A-PS1S-091719-1

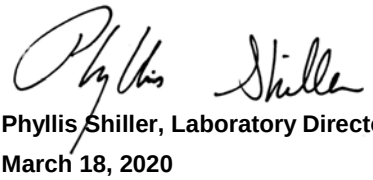
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	3.3	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	13:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11178

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS2D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS2D-091719-1

Phoenix I.D.: CE11178

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	93		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	91		%	1	09/24/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS2D-091719-1

Phoenix I.D.: CE11178

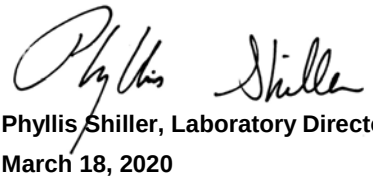
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:10
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11179

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	3.29	0.011	mg/L	10	09/20/19	EK	SW6010D
Iron	0.066	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	3.32	0.010	mg/L	10	09/24/19	TH	SW6010D
Chloride	688	30.0	mg/L	10	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/18/19 20:24	BS/GD	E300.0
Nitrate as Nitrogen	3.38	0.25	mg/L	5	09/18/19 20:24	BS/GD	E300.0
Sulfate	28.4	3.0	mg/L	1	09/18/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	1.2	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106D-091719-1

Phoenix I.D.: CE11179

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	3.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C	
Trichloroethene	5.8	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	96		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	96		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11180

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC301R4-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.019	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	0.021	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	6.87	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	1.61	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	7.03	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	1.65	0.001	mg/L	1	09/21/19	CPP	SW6010D
Chloride	137	15.0	mg/L	5	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/18/19 02:26	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/18/19 02:26	BS/GD	E300.0
Sulfate	15.2	3.0	mg/L	1	09/18/19	BS/GD	E300.0
Sulfide	0.13	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	1.3	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.2	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC301R4-091719-1

Phoenix I.D.: CE11180

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	5.8	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	13	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C	
Trichloroethene	27	20	ug/L	20	09/23/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Vinyl chloride	7.9	1.0	ug/L	1	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	98		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	108		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	93		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	92		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	96		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	91		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11181

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS8D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.761	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.007	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	5.38	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.031	0.001	mg/L	1	09/21/19	CPP	SW6010D
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS8D-091719-1

Phoenix I.D.: CE11181

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11181
Client ID: 19A-PS8D-091719-1

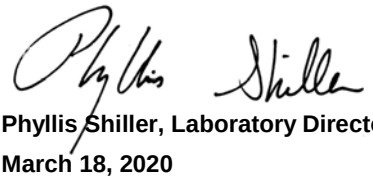
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	94		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	92		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	93		%	1	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	11:20
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11182

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC301R2-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.431	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.540	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	0.490	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.583	0.001	mg/L	1	09/21/19	CPP	SW6010D
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	2.9	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC301R2-091719-1

Phoenix I.D.: CE11182

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	17	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	5.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	43	20	ug/L	20	09/23/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	110	20	ug/L	20	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	1.9	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	98		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	88		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	123		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	93		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	92		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	96		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	96		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 497450 (mg/L), QC Sample No: CE10429 (CE11171, CE11174, CE11179, CE11180, CE11181, CE11182)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	85.9	89.0	3.5	94.8			80 - 120	20
Iron	BRL	0.011	1.24	1.25	0.80	89.2	92.0	3.1	123			80 - 120	20
Manganese	BRL	0.001	22.8	22.9	0.40	88.6	91.6	3.3	NC			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 497690 (mg/L), QC Sample No: CE11690 (CE11171, CE11174, CE11179, CE11180, CE11181, CE11182)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	103	101	2.0	104			80 - 120	20
Iron	BRL	0.010	0.075	0.072	4.10	103	101	2.0	101			80 - 120	20
Manganese	BRL	0.001	0.137	0.139	1.40	102	101	1.0	104			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 497616 (mg/L), QC Sample No: CE10214 (CE11171, CE11174, CE11179, CE11180)													
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	104			98.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 497817 (mg/L), QC Sample No: CE12910 (CE11171, CE11174, CE11179, CE11180)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	93.6			82.7			90 - 110	20
QA/QC Batch 497496 (mg/L), QC Sample No: CE10451 (CE11171)													
Chloride	BRL	3.0	315	316	0.30	98.2			103			90 - 110	20
Nitrate as Nitrogen	BRL	0.05				99.5						90 - 110	20
Sulfate	BRL	3.0				96.5						90 - 110	20
QA/QC Batch 497498 (mg/L), QC Sample No: CE11241 (CE11174, CE11179, CE11180)													
Chloride	BRL	3.0				101						90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.66	0.67	1.50	102			106			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	103			93.0			90 - 110	20
Sulfate	BRL	3.0				99.1						90 - 110	20
QA/QC Batch 497709 (mg/L), QC Sample No: CE11543 (CE11171, CE11180)													
Chloride	BRL	3.0	11.0	10.9	NC	90.4			94.0			90 - 110	20
Sulfate	BRL	3.0	4.1	4.1	NC	100			103			90 - 110	20
QA/QC Batch 497718 (mg/L), QC Sample No: CE12366 (CE11174, CE11179)													
Chloride	BRL	3.0	10.4	10.5	NC	96.9			100			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.12	0.13	NC	100			101			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	91.5			101			90 - 110	20
Sulfate	BRL	3.0	3.0	<3.0	NC	97.0			95.7			90 - 110	20
QA/QC Batch 497496 (mg/L), QC Sample No: CE10451 (CE11171)													
Nitrite as Nitrogen	BRL	0.01	<0.05	<0.05	NC	101			97.2			90 - 110	20
QA/QC Batch 497709 (mg/L), QC Sample No: CE11543 (CE11171, CE11180)													
Nitrate as Nitrogen	BRL	0.05	0.10	0.10	NC	95.2			97.3			90 - 110	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497786 (ug/L), QC Sample No: CE10289 (CE11171, CE11172, CE11174)											
MAEPH - Ground Water											
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	67	63	6.2				40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	96	85	12.2				40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	100	75	76	1.3				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
Total TPH 1,2*	ND	100	84	75	11.3				40 - 140	25	
C9 - Nonane			41	38	7.6				40 - 140	25	I
C-10 Decane			53	49	7.8				40 - 140	25	
C12 - Dodecane			63	56	11.8				40 - 140	25	
C14 - Tetradecane			73	68	7.1				40 - 140	25	
C16 - Hexadecane			82	81	1.2				40 - 140	25	
C18 - Octadecane			89	87	2.3				40 - 140	25	
C19 - Nonadecane			88	86	2.3				40 - 140	25	
C20 - Eicosane			90	88	2.2				40 - 140	25	
C22 - Docosane			90	87	3.4				40 - 140	25	
C24 - Tetracosane			90	87	3.4				40 - 140	25	
C26 - Hexacosane			90	88	2.2				40 - 140	25	
C28 - Octacosane			91	86	5.6				40 - 140	25	
C30 - Tricotane			98	84	15.4				40 - 140	25	
C36 - Hexatriacontane			132	73	57.6				40 - 140	25	r
% 1-chlorooctadecane (aliphatic)	85	%	87	87	0.0				40 - 140	25	
% o-terphenyl (aromatic)	71	%	68	71	4.3				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	86	%	88	89	1.1				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	86	%	90	90	0.0				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 497683 (ug/l), QC Sample No: CE10298 (CE11172)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	90	94	4.3	94			40 - 140	30	
% 1,4-dioxane-d8	89	%	83	89	7.0	88			40 - 140	30	
QA/QC Batch 497291 (ug/L), QC Sample No: CE10289 (CE11171, CE11172, CE11174)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	74	83	11.5				40 - 140	20	
Acenaphthene	ND	0.50	80	69	14.8				40 - 140	20	
Acenaphthylene	ND	0.10	86	<10	NC				40 - 140	20	I
Anthracene	ND	0.10	95	82	14.7				40 - 140	20	
Benz(a)anthracene	ND	0.10	84	79	6.1				40 - 140	20	
Benzo(a)pyrene	ND	0.20	71	54	27.2				40 - 140	20	r
Benzo(b)fluoranthene	ND	0.10	80	92	14.0				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(ghi)perylene	ND	0.02	59	77	26.5				40 - 140	20	r
Benzo(k)fluoranthene	ND	0.10	71	85	17.9				40 - 140	20	
Chrysene	ND	0.05	76	79	3.9				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	69	99	35.7				40 - 140	20	r
Fluoranthene	ND	0.50	92	84	9.1				40 - 140	20	
Fluorene	ND	0.10	91	91	0.0				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.10	71	91	24.7				40 - 140	20	r
Naphthalene	ND	0.50	63	69	9.1				40 - 140	20	
Phenanthrene	ND	0.50	85	85	0.0				40 - 140	20	
Pyrene	ND	0.07	95	59	46.8				40 - 140	20	r
% 2-Fluorobiphenyl	71	%	71	71	0.0				40 - 140	20	
% Nitrobenzene-d5	76	%	83	75	10.1				40 - 140	20	
% Terphenyl-d14	75	%	67	69	2.9				40 - 140	20	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 498096 (ug/L), QC Sample No: CE10291 (CE11170 (20X) , CE11171 (20X) , CE11172 (20X) , CE11173 (20X) , CE11174 (400X) , CE11175 (400X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	86	86	0.0				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	79	82	3.7				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	85	86	1.2				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	75	79	5.2				70 - 130	30	
1,1-Dichloroethane	ND	1.0	86	88	2.3				70 - 130	30	
1,1-Dichloroethene	ND	1.0	84	86	2.4				70 - 130	30	
1,1-Dichloropropene	ND	1.0	88	85	3.5				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	83	86	3.6				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	78	82	5.0				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	82	84	2.4				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	85	86	1.2				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	88	90	2.2				70 - 130	30	
1,2-Dibromoethane	ND	1.0	82	86	4.8				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	84	86	2.4				70 - 130	30	
1,2-Dichloroethane	ND	1.0	83	80	3.7				70 - 130	30	
1,2-Dichloropropane	ND	1.0	90	92	2.2				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	90	93	3.3				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	87	87	0.0				70 - 130	30	
1,3-Dichloropropane	ND	1.0	86	84	2.4				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	85	87	2.3				70 - 130	30	
1,4-dioxane	ND	100	71	82	14.4				40 - 160	30	
2,2-Dichloropropane	ND	1.0	85	88	3.5				70 - 130	30	
2-Chlorotoluene	ND	1.0	88	90	2.2				70 - 130	30	
2-Hexanone	ND	5.0	80	78	2.5				40 - 160	30	
4-Chlorotoluene	ND	1.0	88	88	0.0				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	77	80	3.8				40 - 160	30	
Acetone	ND	5.0	78	83	6.2				40 - 160	30	
Benzene	ND	0.70	84	84	0.0				70 - 130	30	
Bromobenzene	ND	1.0	83	85	2.4				70 - 130	30	
Bromochloromethane	ND	1.0	83	80	3.7				70 - 130	30	
Bromodichloromethane	ND	0.50	83	82	1.2				70 - 130	30	
Bromoform	ND	1.0	75	81	7.7				70 - 130	30	

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Bromomethane	ND	1.0	149	156	4.6				40 - 160	30
Carbon Disulfide	ND	1.0	92	94	2.2				70 - 130	30
Carbon tetrachloride	ND	1.0	77	81	5.1				70 - 130	30
Chlorobenzene	ND	1.0	88	86	2.3				70 - 130	30
Chloroethane	ND	1.0	120	120	0.0				70 - 130	30
Chloroform	ND	1.0	82	86	4.8				70 - 130	30
Chloromethane	ND	1.0	114	123	7.6				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	89	91	2.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	85	87	2.3				70 - 130	30
Dibromochloromethane	ND	0.50	87	85	2.3				70 - 130	30
Dibromomethane	ND	1.0	82	79	3.7				70 - 130	30
Dichlorodifluoromethane	ND	1.0	127	126	0.8				40 - 160	30
Ethyl ether	ND	1.0	78	82	5.0				70 - 130	30
Ethylbenzene	ND	1.0	81	81	0.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	93	96	3.2				70 - 130	30
Isopropylbenzene	ND	1.0	92	92	0.0				70 - 130	30
m&p-Xylene	ND	1.0	83	84	1.2				70 - 130	30
Methyl ethyl ketone	ND	5.0	85	88	3.5				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	99	105	5.9				70 - 130	30
Methylene chloride	ND	1.0	86	82	4.8				70 - 130	30
Naphthalene	ND	1.0	84	89	5.8				70 - 130	30
n-Butylbenzene	ND	1.0	90	90	0.0				70 - 130	30
n-Propylbenzene	ND	1.0	89	92	3.3				70 - 130	30
o-Xylene	ND	1.0	86	86	0.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	89	90	1.1				70 - 130	30
sec-Butylbenzene	ND	1.0	97	99	2.0				70 - 130	30
Styrene	ND	1.0	91	90	1.1				70 - 130	30
tert-Butylbenzene	ND	1.0	90	93	3.3				70 - 130	30
Tetrachloroethene	ND	1.0	88	87	1.1				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	77	94	19.9				70 - 130	30
Toluene	ND	1.0	84	83	1.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	85	89	4.6				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	80	81	1.2				70 - 130	30
Trichloroethene	ND	1.0	88	86	2.3				70 - 130	30
Trichlorofluoromethane	ND	1.0	112	115	2.6				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	89	94	5.5				70 - 130	30
Vinyl chloride	ND	1.0	116	111	4.4				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	100	100	0.0				70 - 130	30
% Bromofluorobenzene	94	%	98	100	2.0				70 - 130	30
% Dibromofluoromethane	95	%	97	104	7.0				70 - 130	30
% Toluene-d8	99	%	101	98	3.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498117 (ug/L), QC Sample No: CE10306 (CE11180 (20X) , CE11182 (20X))

Volatiles - Ground Water

Tetrachloroethene	ND	1.0	88	94	6.6				70 - 130	30
Trichloroethene	ND	1.0	87	91	4.5				70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	92	%	96	97	1.0				70 - 130	30
% Dibromofluoromethane	95	%	88	97	9.7				70 - 130	30
% Toluene-d8	90	%	101	103	2.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498438 (ug/L), QC Sample No: CE11169 (CE11169, CE11170, CE11171, CE11172, CE11173 (400X) , CE11174 (100X) , CE11175 (40X) , CE11176)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	91	98	7.4				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	89	94	5.5				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	101	102	1.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	87	84	3.5				70 - 130	30
1,1-Dichloroethane	ND	1.0	93	96	3.2				70 - 130	30
1,1-Dichloroethene	ND	1.0	86	92	6.7				70 - 130	30
1,1-Dichloropropene	ND	1.0	87	92	5.6				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	95	91	4.3				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	98	92	6.3				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	94	98	4.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	89	95	6.5				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	97	88	9.7				70 - 130	30
1,2-Dibromoethane	ND	1.0	95	94	1.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	91	95	4.3				70 - 130	30
1,2-Dichloroethane	ND	1.0	94	91	3.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	89	91	2.2				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	89	98	9.6				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	90	95	5.4				70 - 130	30
1,3-Dichloropropane	ND	1.0	89	93	4.4				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	89	95	6.5				70 - 130	30
1,4-dioxane	ND	100	110	119	7.9				40 - 160	30
2,2-Dichloropropane	ND	1.0	92	99	7.3				70 - 130	30
2-Chlorotoluene	ND	1.0	89	98	9.6				70 - 130	30
2-Hexanone	ND	5.0	87	88	1.1				40 - 160	30
4-Chlorotoluene	ND	1.0	89	96	7.6				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	93	93	0.0				40 - 160	30
Acetone	ND	5.0	78	79	1.3				40 - 160	30
Benzene	ND	0.70	87	92	5.6				70 - 130	30
Bromobenzene	ND	1.0	88	92	4.4				70 - 130	30
Bromochloromethane	ND	1.0	88	93	5.5				70 - 130	30
Bromodichloromethane	ND	0.50	93	93	0.0				70 - 130	30
Bromoform	ND	1.0	101	95	6.1				70 - 130	30
Bromomethane	ND	1.0	137	171	22.1				40 - 160	30
Carbon Disulfide	ND	1.0	105	111	5.6				70 - 130	30
Carbon tetrachloride	ND	1.0	85	89	4.6				70 - 130	30
Chlorobenzene	ND	1.0	86	95	9.9				70 - 130	30
Chloroethane	ND	1.0	103	114	10.1				70 - 130	30
Chloroform	ND	1.0	87	93	6.7				70 - 130	30
Chloromethane	ND	1.0	106	115	8.1				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	90	92	2.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	92	94	2.2				70 - 130	30
Dibromochloromethane	ND	0.50	94	99	5.2				70 - 130	30
Dibromomethane	ND	1.0	96	94	2.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	132	141	6.6				40 - 160	30
Ethyl ether	ND	1.0	94	90	4.3				70 - 130	30
Ethylbenzene	ND	1.0	85	95	11.1				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Hexachlorobutadiene	ND	0.40	97	108	10.7				70 - 130	30
Isopropylbenzene	ND	1.0	89	99	10.6				70 - 130	30
m&p-Xylene	ND	1.0	85	96	12.2				70 - 130	30
Methyl ethyl ketone	ND	5.0	99	86	14.1				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	95	95	0.0				70 - 130	30
Methylene chloride	ND	1.0	82	86	4.8				70 - 130	30
Naphthalene	ND	1.0	93	98	5.2				70 - 130	30
n-Butylbenzene	ND	1.0	91	98	7.4				70 - 130	30
n-Propylbenzene	ND	1.0	86	96	11.0				70 - 130	30
o-Xylene	ND	1.0	90	99	9.5				70 - 130	30
p-Isopropyltoluene	ND	1.0	89	97	8.6				70 - 130	30
sec-Butylbenzene	ND	1.0	95	103	8.1				70 - 130	30
Styrene	ND	1.0	90	98	8.5				70 - 130	30
tert-Butylbenzene	ND	1.0	88	97	9.7				70 - 130	30
Tetrachloroethene	ND	1.0	88	93	5.5				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	102	91	11.4				70 - 130	30
Toluene	ND	1.0	90	93	3.3				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	85	89	4.6				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	93	92	1.1				70 - 130	30
Trichloroethene	ND	1.0	87	95	8.8				70 - 130	30
Trichlorofluoromethane	ND	1.0	118	122	3.3				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	94	97	3.1				70 - 130	30
Vinyl chloride	ND	1.0	116	126	8.3				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	99	100	1.0				70 - 130	30
% Bromofluorobenzene	98	%	101	101	0.0				70 - 130	30
% Dibromofluoromethane	102	%	99	100	1.0				70 - 130	30
% Toluene-d8	97	%	100	100	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498449 (ug/L), QC Sample No: CE11841 (CE11177, CE11178, CE11179, CE11180, CE11181, CE11182)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	89	91	2.2				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	81	85	4.8				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	87	86	1.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	86	86	0.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	85	88	3.5				70 - 130	30
1,1-Dichloroethene	ND	1.0	84	88	4.7				70 - 130	30
1,1-Dichloropropene	ND	1.0	98	85	14.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	82	78	5.0				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	82	81	1.2				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	86	85	1.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	81	84	3.6				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	84	81	3.6				70 - 130	30
1,2-Dibromoethane	ND	1.0	84	83	1.2				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	85	86	1.2				70 - 130	30
1,2-Dichloroethane	ND	1.0	86	87	1.2				70 - 130	30
1,2-Dichloropropane	ND	1.0	90	91	1.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	85	89	4.6				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	86	87	1.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	87	86	1.2				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	85	86	1.2				70 - 130	30

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,4-dioxane	ND	100	91	95	4.3				40 - 160	30
2,2-Dichloropropane	ND	1.0	85	85	0.0				70 - 130	30
2-Chlorotoluene	ND	1.0	86	89	3.4				70 - 130	30
2-Hexanone	ND	5.0	79	77	2.6				40 - 160	30
4-Chlorotoluene	ND	1.0	85	87	2.3				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	81	79	2.5				40 - 160	30
Acetone	ND	5.0	84	68	21.1				40 - 160	30
Benzene	ND	0.70	91	93	2.2				70 - 130	30
Bromobenzene	ND	1.0	85	86	1.2				70 - 130	30
Bromochloromethane	ND	1.0	82	84	2.4				70 - 130	30
Bromodichloromethane	ND	0.50	87	90	3.4				70 - 130	30
Bromoform	ND	1.0	78	79	1.3				70 - 130	30
Bromomethane	ND	1.0	119	135	12.6				40 - 160	30
Carbon Disulfide	ND	1.0	92	96	4.3				70 - 130	30
Carbon tetrachloride	ND	1.0	79	82	3.7				70 - 130	30
Chlorobenzene	ND	1.0	88	90	2.2				70 - 130	30
Chloroethane	ND	1.0	115	120	4.3				70 - 130	30
Chloroform	ND	1.0	81	91	11.6				70 - 130	30
Chloromethane	ND	1.0	108	110	1.8				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	87	91	4.5				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	89	88	1.1				70 - 130	30
Dibromochloromethane	ND	0.50	90	89	1.1				70 - 130	30
Dibromomethane	ND	1.0	85	85	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	117	121	3.4				40 - 160	30
Ethyl ether	ND	1.0	79	81	2.5				70 - 130	30
Ethylbenzene	ND	1.0	81	84	3.6				70 - 130	30
Hexachlorobutadiene	ND	0.40	87	88	1.1				70 - 130	30
Isopropylbenzene	ND	1.0	84	87	3.5				70 - 130	30
m&p-Xylene	ND	1.0	81	84	3.6				70 - 130	30
Methyl ethyl ketone	ND	5.0	101	83	19.6				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	103	104	1.0				70 - 130	30
Methylene chloride	ND	1.0	82	83	1.2				70 - 130	30
Naphthalene	ND	1.0	83	79	4.9				70 - 130	30
n-Butylbenzene	ND	1.0	84	86	2.4				70 - 130	30
n-Propylbenzene	ND	1.0	87	90	3.4				70 - 130	30
o-Xylene	ND	1.0	82	85	3.6				70 - 130	30
p-Isopropyltoluene	ND	1.0	83	86	3.6				70 - 130	30
sec-Butylbenzene	ND	1.0	87	90	3.4				70 - 130	30
Styrene	ND	1.0	86	86	0.0				70 - 130	30
tert-Butylbenzene	ND	1.0	83	86	3.6				70 - 130	30
Tetrachloroethene	ND	1.0	81	85	4.8				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	80	77	3.8				70 - 130	30
Toluene	ND	1.0	84	87	3.5				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	85	90	5.7				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	87	88	1.1				70 - 130	30
Trichloroethene	ND	1.0	86	87	1.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	101	105	3.9				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	84	87	3.5				70 - 130	30
Vinyl chloride	ND	1.0	105	110	4.7				70 - 130	30
% 1,2-dichlorobenzene-d4	93	%	102	101	1.0				70 - 130	30
% Bromofluorobenzene	95	%	99	101	2.0				70 - 130	30
% Dibromofluoromethane	91	%	96	90	6.5				70 - 130	30
% Toluene-d8	91	%	100	103	3.0				70 - 130	30

QA/QC Data

SDG I.D.: GCE11169

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Comment:										
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.										
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.										
QA/QC Batch 497676 (ug/L), QC Sample No: CE09863 (CE11171)										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	104	107	2.8	107	94	12.9	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	106	106	0.0	106	102	3.8	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	104	107	2.8	107	94	12.9	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	106	106	0.0	106	102	3.8	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	99	103	4.0	103	94	9.1	70 - 130	20
Benzene	ND	1.0	95	97	2.1	99	89	10.6	70 - 130	20
Ethyl Benzene	ND	1.0	95	99	4.1	101	89	12.6	70 - 130	20
MTBE	ND	1.0	100	102	2.0	103	100	3.0	70 - 130	20
Naphthalene	ND	5.0	102	104	1.9	107	106	0.9	70 - 130	20
Toluene	ND	1.0	94	97	3.1	99	87	12.9	70 - 130	20
m,p-Xylenes	ND	2.0	96	99	3.1	101	90	11.5	70 - 130	20
o-Xylene	ND	1.0	93	96	3.2	98	88	10.8	70 - 130	20
% 2,5-Dibromotoluene (PID)	104	%	107	109	1.9	108	107	0.9	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										
QA/QC Batch 498248 (ug/L), QC Sample No: CE14415 (CE11172, CE11174 (2X))										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	100	104	3.9	97	100	3.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	100	104	3.9	93	96	3.2	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	97	102	5.0	106	111	4.6	70 - 130	20
Benzene	ND	1.0	92	96	4.3	94	98	4.2	70 - 130	20
Ethyl Benzene	ND	1.0	93	98	5.2	95	101	6.1	70 - 130	20
MTBE	ND	1.0	95	99	4.1	92	95	3.2	70 - 130	20
Naphthalene	ND	5.0	94	99	5.2	92	95	3.2	70 - 130	20
Toluene	ND	1.0	91	96	5.3	93	98	5.2	70 - 130	20
m,p-Xylenes	ND	2.0	93	98	5.2	95	100	5.1	70 - 130	20
o-Xylene	ND	1.0	91	96	5.3	92	97	5.3	70 - 130	20
% 2,5-Dibromotoluene (PID)	93	%	96	96	0.0	94	91	3.2	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 18, 2020

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11169	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11169	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11169	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11169	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11169	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11169	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11169	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11169	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11170	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11170	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	28	20	20	20	ug/L
CE11170	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11170	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11170	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	28	20	20	20	ug/L
CE11170	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11170	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11170	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11170	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11170	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11171	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11171	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	33	20	20	20	ug/L
CE11171	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11171	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11171	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11171	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	33	20	20	20	ug/L
CE11171	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11171	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11171	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11171	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11172	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	36	20	5	5	ug/L
CE11172	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11172	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11172	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11172	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11172	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	36	20	5	5	ug/L
CE11172	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11172	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	36	20	5	5	ug/L
CE11172	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11173	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	8.3	8.3	ug/L
CE11173	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11173	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE11173	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	38	38	ug/L
CE11173	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	2400	400	5	5	ug/L
CE11173	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.6	0.6	ug/L
CE11173	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE11173	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	4	4	ug/L
CE11173	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	420	20	20	20	ug/L
CE11173	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE11173	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE11173	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE11173	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE11173	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE11173	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L
CE11173	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	5300	400	5	5	ug/L
CE11173	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	71	20	2	2	ug/L
CE11173	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	71	20	2	2	ug/L
CE11173	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	420	20	20	20	ug/L
CE11173	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE11173	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	71	20	2	2	ug/L
CE11173	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5300	400	5	5	ug/L
CE11173	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2400	400	5	5	ug/L
CE11173	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE11173	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE11173	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE11173	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	18	10	7	7	ug/L
CE11173	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE11173	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11173	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE11173	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE11173	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE11173	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	71	20	2	2	ug/L
CE11173	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	18	10	7	7	ug/L
CE11173	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2400	400	5	5	ug/L
CE11173	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	420	20	70	70	ug/L
CE11173	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5300	400	5	5	ug/L
CE11173	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE11173	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE11173	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE11173	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE11173	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE11173	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE11173	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	800	0.3	0.3	ug/l
CE11173	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	800	3	3	ug/l
CE11173	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	800	0.3	0.3	ug/l
CE11174	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.47	0.47	ug/L
CE11174	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	4	4	ug/L
CE11174	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	7	7	ug/L
CE11174	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	38	38	ug/L
CE11174	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1500	100	20	20	ug/L
CE11174	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	3	3	ug/L
CE11174	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.47	0.47	ug/L
CE11174	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	8.3	8.3	ug/L
CE11174	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.6	0.6	ug/L
CE11174	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	200	38	38	ug/L
CE11174	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	4200	400	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11174	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	11000	400	5	5	ug/L
CE11174	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	7	7	ug/L
CE11174	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE11174	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE11174	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE11174	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	130	100	70	70	ug/L
CE11174	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	50	3	3	ug/L
CE11174	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	140	100	2	2	ug/L
CE11174	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE11174	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	140	100	2	2	ug/L
CE11174	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	11000	400	5	5	ug/L
CE11174	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	140	100	2	2	ug/L
CE11174	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE11174	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4200	400	5	5	ug/L
CE11174	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE11174	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE11174	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE11174	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	100	70	70	ug/L
CE11174	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1500	100	20	20	ug/L
CE11174	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE11174	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE11174	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE11174	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE11174	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE11174	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE11174	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	130	100	70	70	ug/L
CE11174	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1500	100	70	70	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11174	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	4200	400	5	5	ug/L
CE11174	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE11174	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE11174	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE11174	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE11174	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE11174	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE11174	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	11000	400	5	5	ug/L
CE11174	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	140	100	2	2	ug/L
CE11174	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE11174	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	4000	0.3	0.3	ug/l
CE11174	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	4000	3	3	ug/l
CE11174	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE11174	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	4000	200	300	300	ug/L
CE11174	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	4000	200	300	300	ug/L
CE11174	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	4000	200	300	300	ug/L
CE11174	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.626	0.001	0.43	0.43	mg/L
CE11174	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.667	0.001	0.43	0.43	mg/L
CE11175	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	7	7	ug/L
CE11175	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	3	3	ug/L
CE11175	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	4	4	ug/L
CE11175	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	8.3	8.3	ug/L
CE11175	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.47	0.47	ug/L
CE11175	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	840	40	20	20	ug/L
CE11175	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.6	0.6	ug/L
CE11175	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	7	7	ug/L
CE11175	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	5100	400	5	5	ug/L
CE11175	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	100	40	70	70	ug/L
CE11175	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11175	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	3300	400	5	5	ug/L
CE11175	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.47	0.47	ug/L
CE11175	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.00075	0.00075	ug/L
CE11175	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.00033	0.00033	ug/L
CE11175	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	0.0075	0.0075	ug/L
CE11175	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	80	38	38	ug/L
CE11175	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	20	3	3	ug/L
CE11175	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	840	40	20	20	ug/L
CE11175	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5100	400	5	5	ug/L
CE11175	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.5	0.5	ug/L
CE11175	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3300	400	5	5	ug/L
CE11175	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.6	0.6	ug/L
CE11175	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.5	0.5	ug/L
CE11175	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	25	20	7	7	ug/L
CE11175	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	3	3	ug/L
CE11175	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	40	70	70	ug/L
CE11175	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	0.02	0.02	ug/L
CE11175	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	3	3	ug/L
CE11175	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	4	4	ug/L
CE11175	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	7	7	ug/L
CE11175	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5100	400	5	5	ug/L
CE11175	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	100	40	70	70	ug/L
CE11175	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	3300	400	5	5	ug/L
CE11175	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	25	20	7	7	ug/L
CE11175	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11175	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	10	10	ug/L
CE11175	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	20	4	4	ug/L
CE11175	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	3	3	ug/L
CE11175	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	2	2	ug/L
CE11175	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	5	5	ug/L
CE11175	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	20	0.6	0.6	ug/L
CE11175	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	20	0.02	0.02	ug/L
CE11175	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	840	40	70	70	ug/L
CE11175	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1600	0.3	0.3	ug/l
CE11175	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1600	3	3	ug/l
CE11175	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	1600	0.3	0.3	ug/l
CE11176	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	13	1.0	5	5	ug/L
CE11176	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11176	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11176	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11176	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	1.0	5	5	ug/L
CE11176	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11176	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11176	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	13	1.0	5	5	ug/L
CE11176	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11176	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11176	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11177	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11177	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11177	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11177	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11177	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11177	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11177	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11177	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11178	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11178	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11178	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11178	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11178	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11178	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11178	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11178	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11179	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11179	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11179	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11179	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	5.8	1.0	5	5	ug/L
CE11179	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11179	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.8	1.0	5	5	ug/L
CE11179	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5.8	1.0	5	5	ug/L
CE11179	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11179	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11179	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11179	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11179	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	3.29	0.011	0.43	0.43	mg/L
CE11179	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	3.32	0.010	0.43	0.43	mg/L
CE11180	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11180	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	7.9	1.0	2	2	ug/L
CE11180	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	27	20	5	5	ug/L
CE11180	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	13	1.0	5	5	ug/L
CE11180	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11180	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11180	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	1.0	5	5	ug/L
CE11180	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	27	20	5	5	ug/L
CE11180	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	7.9	1.0	2	2	ug/L
CE11180	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	7.9	1.0	2	2	ug/L
CE11180	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11180	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11180	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	13	1.0	5	5	ug/L
CE11180	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	27	20	5	5	ug/L
CE11180	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	7.9	1.0	2	2	ug/L
CE11180	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11180	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11180	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11180	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.019	0.004	0.01	0.01	mg/L
CE11180	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.019	0.004	0.01	0.01	mg/L
CE11180	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.019	0.004	0.01	0.01	mg/L
CE11180	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.021	0.004	0.01	0.01	mg/L
CE11180	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.021	0.004	0.01	0.01	mg/L
CE11180	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.021	0.004	0.01	0.01	mg/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE11169 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE11180	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.61	0.001	0.43	0.43	mg/L
CE11180	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.65	0.001	0.43	0.43	mg/L
CE11181	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11181	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11181	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11181	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11181	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11181	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11181	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11181	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11182	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	110	20	5	5	ug/L
CE11182	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	43	20	5	5	ug/L
CE11182	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE11182	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE11182	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE11182	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE11182	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	43	20	5	5	ug/L
CE11182	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	110	20	5	5	ug/L
CE11182	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE11182	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	43	20	5	5	ug/L
CE11182	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	110	20	5	5	ug/L
CE11182	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE11182	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE11182	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE11182	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.540	0.001	0.43	0.43	mg/L
CE11182	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.583	0.001	0.43	0.43	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED-WILMINGTON MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE11169, CE11170, CE11171, CE11172, CE11173, CE11174, CE11175, CE11176, CE11177, CE11178, CE11179, CE11180, CE11181, CE11182

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☐ Yes ☑ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: SVOASIM, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Wednesday, March 18, 2020

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the Chain of Custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GW-1 criteria. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/23/19-1 Adam Werner, Chemist 09/23/19

CE11171 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/20/19-1 Adam Werner, Chemist 09/20/19

CE11172 (1X), CE11174 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/23/19-1 Adam Werner, Chemist 09/23/19

CE11171 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 497786 (CE10289)

CE11171, CE11172, CE11174

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: C9 - Nonane(38%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: C36 - Hexatriacontane(57.6%)
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

Wet Chemistry Analysis

Instrument:

BECKMAN DU720 09/20/19-2 Greg Danielewski, Chemist 09/20/19

CE11171 , CE11174 , CE11179 , CE11180

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 497616 (CE10214)

CE11171, CE11174, CE11179, CE11180

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 497817 (CE12910)

CE11171, CE11174, CE11179, CE11180

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/17/19-2 Brian Sheriden, Greg Danielewski, Chemist 09/17/19

CE11171 , CE11174 , CE11179 , CE11180

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/18/19-2 Brian Sheriden, Greg Danielewski, Chemist 09/18/19

CE11171 , CE11180

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/18/19-3 Brian Sheriden, Greg Danielewski, Chemist 09/18/19

CE11174 , CE11179

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

IC

Batch 497496 (CE10451)

CE11171

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 497498 (CE11241)

CE11174, CE11179, CE11180

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 497709 (CE11543)

CE11171, CE11180

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 497718 (CE12366)

CE11174, CE11179

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 09/19/19 08:47 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/19/

CE11171, CE11174, CE11179, CE11180, CE11181, CE11182

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/20/19 10:10 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/20/

CE11171, CE11174, CE11179, CE11180, CE11181, CE11182

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

March 18, 2020

SDG I.D.: GCE11169

ICP Metals Narration

BLUE 09/24/19 09:35 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/24/

CE11179

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 497450 (CE10429)

CE11171, CE11174, CE11179, CE11180, CE11181, CE11182

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 497690 (CE11690)

CE11171, CE11174, CE11179, CE11180, CE11181, CE11182

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/20/19-1 Keith Aloisa, Chemist 09/20/19

CE11172 (1X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0920_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

SVOA-Dioxane

QC (Batch Specific):

Batch 497683 (CE10298)

CE11172

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 497291 (Samples: CE11171, CE11172, CE11174): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes. These analytes were not reported in the sample(s). No significant variability is suspected. (Benzo(a)pyrene, Benzo(ghi)perylene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Pyrene)

Due to insufficient volume samples 11171 (19A-AE106R3-091619-1), 11172 (19A-AE106R5-091619-1) and 11174 (19A-EMW11R2-091719-1) could not be re-extracted. The LCSD recovered at <10% for Acenaphthylene the LCS recovery was within criteria. A low bias is possible for this analyte.

Instrument:

CHEM27 09/18/19-1 Wes Bryon, Chemist 09/18/19

CE11171 (1X), CE11172 (1X), CE11174 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0911):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0918_03-27_SIM18_0911) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497291 (CE10289)

CE11171, CE11172, CE11174

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

SVOASIM Narration

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: Acenaphthylene(<10%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: Benzo(a)pyrene(27.2%), Benzo(ghi)perylene(26.5%), Dibenz(a,h)anthracene(35.7%), Indeno(1,2,3-cd)pyrene(24.7%), Pyrene(46.8%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498438 (Samples: CE11169, CE11170, CE11171, CE11172, CE11173, CE11174, CE11175, CE11176): -----

The LCSD recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)

Instrument:

CHEM02 09/22/19-1 Michael Hahn, Chemist 09/22/19

CE11170 (20X), CE11171 (20X), CE11172 (20X), CE11173 (20X), CE11174 (400X), CE11175 (400X)

Initial Calibration Evaluation (CHEM02/VT-P092119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 35% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.045 (0.05), 2-Hexanone 0.072 (0.1), 4-Methyl-2-pentanone 0.095 (0.1), Acetone 0.039 (0.1), Methyl ethyl ketone 0.051 (0.1), Tetrahydrofuran (THF) 0.030 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.039 (0.05), Tetrahydrofuran (THF) 0.030 (0.05)

Continuing Calibration Verification (CHEM02/0922_03-VT-P092119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.230 (0.3), 1,2-Dibromo-3-chloropropane 0.047 (0.05), 2-Hexanone 0.071 (0.1), 4-Methyl-2-pentanone 0.088 (0.1), Acetone 0.034 (0.1), Methyl ethyl ketone 0.048 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.039 (0.05), Methyl ethyl ketone 0.051 (0.05), Tetrahydrofuran (THF) 0.030 (0.05)

CHEM02 09/24/19-1 Michael Hahn, Chemist 09/24/19

CE11169 (1X), CE11170 (1X), CE11171 (1X), CE11172 (1X), CE11173 (400X), CE11174 (100X), CE11175 (40X), CE11176 (1X)

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), Acetone 24% (20%), Bromomethane 32% (20%)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

VOA Narration

The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.076 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

Continuing Calibration Verification (CHEM02/0924_03-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.227 (0.3), 1,2-Dibromo-3-chloropropane 0.042 (0.05), 2-Hexanone 0.063 (0.1), 4-Methyl-2-pentanone 0.083 (0.1), Acetone 0.034 (0.1), Bromomethane 0.061 (0.1), Methyl ethyl ketone 0.045 (0.1), Tetrahydrofuran (THF) 0.026 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

CHEM17 09/22/19-1 Michael Hahn, Chemist 09/22/19

CE11180 (20X), CE11182 (20X)

Initial Calibration Evaluation (CHEM17/VT-S092119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM17/0922_03-VT-S092119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM17 09/24/19-1 Michael Hahn, Chemist 09/24/19

CE11177 (1X), CE11178 (1X), CE11179 (1X), CE11180 (1X), CE11181 (1X), CE11182 (1X)

Initial Calibration Evaluation (CHEM17/VT-S092119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 22% (20%), Acetone 24% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.070 (0.1), Bromoform 0.065 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05)

Continuing Calibration Verification (CHEM17/0924_01-VT-S092119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.056 (0.1), Bromoform 0.055 (0.1), Methyl ethyl ketone 0.095 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

VOA Narration

QC (Batch Specific):

Batch 498096_(CE10291) CHEM02 9/22/2019-1

CE11170(20X), CE11171(20X), CE11172(20X), CE11173(20X), CE11174(400X), CE11175(400X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498117_(CE10306) CHEM17 9/22/2019-1

CE11180(20X), CE11182(20X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498438_(CE11169) CHEM02 9/24/2019-1

CE11169(1X), CE11170(1X), CE11171(1X), CE11172(1X), CE11173(400X), CE11174(100X), CE11175(40X), CE11176(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(171%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498449_(CE11841) CHEM17 9/24/2019-1

CE11177(1X), CE11178(1X), CE11179(1X), CE11180(1X), CE11181(1X), CE11182(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/18/19-1 Ashraf Sheikh, Chemist 09/18/19

CE11171 (1X)

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

PIDFID 09/22/19-2 Raman Makol, Chemist 09/22/19

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE11169

VPH Narration

CE11172 (1X), CE11174 (2X)

QC (Batch Specific):

Batch 497676 (CE09863)

CE11171(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

Batch 498248 (CE14415)

CE11172(1X), CE11174(2X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE11169

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE11169

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 4/16 C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herbierich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
11169	19A-TB01-091619-1	GW	9/16/19	0800	2							X									
11170	19A-AE106R1-091619-1	GW	9/16/19	1450	3							X									
11171	19A-AE106R3-091619-1	GW	9/16/19	1515	5	3		4				X		X	X	X	X	X	X	X	
11172	19A-AE106R5-091619-1	GW	9/16/19	1500	5	4						X	X	X	X						
11173	19A-EMW11R1-091719-1	GW	9/17/19	1000	3							X									
11174	19A-EMW11R2-091719-1	GW	9/17/19	1145	5	3		4				X		X	X	X	X	X	X	X	
11175	19A-EMW11R3-091719-1	GW	9/17/19	1040	3							X									
	~~19A-PS1~~	GW		(X)																	
11176	19A-PS1D-091719-1	GW	9/17/19	1050	3							X									
11177	19A-~~PS1D~~-PS1S-091719-1	GW	9/17/19	1135	3							X									
11178	19A-PS2D-091719-1	GW	9/17/19	1300	3							X									
11179	19A-AE106D-091719-1	GW	9/17/19	1010	3	1		4				X				X	X	X	X	X	

Relinquished by:	Accepted by:	Date:	Time:
		9-17-19	14:30
		9-17-19	17:06

Comments, Special Requirements or Regulations:
Dissolved Metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☒ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 4.6 °C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature Date:

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic			VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
11180	19A-TRC30IR4-091719-1	GW	9/17/19	1350	3	1		4			X				X	X	X	X	X	
11181	19A-PS8D-091719-1	GW	9/17/19	1335	3			2			X				X	X				
11182	19A-TRC30IR2-091719-1	GW	9/17/19	1120	3			X	2		X				X	X				

Relinquished by: **Accepted by:**

Date:	Time:
9-17-19	14:30
9-17-19	17:06

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Wednesday, March 18, 2020

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED WILMINGTON MA 60552044.13**
SDG ID: **GCE13428**
Sample ID#s: CE13428 - CE13458

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 18, 2020

SDG I.D.: GCE13428

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Version 2:
Chem 02 on 9/26 VOA QC batch 506526 has been reported.

Chem17 VOA QC batch 499703 CE13446 (5X) has been reported.

Revision 3
The EPH acceptance ranges were modified.

Revision 4
This report has been revised to include the area of all peaks eluting within the retention time windows specified for the Unadjusted C5-C8 aliphatic range, excluding surrogates. The final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily PCE & TCE.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 18, 2020

SDG I.D.: GCE13428

Project ID: LOCKHEED WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-091819-1	CE13428	GROUND WATER
19A-GZA105S-091819-1	CE13429	GROUND WATER
19A-GZA105D-091819-1	CE13430	GROUND WATER
19A-GZA105R-091819-1	CE13431	GROUND WATER
19A-AE103R1-091819-1	CE13432	GROUND WATER
19A-AE103R3-091819-1	CE13433	GROUND WATER
19A-AE103R4-091819-1	CE13434	GROUND WATER
19A-AE103R5-091819-1	CE13435	GROUND WATER
19A-AE103R7-091819-1	CE13436	GROUND WATER
19A-AE109R1-091819-1	CE13437	GROUND WATER
19A-AE109R2-091819-1	CE13438	GROUND WATER
19A-AE109R3-091819-1	CE13439	GROUND WATER
19A-AE109R4-091819-1	CE13440	GROUND WATER
19A-AE109R5-091819-1	CE13441	GROUND WATER
19A-AE109R6-091819-1	CE13442	GROUND WATER
19A-AE109R7-091819-1	CE13443	GROUND WATER
19A-AE109R7-091819-2	CE13444	GROUND WATER
19A-AE109R8-091819-1	CE13445	GROUND WATER
19A-AE104R1-091819-1	CE13446	GROUND WATER
19A-AE104R3-091819-1	CE13447	GROUND WATER
19A-AE104R4-091819-1	CE13448	GROUND WATER
19A-AE104R5-091819-1	CE13449	GROUND WATER
19A-AE104R6-091819-1	CE13450	GROUND WATER
19A-MW4-091919-1	CE13451	GROUND WATER
19A-MW4-091919-2	CE13452	GROUND WATER
19A-MW4A-091919-1	CE13453	GROUND WATER
19A-PS3-091919-1	CE13454	GROUND WATER
19A-PS5D-091919-1	CE13455	GROUND WATER
19A-AE103S-091919-1	CE13456	GROUND WATER
19A-AE103D-091919-1	CE13457	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 18, 2020

SDG I.D.: GCE13428

Project ID: LOCKHEED WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-EMW11D-091919-1	CE13458	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13428

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13428
Client ID: 19A-TB01-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	95		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	90		%	1	09/24/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091819-1

Phoenix I.D.: CE13428

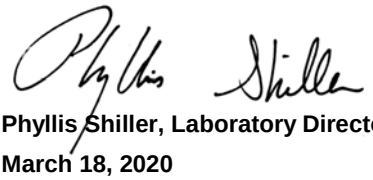
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13429

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105S-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.182	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.168	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	28.5	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.80	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	28.8	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.83	0.001	mg/L	1	09/24/19	TH	SW6010D
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13429

Client ID: 19A-GZA105S-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/25/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/25/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
tert-Butylbenzene	2.9	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/25/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene	112		%	1	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane	109		%	1	09/25/19	MH	70 - 130 %	
% Toluene-d8	99		%	1	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	72		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	76		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	62		%	1	09/23/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	60		%	1	09/23/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	67		%	1	09/24/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	240	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	150	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	1.8	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	118		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	116		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	12:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13430

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethane	3.6	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethene	2.8	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13430

Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/25/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/25/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrachloroethene	24	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/25/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	1.5	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Trichloroethene	55	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Vinyl chloride	23	1.0	ug/L	1	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/25/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/25/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	117		%	1	09/25/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	94		%	20	09/25/19	MH	70 - 130 %	
% Toluene-d8 (20x)	92		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	73		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	76		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	79		%	1	09/23/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	1.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	87		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13430
Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	91		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	86		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	89		%	1	09/21/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	1.4	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	122		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	117		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13431

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105R-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloroethane	93	70	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/25/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/25/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/25/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/25/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	210	100	ug/L	100	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/25/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/25/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Tetrachloroethene	5100	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/25/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Trichloroethene	6700	400	ug/L	400	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	96		%	100	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	100		%	100	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	127		%	100	09/25/19	MH	70 - 130 %
% Toluene-d8 (100x)	113		%	100	09/25/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	91		%	400	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	

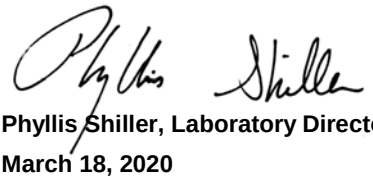
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13432

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.648	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	2.48	0.021	mg/L	20	09/26/19	CPP	SW6010D
Iron	0.786	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	2.21	0.010	mg/L	10	09/25/19	TH	SW6010D
Chloride	667	30.0	mg/L	10	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/19/19 23:52	B/E/G	E300.0
Nitrate as Nitrogen	2.99	0.05	mg/L	1	09/19/19 20:48	B/E/G	E300.0
Sulfate	29.8	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	1.1	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethane	28	20	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R1-091819-1

Phoenix I.D.: CE13432

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/25/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/25/19	MH	SW8260C
Benzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	360	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Tetrachloroethene	870	400	ug/L	400	09/25/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/25/19	MH	SW8260C	
Toluene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C	
Trichloroethene	1400	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Vinyl chloride	23	20	ug/L	20	09/25/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	100		%	20	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	96		%	20	09/25/19	MH	70 - 130 %	
% Toluene-d8 (20x)	115		%	20	09/25/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	96		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	90		%	400	09/25/19	MH	70 - 130 %	
% Toluene-d8 (400x)	93		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	74		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	80		%	1	09/23/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	82		%	1	09/23/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	8.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	77		%	1	09/24/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	85		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	76		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	82		%	1	09/21/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	800	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	800	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	107		%	1	09/23/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/23/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13433

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethane	77	20	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethene	20	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/26/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13433

Client ID: 19A-AE103R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Benzene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Bromochloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Bromodichloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromoform	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Carbon Disulfide	ND	100	ug/L	20	09/26/19	MH	SW8260C	
Carbon tetrachloride	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Chlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloroform	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
cis-1,2-Dichloroethene	330	20	ug/L	20	09/26/19	MH	SW8260C	
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dibromochloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dibromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dichlorodifluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Ethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Hexachlorobutadiene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Isopropylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
m&p-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Methyl ethyl ketone	ND	40	ug/L	20	09/26/19	MH	SW8260C	
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Methylene chloride	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Naphthalene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
n-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
n-Propylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
o-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
p-Isopropyltoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
sec-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Styrene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
tert-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Tetrachloroethene	1700	400	ug/L	400	09/25/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/26/19	MH	SW8260C	
Toluene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Trichloroethene	3200	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Vinyl chloride	100	20	ug/L	20	09/26/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (20x)	93		%	20	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	99		%	20	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/26/19	MH	70 - 130 %	
% Toluene-d8 (20x)	135		%	20	09/26/19	MH	70 - 130 %	3
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	100		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	101		%	400	09/25/19	MH	70 - 130 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	96		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	

3 = This parameter exceeds laboratory specified limits.
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.
Elevated surrogate recovery was observed for volatiles due to matrix interference.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13434

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethane	140	100	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/26/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/26/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/26/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	700	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/26/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Tetrachloroethene	4100	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/26/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Trichloroethene	7400	400	ug/L	400	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Vinyl chloride	100	100	ug/L	100	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	96		%	100	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	99		%	100	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/26/19	MH	70 - 130 %
% Toluene-d8 (100x)	117		%	100	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	96		%	400	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	105		%	400	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	100		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	43	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	83		%	1	09/24/19	KCA	40 - 140 %	
% 1,4-dioxane-d8 (5x)	96		%	5	09/25/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13435

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.430	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	0.813	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.458	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.822	0.001	mg/L	1	09/24/19	TH	SW6010D
Chloride	233	15.0	mg/L	5	09/20/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/20/19 00:02	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 20:58	B/E/G	E300.0
Sulfate	35.8	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethane	120	100	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13435

Client ID: 19A-AE103R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/26/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/26/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/26/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/26/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	1100	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/26/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Tetrachloroethene	5500	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/26/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/26/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C	
Trichloroethene	9200	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C	
Vinyl chloride	190	100	ug/L	100	09/26/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (100x)	95		%	100	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (100x)	99		%	100	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (100x)	100		%	100	09/26/19	MH	70 - 130 %	
% Toluene-d8 (100x)	118		%	100	09/26/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	101		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Toluene-d8 (400x)	102		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	36	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	79		%	1	09/24/19	KCA	40 - 140 %	
% 1,4-dioxane-d8 (5x)	89		%	5	09/25/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13436

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethane	66	20	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethene	17	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/25/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13436

Client ID: 19A-AE103R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	390	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Tetrachloroethene	2100	200	ug/L	200	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/25/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Trichloroethene	4000	200	ug/L	200	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Vinyl chloride	42	20	ug/L	20	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Toluene-d8 (20x)	130		%	20	09/25/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	97		%	200	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	99		%	200	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	101		%	200	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	102		%	200	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13437

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13437

Client ID: 19A-AE109R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	3.1	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.5	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	92		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	93		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13437
Client ID: 19A-AE109R1-091819-1

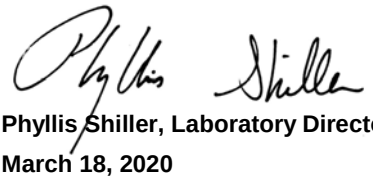
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:42
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13438

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R2-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	2.3	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	2.9	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.4	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13438
Client ID: 19A-AE109R2-091819-1

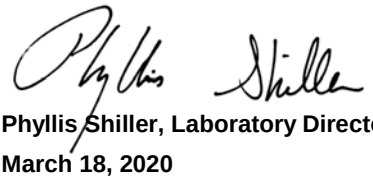
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	3.6	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	80		%	1	09/24/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:47
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13439

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	5.2	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.1	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13439
Client ID: 19A-AE109R3-091819-1

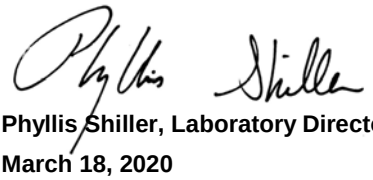
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:52
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13440

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloroethane	3.5	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	09/27/19	MH	SW8260C
Acetone	ND	50	ug/L	2	09/27/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13440

Client ID: 19A-AE109R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	09/27/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	200	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Tetrachloroethene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	09/27/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	3.5	2.0	ug/L	2	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Trichloroethene	20	2.0	ug/L	2	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Vinyl chloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	96		%	2	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	94		%	2	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	93		%	2	09/27/19	MH	70 - 130 %
% Toluene-d8 (2x)	100		%	2	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	94		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13441

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.122	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	0.162	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.127	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.149	0.001	mg/L	1	09/24/19	TH	SW6010D
Chloride	63.4	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/19/19 21:08	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 21:08	B/E/G	E300.0
Sulfate	10.1	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethane	10	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13441

Client ID: 19A-AE109R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/26/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	09/26/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/26/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrachloroethene	77	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/26/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Trichloroethene	360	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	95		%	5	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	99		%	5	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	96		%	5	09/26/19	MH	70 - 130 %
% Toluene-d8 (5x)	117		%	5	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	100		%	20	09/25/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	09/25/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	200	ug/l	5	09/26/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benz(a)anthracene	0.13	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	0.19	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	0.12	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	0.14	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Chrysene	0.18	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	0.03	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	0.14	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Pyrene	0.26	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	09/23/19	WB	40 - 140 %
% Nitrobenzene-d5	87		%	1	09/23/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	54		%	1	09/23/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	1.4	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	71		%	1	09/24/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	97		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	09/24/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	240	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	240	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/23/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	106		%	1	09/23/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13442

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethane	6.5	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	09/26/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/26/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	180	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrachloroethene	18	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/26/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Trichloroethene	200	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	94		%	5	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	98		%	5	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	99		%	5	09/26/19	MH	70 - 130 %
% Toluene-d8 (5x)	108		%	5	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	94		%	20	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	98		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13443

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	2.9	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13443

Client ID: 19A-AE109R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	12	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	108		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	96		%	1	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	103		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.5	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	82		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13444

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R7-091819-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	2.8	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13444

Client ID: 19A-AE109R7-091819-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	7.9	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	100		%	1	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.6	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	86		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13445

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R8-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13445

Client ID: 19A-AE109R8-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	4.7	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	5.0	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	09/27/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/27/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13445
Client ID: 19A-AE109R8-091819-1

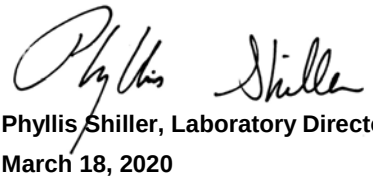
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13446

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	26	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13446

Client ID: 19A-AE104R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrachloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Trichloroethene	540	20	ug/L	20	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Vinyl chloride	29	5.0	ug/L	5	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	96		%	5	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	102		%	5	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	98		%	5	10/01/19	MH	70 - 130 %
% Toluene-d8 (5x)	123		%	5	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	103		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	9.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	74		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13447

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethane	49	20	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethene	12	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/26/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13447

Client ID: 19A-AE104R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/26/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	230	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/26/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/26/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/26/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Tetrachloroethene	1800	200	ug/L	200	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/26/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Trichloroethene	3500	200	ug/L	200	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Vinyl chloride	16	10	ug/L	20	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	104		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	109		%	20	09/26/19	MH	70 - 130 %
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	96		%	200	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	96		%	200	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	97		%	200	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	98		%	200	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	14	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	94		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

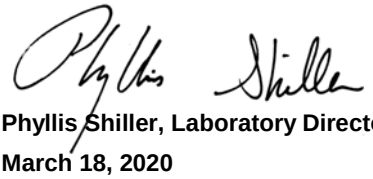
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:45
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13448

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	75	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13448

Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	490	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2100	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4200	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	49	25	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	101		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	104		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	108		%	50	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (50x)	99		%	50	09/26/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	100		%	400	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	103		%	400	09/26/19	MH	70 - 130 %	
% Toluene-d8 (400x)	98		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	75		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	82		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	72		%	1	09/23/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	19	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13448
Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	82		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	92		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	73		%	1	09/24/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	2200	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	2200	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Toluene	3.4	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/26/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	102		%	1	09/26/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

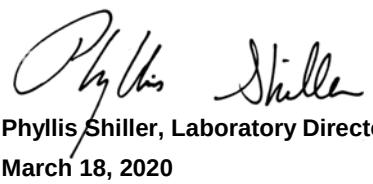
MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Ver 4

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13449

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	66	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13449

Client ID: 19A-AE104R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	520	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4400	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	71	50	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	99		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	102		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	102		%	50	09/26/19	MH	70 - 130 %
% Toluene-d8 (50x)	99		%	50	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	101		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	100		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13450

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	68	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13450

Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	490	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4600	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	56	50	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	103		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	101		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	104		%	50	09/26/19	MH	70 - 130 %
% Toluene-d8 (50x)	96		%	50	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	105		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	97		%	400	09/26/19	MH	70 - 130 %

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13450
Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	94		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	20	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/24/19	KCA	40 - 140 %	
% 1,4-dioxane-d8 (5x)	90		%	5	09/25/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

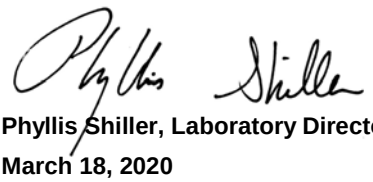
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13451

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-MW4-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	24.2	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.19	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	24.8	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.23	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13451

Client ID: 19A-MW4-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	20	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	4.7	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	3.7	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13451
Client ID: 19A-MW4-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	96		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	98		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	104		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.84	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	84		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13452

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-MW4-091919-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	24.1	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.16	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	24.7	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.23	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-MW4-091919-2

Phoenix I.D.: CE13452

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	19	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	4.5	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	3.8	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13452
Client ID: 19A-MW4-091919-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	102		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.86	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	86		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	10:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13453

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-MW4A-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.011	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	27.0	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.08	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	28.0	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.14	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	10:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13454

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-PS3-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13454

Client ID: 19A-PS3-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	98		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	108		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-PS3-091919-1

Phoenix I.D.: CE13454

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	10:45
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13455

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-PS5D-091919-1

Parameter	Result		RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles								
1,1,1,2-Tetrachloroethane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND		0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND		0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND		0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND		0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND		0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND		5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND		1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND		5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	29	S	25	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13455

Client ID: 19A-PS5D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	13	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	14	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	1.8	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	4.6	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	110		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13455

Client ID: 19A-PS5D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

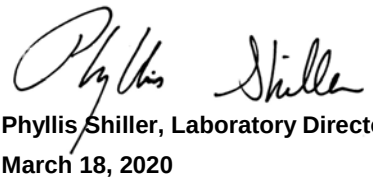
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

S - Laboratory solvent, contamination is possible.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13456

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103S-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.162	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.138	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	9.08	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.56	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	9.36	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.56	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103S-091919-1

Phoenix I.D.: CE13456

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13456
Client ID: 19A-AE103S-091919-1

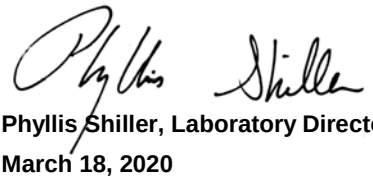
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	97		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13457

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.99	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.165	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.90	0.010	mg/L	10	09/25/19	TH	SW6010D
Chloride	42.0	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/19/19 21:18	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 21:18	B/E/G	E300.0
Sulfate	7.6	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	1.4	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	1.6	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103D-091919-1

Phoenix I.D.: CE13457

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	0.75	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	3.2	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	28	20	ug/L	20	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C	
Trichloroethene	53	20	ug/L	20	09/26/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	101		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	111		%	1	09/28/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	101		%	20	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	105		%	20	09/26/19	MH	70 - 130 %	
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.82	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	89		%	1	09/24/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	9:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13458

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-EMW11D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	4.6	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	2.5	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	1.2	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	96		%	1	09/28/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13458
Client ID: 19A-EMW11D-091919-1

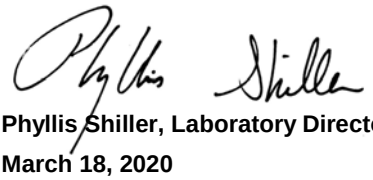
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 497673 (mg/L), QC Sample No: CE13214 (CE13451, CE13452, CE13453, CE13456, CE13457)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	95.7	95.9	0.2	107			80 - 120	20
Iron	BRL	0.011	0.014	0.014	NC	94.6	94.7	0.1	93.0			80 - 120	20
Manganese	BRL	0.001	2.99	3.01	0.70	95.3	95.0	0.3	96.7			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 497883 (mg/L), QC Sample No: CE13800 (CE13429, CE13432, CE13435, CE13441)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	93.8	95.1	1.4	97.1	96.6	0.5	80 - 120	20
Iron	BRL	0.011	<0.011	<0.011	NC	93.0	93.7	0.7	92.1	92.3	0.2	80 - 120	20
Manganese	BRL	0.001	<0.001	<0.001	NC	93.8	93.5	0.3	93.5	93.1	0.4	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 498136 (mg/L), QC Sample No: CE14415 (CE13429, CE13432, CE13435, CE13441, CE13451, CE13452, CE13453, CE13456, CE13457)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	0.060	0.059	1.70	102	103	1.0	103	102	1.0	80 - 120	20
Iron	BRL	0.010	23.7	23.1	2.60	102	102	0.0	NC	NC	NC	80 - 120	20
Manganese	BRL	0.001	3.26	2.79	15.5	104	104	0.0	109	104	4.7	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498233 (mg/L), QC Sample No: CE13800 (CE13432, CE13435, CE13441, CE13457)													
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	102			87.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 498423 (mg/L), QC Sample No: CE16348 (CE13432, CE13435, CE13441, CE13457)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	106			112			90 - 110	20
QA/QC Batch 497937 (mg/L), QC Sample No: CE13487 (CE13432, CE13435, CE13441, CE13457)													
Chloride	BRL	3.0	<3.0	<3.0	NC	95.4			99.1			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.14	0.15	NC	98.5			102			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	95.1			95.7			90 - 110	20
Sulfate	BRL	3.0	13.1	13.3	NC	98.1			99.6			90 - 110	20
QA/QC Batch 497938 (mg/L), QC Sample No: CE13699 (CE13432, CE13435)													
Chloride	BRL	3.0	13.1	12.8	NC	96.2			98.5			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.08	0.09	NC	101			94.0			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	96.5			107			90 - 110	20
Sulfate	BRL	3.0	72.6	72.1	0.70	98.6			103			90 - 110	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 497786 (ug/L), QC Sample No: CE10289 (CE13429, CE13430, CE13432, CE13441, CE13448)											
MAEPH - Ground Water											
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	67	63	6.2				40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	96	85	12.2				40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	100	75	76	1.3				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
Total TPH 1,2*	ND	100	84	75	11.3				40 - 140	25	
C9 - Nonane			41	38	7.6				40 - 140	25	I
C-10 Decane			53	49	7.8				40 - 140	25	
C12 - Dodecane			63	56	11.8				40 - 140	25	
C14 - Tetradecane			73	68	7.1				40 - 140	25	
C16 - Hexadecane			82	81	1.2				40 - 140	25	
C18 - Octadecane			89	87	2.3				40 - 140	25	
C19 - Nonadecane			88	86	2.3				40 - 140	25	
C20 - Eicosane			90	88	2.2				40 - 140	25	
C22 - Docosane			90	87	3.4				40 - 140	25	
C24 - Tetracosane			90	87	3.4				40 - 140	25	
C26 - Hexacosane			90	88	2.2				40 - 140	25	
C28 - Octacosane			91	86	5.6				40 - 140	25	
C30 - Tricotane			98	84	15.4				40 - 140	25	
C36 - Hexatriacontane			132	73	57.6				40 - 140	25	r
% 1-chlorooctadecane (aliphatic)	85	%	87	87	0.0				40 - 140	25	
% o-terphenyl (aromatic)	71	%	68	71	4.3				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	86	%	88	89	1.1				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	86	%	90	90	0.0				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 497892 (ug/l), QC Sample No: CE13430 (CE13430, CE13432, CE13434, CE13435, CE13438, CE13441, CE13443, CE13444, CE13446, CE13447, CE13448, CE13450, CE13451, CE13452, CE13457)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	78	94	18.6	87			40 - 140	30	
% 1,4-dioxane-d8	86	%	76	85	11.2	84			40 - 140	30	
QA/QC Batch 497878 (ug/L), QC Sample No: CE14374 (CE13429, CE13430, CE13432, CE13441, CE13448)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	73	78	6.6	70	71	1.4	40 - 140	20	
Acenaphthene	ND	0.50	85	86	1.2	81	83	2.4	40 - 140	20	
Acenaphthylene	ND	0.10	89	89	0.0	85	87	2.3	40 - 140	20	
Anthracene	ND	0.10	99	99	0.0	86	86	0.0	40 - 140	20	
Benz(a)anthracene	ND	0.05	93	90	3.3	65	74	12.9	40 - 140	20	
Benzo(a)pyrene	ND	0.20	90	87	3.4	45	58	25.2	40 - 140	20	r

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(b)fluoranthene	ND	0.07	104	106	1.9	55	67	19.7	40 - 140	20	
Benzo(ghi)perylene	ND	0.02	87	84	3.5	35	48	31.3	40 - 140	20	m,r
Benzo(k)fluoranthene	ND	0.10	95	92	3.2	45	60	28.6	40 - 140	20	r
Chrysene	ND	0.05	89	88	1.1	59	68	14.2	40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	107	101	5.8	41	56	30.9	40 - 140	20	r
Fluoranthene	ND	0.50	97	97	0.0	85	88	3.5	40 - 140	20	
Fluorene	ND	0.10	97	98	1.0	92	94	2.2	40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.10	108	102	5.7	43	60	33.0	40 - 140	20	r
Naphthalene	ND	0.50	61	66	7.9	60	64	6.5	40 - 140	20	
Phenanthrene	ND	0.06	90	92	2.2	83	87	4.7	40 - 140	20	
Pyrene	ND	0.07	98	99	1.0	87	87	0.0	40 - 140	20	
% 2-Fluorobiphenyl	75	%	75	77	2.6	71	74	4.1	40 - 140	20	
% Nitrobenzene-d5	76	%	85	78	8.6	89	94	5.5	40 - 140	20	
% Terphenyl-d14	80	%	79	77	2.6	55	58	5.3	40 - 140	20	

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 498698 (ug/L), QC Sample No: CE10969 (CE13430, CE13431 (100X) , CE13432 (20X) , CE13433 (400X) , CE13434 (400X) , CE13435 (400X) , CE13436 (20X) , CE13440 (20X) , CE13441 (20X) , CE13442 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	102	102	0.0				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	98	117	17.7				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	111	109	1.8				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	105	108	2.8				70 - 130	30	
1,1-Dichloroethane	ND	1.0	97	118	19.5				70 - 130	30	
1,1-Dichloroethene	ND	1.0	104	119	13.5				70 - 130	30	
1,1-Dichloropropene	ND	1.0	98	98	0.0				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	103	117	12.7				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	102	102	0.0				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	102	107	4.8				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	96	95	1.0				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	114	122	6.8				70 - 130	30	
1,2-Dibromoethane	ND	1.0	106	105	0.9				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	100	98	2.0				70 - 130	30	
1,2-Dichloroethane	ND	1.0	103	101	2.0				70 - 130	30	
1,2-Dichloropropane	ND	1.0	103	104	1.0				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	96	96	0.0				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	98	97	1.0				70 - 130	30	
1,3-Dichloropropane	ND	1.0	104	102	1.9				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	99	97	2.0				70 - 130	30	
1,4-dioxane	ND	100	90	91	1.1				40 - 160	30	
2,2-Dichloropropane	ND	1.0	106	126	17.2				70 - 130	30	
2-Chlorotoluene	ND	1.0	94	94	0.0				70 - 130	30	
2-Hexanone	ND	5.0	94	91	3.2				40 - 160	30	
4-Chlorotoluene	ND	1.0	94	93	1.1				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	97	99	2.0				40 - 160	30	
Acetone	ND	5.0	82	100	19.8				40 - 160	30	
Benzene	ND	0.70	100	79	23.5				70 - 130	30	
Bromobenzene	ND	1.0	99	99	0.0				70 - 130	30	
Bromochloromethane	ND	1.0	101	125	21.2				70 - 130	30	
Bromodichloromethane	ND	0.50	105	106	0.9				70 - 130	30	
Bromoform	ND	1.0	113	112	0.9				70 - 130	30	

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Bromomethane	ND	1.0	127	154	19.2				40 - 160	30
Carbon Disulfide	ND	1.0	102	117	13.7				70 - 130	30
Carbon tetrachloride	ND	1.0	100	120	18.2				70 - 130	30
Chlorobenzene	ND	1.0	98	98	0.0				70 - 130	30
Chloroethane	ND	1.0	110	124	12.0				70 - 130	30
Chloroform	ND	1.0	93	111	17.6				70 - 130	30
Chloromethane	ND	1.0	112	132	16.4				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	98	118	18.5				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	108	107	0.9				70 - 130	30
Dibromochloromethane	ND	0.50	113	111	1.8				70 - 130	30
Dibromomethane	ND	1.0	109	109	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	138	159	14.1				40 - 160	30
Ethyl ether	ND	1.0	103	114	10.1				70 - 130	30
Ethylbenzene	ND	1.0	97	96	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	108	105	2.8				70 - 130	30
Isopropylbenzene	ND	1.0	97	98	1.0				70 - 130	30
m&p-Xylene	ND	1.0	96	96	0.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	94	116	21.0				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	90	107	17.3				70 - 130	30
Methylene chloride	ND	1.0	94	112	17.5				70 - 130	30
Naphthalene	ND	1.0	109	121	10.4				70 - 130	30
n-Butylbenzene	ND	1.0	102	104	1.9				70 - 130	30
n-Propylbenzene	ND	1.0	100	99	1.0				70 - 130	30
o-Xylene	ND	1.0	99	98	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	99	101	2.0				70 - 130	30
sec-Butylbenzene	ND	1.0	107	107	0.0				70 - 130	30
Styrene	ND	1.0	99	97	2.0				70 - 130	30
tert-Butylbenzene	ND	1.0	99	99	0.0				70 - 130	30
Tetrachloroethene	ND	1.0	106	103	2.9				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	94	109	14.8				70 - 130	30
Toluene	ND	1.0	101	101	0.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	98	115	16.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	108	109	0.9				70 - 130	30
Trichloroethene	ND	1.0	98	97	1.0				70 - 130	30
Trichlorofluoromethane	ND	1.0	115	135	16.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	88	108	20.4				70 - 130	30
Vinyl chloride	ND	1.0	108	125	14.6				70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	102	102	0.0				70 - 130	30
% Bromofluorobenzene	97	%	100	99	1.0				70 - 130	30
% Dibromofluoromethane	119	%	103	120	15.2				70 - 130	30
% Toluene-d8	90	%	102	102	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498452 (ug/L), QC Sample No: CE11849 (CE13428, CE13430 (20X) , CE13431 (400X) , CE13432 (400X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	87	94	7.7	110	116	5.3	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	84	90	6.9	114	117	2.6	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	79	88	10.8	105	103	1.9	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	81	89	9.4	108	105	2.8	70 - 130	30
1,1-Dichloroethane	ND	1.0	78	84	7.4	106	108	1.9	70 - 130	30
1,1-Dichloroethene	ND	1.0	85	90	5.7	116	120	3.4	70 - 130	30

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1-Dichloropropene	ND	1.0	86	89	3.4	124	141	12.8	70 - 130	30	m
1,2,3-Trichlorobenzene	ND	1.0	85	95	11.1	98	94	4.2	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	76	85	11.2	102	99	3.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	86	94	8.9	103	102	1.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	81	83	2.4	103	103	0.0	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	82	91	10.4	96	102	6.1	70 - 130	30	
1,2-Dibromoethane	ND	1.0	80	89	10.7	103	106	2.9	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	84	91	8.0	107	107	0.0	70 - 130	30	
1,2-Dichloroethane	ND	1.0	84	91	8.0	111	110	0.9	70 - 130	30	
1,2-Dichloropropane	ND	1.0	85	90	5.7	113	114	0.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	84	87	3.5	111	111	0.0	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	86	90	4.5	107	107	0.0	70 - 130	30	
1,3-Dichloropropane	ND	1.0	80	88	9.5	105	107	1.9	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	84	89	5.8	106	109	2.8	70 - 130	30	
1,4-dioxane	ND	100	89	92	3.3	87	97	10.9	40 - 160	30	
2,2-Dichloropropane	ND	1.0	81	85	4.8	98	101	3.0	70 - 130	30	
2-Chlorotoluene	ND	1.0	83	87	4.7	110	109	0.9	70 - 130	30	
2-Hexanone	ND	5.0	73	85	15.2	87	87	0.0	40 - 160	30	
4-Chlorotoluene	ND	1.0	82	84	2.4	106	108	1.9	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	75	87	14.8	88	85	3.5	40 - 160	30	
Acetone	ND	5.0	60	83	32.2	82	91	10.4	40 - 160	30	r
Benzene	ND	0.70	86	83	3.6	116	118	1.7	70 - 130	30	
Bromobenzene	ND	1.0	84	89	5.8	106	109	2.8	70 - 130	30	
Bromochloromethane	ND	1.0	74	82	10.3	103	104	1.0	70 - 130	30	
Bromodichloromethane	ND	0.50	85	91	6.8	111	115	3.5	70 - 130	30	
Bromoform	ND	1.0	75	86	13.7	92	98	6.3	70 - 130	30	
Bromomethane	ND	1.0	84	103	20.3	89	127	35.2	40 - 160	30	r
Carbon Disulfide	ND	1.0	87	90	3.4	104	108	3.8	70 - 130	30	
Carbon tetrachloride	ND	1.0	88	92	4.4	109	120	9.6	70 - 130	30	
Chlorobenzene	ND	1.0	85	90	5.7	109	114	4.5	70 - 130	30	
Chloroethane	ND	1.0	111	115	3.5	126	130	3.1	70 - 130	30	
Chloroform	ND	1.0	83	82	1.2	104	116	10.9	70 - 130	30	
Chloromethane	ND	1.0	103	109	5.7	106	110	3.7	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	78	87	10.9	108	112	3.6	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	82	90	9.3	109	111	1.8	70 - 130	30	
Dibromochloromethane	ND	0.50	84	95	12.3	109	111	1.8	70 - 130	30	
Dibromomethane	ND	1.0	80	88	9.5	107	108	0.9	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	118	125	5.8	110	108	1.8	40 - 160	30	
Ethyl ether	ND	1.0	68	80	16.2	89	88	1.1	70 - 130	30	l
Ethylbenzene	ND	1.0	80	84	4.9	103	106	2.9	70 - 130	30	
Hexachlorobutadiene	ND	0.40	95	102	7.1	117	121	3.4	70 - 130	30	
Isopropylbenzene	ND	1.0	83	85	2.4	109	111	1.8	70 - 130	30	
m&p-Xylene	ND	1.0	78	82	5.0	102	106	3.8	70 - 130	30	
Methyl ethyl ketone	ND	5.0	72	85	16.6	95	100	5.1	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	94	109	14.8	99	100	1.0	70 - 130	30	
Methylene chloride	ND	1.0	74	81	9.0	99	101	2.0	70 - 130	30	
Naphthalene	ND	1.0	82	94	13.6	97	97	0.0	70 - 130	30	
n-Butylbenzene	ND	1.0	84	86	2.4	112	115	2.6	70 - 130	30	
n-Propylbenzene	ND	1.0	86	89	3.4	112	114	1.8	70 - 130	30	
o-Xylene	ND	1.0	81	85	4.8	103	107	3.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	85	88	3.5	111	113	1.8	70 - 130	30	
sec-Butylbenzene	ND	1.0	88	91	3.4	119	121	1.7	70 - 130	30	
Styrene	ND	1.0	82	88	7.1	105	108	2.8	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
tert-Butylbenzene	ND	1.0	85	87	2.3	111	113	1.8	70 - 130	30
Tetrachloroethene	ND	1.0	91	96	5.3	118	122	3.3	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	66	80	19.2	77	73	5.3	70 - 130	30
Toluene	ND	1.0	81	85	4.8	110	111	0.9	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	83	86	3.6	108	114	5.4	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	82	90	9.3	106	108	1.9	70 - 130	30
Trichloroethene	ND	1.0	86	91	5.6	114	115	0.9	70 - 130	30
Trichlorofluoromethane	ND	1.0	114	121	6.0	124	127	2.4	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	96	97	1.0	99	98	1.0	70 - 130	30
Vinyl chloride	ND	1.0	101	106	4.8	110	113	2.7	70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	100	102	2.0	101	103	2.0	70 - 130	30
% Bromofluorobenzene	97	%	99	100	1.0	101	101	0.0	70 - 130	30
% Dibromofluoromethane	93	%	95	95	0.0	93	97	4.2	70 - 130	30
% Toluene-d8	89	%	101	101	0.0	102	102	0.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498972 (ug/L), QC Sample No: CE12549 (CE13429)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	95	95	0.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	93	90	3.3				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	89	94	5.5				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	83	89	7.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	91	90	1.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	84	82	2.4				70 - 130	30
1,1-Dichloropropene	ND	1.0	89	86	3.4				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	80	88	9.5				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	88	87	1.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	87	86	1.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	89	86	3.4				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	79	86	8.5				70 - 130	30
1,2-Dibromoethane	ND	1.0	84	87	3.5				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	86	86	0.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	96	97	1.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	87	90	3.4				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	89	86	3.4				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	87	87	0.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	84	90	6.9				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	85	85	0.0				70 - 130	30
1,4-dioxane	ND	100	107	103	3.8				40 - 160	30
2,2-Dichloropropane	ND	1.0	99	94	5.2				70 - 130	30
2-Chlorotoluene	ND	1.0	88	85	3.5				70 - 130	30
2-Hexanone	ND	5.0	80	91	12.9				40 - 160	30
4-Chlorotoluene	ND	1.0	88	88	0.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	85	90	5.7				40 - 160	30
Acetone	ND	5.0	85	74	13.8				40 - 160	30
Benzene	ND	0.70	87	85	2.3				70 - 130	30
Bromobenzene	ND	1.0	83	84	1.2				70 - 130	30
Bromochloromethane	ND	1.0	87	90	3.4				70 - 130	30
Bromodichloromethane	ND	0.50	97	97	0.0				70 - 130	30
Bromoform	ND	1.0	102	101	1.0				70 - 130	30
Bromomethane	ND	1.0	179	171	4.6				40 - 160	30
Carbon Disulfide	ND	1.0	101	99	2.0				70 - 130	30

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Carbon tetrachloride	ND	1.0	95	91	4.3				70 - 130	30
Chlorobenzene	ND	1.0	87	89	2.3				70 - 130	30
Chloroethane	ND	1.0	112	110	1.8				70 - 130	30
Chloroform	ND	1.0	97	91	6.4				70 - 130	30
Chloromethane	ND	1.0	99	98	1.0				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	88	86	2.3				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	89	92	3.3				70 - 130	30
Dibromochloromethane	ND	0.50	98	97	1.0				70 - 130	30
Dibromomethane	ND	1.0	92	99	7.3				70 - 130	30
Dichlorodifluoromethane	ND	1.0	129	121	6.4				40 - 160	30
Ethyl ether	ND	1.0	91	83	9.2				70 - 130	30
Ethylbenzene	ND	1.0	89	89	0.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	97	93	4.2				70 - 130	30
Isopropylbenzene	ND	1.0	86	83	3.6				70 - 130	30
m&p-Xylene	ND	1.0	89	85	4.6				70 - 130	30
Methyl ethyl ketone	ND	5.0	100	99	1.0				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	89	93	4.4				70 - 130	30
Methylene chloride	ND	1.0	80	79	1.3				70 - 130	30
Naphthalene	ND	1.0	84	88	4.7				70 - 130	30
n-Butylbenzene	ND	1.0	89	86	3.4				70 - 130	30
n-Propylbenzene	ND	1.0	87	83	4.7				70 - 130	30
o-Xylene	ND	1.0	91	89	2.2				70 - 130	30
p-Isopropyltoluene	ND	1.0	89	83	7.0				70 - 130	30
sec-Butylbenzene	ND	1.0	94	91	3.2				70 - 130	30
Styrene	ND	1.0	90	91	1.1				70 - 130	30
tert-Butylbenzene	ND	1.0	87	85	2.3				70 - 130	30
Tetrachloroethene	ND	1.0	87	88	1.1				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	86	96	11.0				70 - 130	30
Toluene	ND	1.0	88	90	2.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	83	83	0.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	91	97	6.4				70 - 130	30
Trichloroethene	ND	1.0	84	89	5.8				70 - 130	30
Trichlorofluoromethane	ND	1.0	123	119	3.3				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	94	92	2.2				70 - 130	30
Vinyl chloride	ND	1.0	115	108	6.3				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	98	97	1.0				70 - 130	30
% Bromofluorobenzene	101	%	105	107	1.9				70 - 130	30
% Dibromofluoromethane	106	%	99	101	2.0				70 - 130	30
% Toluene-d8	100	%	99	99	0.0				70 - 130	30

Comment:

The MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499270 (ug/L), QC Sample No: CE13437 (CE13433 (20X) , CE13434 (100X) , CE13435 (100X) , CE13436 (200X) , CE13437, CE13438, CE13439, CE13441 (5X) , CE13442 (5X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	100	101	1.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	93	94	1.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	109	112	2.7				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	103	102	1.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	97	99	2.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	99	99	0.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	93	94	1.1				70 - 130	30

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,3-Trichlorobenzene	ND	1.0	101	106	4.8				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	102	106	3.8				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	100	105	4.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	95	98	3.1				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	109	122	11.3				70 - 130	30
1,2-Dibromoethane	ND	1.0	105	103	1.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	99	102	3.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	100	99	1.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	102	104	1.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	97	3.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	97	100	3.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	105	104	1.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	98	99	1.0				70 - 130	30
1,4-dioxane	ND	100	100	102	2.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	101	103	2.0				70 - 130	30
2-Chlorotoluene	ND	1.0	93	98	5.2				70 - 130	30
2-Hexanone	ND	5.0	89	91	2.2				40 - 160	30
4-Chlorotoluene	ND	1.0	93	96	3.2				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	96	94	2.1				40 - 160	30
Acetone	ND	5.0	106	82	25.5				40 - 160	30
Benzene	ND	0.70	99	101	2.0				70 - 130	30
Bromobenzene	ND	1.0	97	99	2.0				70 - 130	30
Bromochloromethane	ND	1.0	103	103	0.0				70 - 130	30
Bromodichloromethane	ND	0.50	104	105	1.0				70 - 130	30
Bromoform	ND	1.0	113	114	0.9				70 - 130	30
Bromomethane	ND	1.0	116	127	9.1				40 - 160	30
Carbon Disulfide	ND	1.0	99	100	1.0				70 - 130	30
Carbon tetrachloride	ND	1.0	92	94	2.2				70 - 130	30
Chlorobenzene	ND	1.0	96	98	2.1				70 - 130	30
Chloroethane	ND	1.0	109	110	0.9				70 - 130	30
Chloroform	ND	1.0	101	104	2.9				70 - 130	30
Chloromethane	ND	1.0	103	107	3.8				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	98	99	1.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	107	106	0.9				70 - 130	30
Dibromochloromethane	ND	0.50	111	110	0.9				70 - 130	30
Dibromomethane	ND	1.0	105	106	0.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	109	113	3.6				40 - 160	30
Ethyl ether	ND	1.0	103	102	1.0				70 - 130	30
Ethylbenzene	ND	1.0	95	96	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	92	100	8.3				70 - 130	30
Isopropylbenzene	ND	1.0	94	96	2.1				70 - 130	30
m&p-Xylene	ND	1.0	95	96	1.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	94	101	7.2				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	88	88	0.0				70 - 130	30
Methylene chloride	ND	1.0	119	118	0.8				70 - 130	30
Naphthalene	ND	1.0	107	113	5.5				70 - 130	30
n-Butylbenzene	ND	1.0	97	100	3.0				70 - 130	30
n-Propylbenzene	ND	1.0	94	98	4.2				70 - 130	30
o-Xylene	ND	1.0	98	99	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	95	98	3.1				70 - 130	30
sec-Butylbenzene	ND	1.0	100	103	3.0				70 - 130	30
Styrene	ND	1.0	97	99	2.0				70 - 130	30
tert-Butylbenzene	ND	1.0	95	96	1.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrachloroethene	ND	1.0	96	96	0.0				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	95	91	4.3				70 - 130	30
Toluene	ND	1.0	97	99	2.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	97	97	0.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	108	109	0.9				70 - 130	30
Trichloroethene	ND	1.0	94	97	3.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	101	104	2.9				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	82	84	2.4				70 - 130	30
Vinyl chloride	ND	1.0	100	103	3.0				70 - 130	30
% 1,2-dichlorobenzene-d4	95	%	101	103	2.0				70 - 130	30
% Bromofluorobenzene	97	%	99	99	0.0				70 - 130	30
% Dibromofluoromethane	102	%	95	102	7.1				70 - 130	30
% Toluene-d8	91	%	102	100	2.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499302 (ug/L), QC Sample No: CE13451 (CE13447 (200X) , CE13451, CE13452, CE13454, CE13455, CE13456, CE13457, CE13458)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	104	1.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	104	108	3.8				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	107	108	0.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	102	101	1.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	104	105	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	106	106	0.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	97	97	0.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	109	120	9.6				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	98	99	1.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	106	108	1.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	97	97	0.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	113	121	6.8				70 - 130	30
1,2-Dibromoethane	ND	1.0	102	100	2.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	101	103	2.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	100	101	1.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	105	106	0.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	96	98	2.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	99	101	2.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	103	102	1.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	99	100	1.0				70 - 130	30
1,4-dioxane	ND	100	102	102	0.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	103	104	1.0				70 - 130	30
2-Chlorotoluene	ND	1.0	98	100	2.0				70 - 130	30
2-Hexanone	ND	5.0	111	112	0.9				40 - 160	30
4-Chlorotoluene	ND	1.0	98	97	1.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	114	115	0.9				40 - 160	30
Acetone	ND	5.0	99	128	25.6				40 - 160	30
Benzene	ND	0.70	82	82	0.0				70 - 130	30
Bromobenzene	ND	1.0	104	103	1.0				70 - 130	30
Bromochloromethane	ND	1.0	108	110	1.8				70 - 130	30
Bromodichloromethane	ND	0.50	107	106	0.9				70 - 130	30
Bromoform	ND	1.0	113	112	0.9				70 - 130	30
Bromomethane	ND	1.0	129	132	2.3				40 - 160	30

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Carbon Disulfide	ND	1.0	105	108	2.8				70 - 130	30	
Carbon tetrachloride	ND	1.0	108	113	4.5				70 - 130	30	
Chlorobenzene	ND	1.0	99	98	1.0				70 - 130	30	
Chloroethane	ND	1.0	115	116	0.9				70 - 130	30	
Chloroform	ND	1.0	101	104	2.9				70 - 130	30	
Chloromethane	ND	1.0	115	119	3.4				40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	102	106	3.8				70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	105	105	0.0				70 - 130	30	
Dibromochloromethane	ND	0.50	113	111	1.8				70 - 130	30	
Dibromomethane	ND	1.0	102	103	1.0				70 - 130	30	
Dichlorodifluoromethane	ND	1.0	117	123	5.0				40 - 160	30	
Ethyl ether	ND	1.0	108	110	1.8				70 - 130	30	
Ethylbenzene	ND	1.0	98	99	1.0				70 - 130	30	
Hexachlorobutadiene	ND	0.40	100	102	2.0				70 - 130	30	
Isopropylbenzene	ND	1.0	97	95	2.1				70 - 130	30	
m&p-Xylene	ND	1.0	97	97	0.0				70 - 130	30	
Methyl ethyl ketone	ND	5.0	122	142	15.2				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	112	115	2.6				70 - 130	30	
Methylene chloride	ND	1.0	101	104	2.9				70 - 130	30	
Naphthalene	ND	1.0	112	118	5.2				70 - 130	30	
n-Butylbenzene	ND	1.0	97	99	2.0				70 - 130	30	
n-Propylbenzene	ND	1.0	97	99	2.0				70 - 130	30	
o-Xylene	ND	1.0	100	100	0.0				70 - 130	30	
p-Isopropyltoluene	ND	1.0	94	97	3.1				70 - 130	30	
sec-Butylbenzene	ND	1.0	100	101	1.0				70 - 130	30	
Styrene	ND	1.0	97	98	1.0				70 - 130	30	
tert-Butylbenzene	ND	1.0	96	97	1.0				70 - 130	30	
Tetrachloroethene	ND	1.0	100	102	2.0				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	99	106	6.8				70 - 130	30	
Toluene	ND	1.0	101	102	1.0				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	107	110	2.8				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	104	105	1.0				70 - 130	30	
Trichloroethene	ND	1.0	101	103	2.0				70 - 130	30	
Trichlorofluoromethane	ND	1.0	110	119	7.9				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	109	113	3.6				70 - 130	30	
Vinyl chloride	ND	1.0	109	112	2.7				70 - 130	30	
% 1,2-dichlorobenzene-d4	98	%	101	100	1.0				70 - 130	30	
% Bromofluorobenzene	97	%	100	101	1.0				70 - 130	30	
% Dibromofluoromethane	100	%	103	99	4.0				70 - 130	30	
% Toluene-d8	91	%	103	102	1.0				70 - 130	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499283 (ug/L), QC Sample No: CE14415 (CE13440 (2X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	106	2.9	101	112	10.3	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	97	97	0.0	106	117	9.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	119	117	1.7	111	118	6.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	109	110	0.9	112	120	6.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0	106	105	0.9	109	114	4.5	70 - 130	30	
1,1-Dichloroethene	ND	1.0	104	100	3.9	117	122	4.2	70 - 130	30	
1,1-Dichloropropene	ND	1.0	112	99	12.3	114	133	15.4	70 - 130	30	m

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,3-Trichlorobenzene	ND	1.0	111	111	0.0	97	109	11.7	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	109	109	0.0	102	108	5.7	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	104	106	1.9	93	105	12.1	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	101	99	2.0	97	106	8.9	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	121	123	1.6	105	102	2.9	70 - 130	30
1,2-Dibromoethane	ND	1.0	110	107	2.8	105	111	5.6	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	105	103	1.9	99	108	8.7	70 - 130	30
1,2-Dichloroethane	ND	1.0	105	106	0.9	101	106	4.8	70 - 130	30
1,2-Dichloropropane	ND	1.0	110	110	0.0	106	113	6.4	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	99	97	2.0	97	107	9.8	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	102	101	1.0	97	105	7.9	70 - 130	30
1,3-Dichloropropane	ND	1.0	110	109	0.9	108	113	4.5	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	103	102	1.0	97	108	10.7	70 - 130	30
1,4-dioxane	ND	100	110	100	9.5	97	106	8.9	40 - 160	30
2,2-Dichloropropane	ND	1.0	104	105	1.0	107	113	5.5	70 - 130	30
2-Chlorotoluene	ND	1.0	101	99	2.0	97	107	9.8	70 - 130	30
2-Hexanone	ND	5.0	97	97	0.0	91	94	3.2	40 - 160	30
4-Chlorotoluene	ND	1.0	99	98	1.0	96	107	10.8	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	103	103	0.0	95	100	5.1	40 - 160	30
Acetone	ND	5.0	93	88	5.5	99	98	1.0	40 - 160	30
Benzene	ND	0.70	104	106	1.9	106	115	8.1	70 - 130	30
Bromobenzene	ND	1.0	101	101	0.0	96	105	9.0	70 - 130	30
Bromochloromethane	ND	1.0	112	110	1.8	107	111	3.7	70 - 130	30
Bromodichloromethane	ND	0.50	111	111	0.0	101	113	11.2	70 - 130	30
Bromoform	ND	1.0	112	112	0.0	99	110	10.5	70 - 130	30
Bromomethane	ND	1.0	135	139	2.9	101	135	28.8	40 - 160	30
Carbon Disulfide	ND	1.0	107	108	0.9	115	121	5.1	70 - 130	30
Carbon tetrachloride	ND	1.0	96	95	1.0	102	115	12.0	70 - 130	30
Chlorobenzene	ND	1.0	101	100	1.0	102	108	5.7	70 - 130	30
Chloroethane	ND	1.0	117	117	0.0	122	128	4.8	70 - 130	30
Chloroform	ND	1.0	108	110	1.8	101	115	13.0	70 - 130	30
Chloromethane	ND	1.0	110	111	0.9	99	105	5.9	40 - 160	30
cis-1,3-Dichloropropene	ND	0.40	111	112	0.9	103	113	9.3	70 - 130	30
Dibromochloromethane	ND	0.50	113	117	3.5	105	117	10.8	70 - 130	30
Dibromomethane	ND	1.0	111	113	1.8	104	112	7.4	70 - 130	30
Dichlorodifluoromethane	ND	1.0	106	106	0.0	100	109	8.6	40 - 160	30
Ethyl ether	ND	1.0	112	114	1.8	104	104	0.0	70 - 130	30
Ethylbenzene	ND	1.0	96	98	2.1	101	111	9.4	70 - 130	30
Hexachlorobutadiene	ND	0.40	95	104	9.0	94	108	13.9	70 - 130	30
Isopropylbenzene	ND	1.0	99	97	2.0	98	109	10.6	70 - 130	30
m&p-Xylene	ND	1.0	98	98	0.0	103	109	5.7	70 - 130	30
Methyl ethyl ketone	ND	5.0	123	112	9.4	105	118	11.7	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	93	94	1.1	88	92	4.4	70 - 130	30
Methylene chloride	ND	1.0	106	105	0.9	101	105	3.9	70 - 130	30
Naphthalene	ND	1.0	116	115	0.9	99	113	13.2	70 - 130	30
n-Butylbenzene	ND	1.0	104	102	1.9	96	110	13.6	70 - 130	30
n-Propylbenzene	ND	1.0	101	99	2.0	98	109	10.6	70 - 130	30
o-Xylene	ND	1.0	100	100	0.0	102	109	6.6	70 - 130	30
p-Isopropyltoluene	ND	1.0	101	100	1.0	97	108	10.7	70 - 130	30
sec-Butylbenzene	ND	1.0	107	105	1.9	102	115	12.0	70 - 130	30
Styrene	ND	1.0	101	101	0.0	100	108	7.7	70 - 130	30
tert-Butylbenzene	ND	1.0	101	98	3.0	92	102	10.3	70 - 130	30
Tetrachloroethene	ND	1.0	96	99	3.1	98	111	12.4	70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Tetrahydrofuran (THF)	ND	2.5	104	106	1.9	96	97	1.0	70 - 130	30	
Toluene	ND	1.0	101	102	1.0	101	112	10.3	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	105	104	1.0	111	117	5.3	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	113	113	0.0	101	111	9.4	70 - 130	30	
Trichloroethene	ND	1.0	97	99	2.0	99	110	10.5	70 - 130	30	
Trichlorofluoromethane	ND	1.0	101	100	1.0	120	131	8.8	70 - 130	30	m
Trichlorotrifluoroethane	ND	1.0	83	84	1.2	97	106	8.9	70 - 130	30	
Vinyl chloride	ND	1.0	105	106	0.9	109	114	4.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	103	102	1.0	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	96	%	100	101	1.0	102	101	1.0	70 - 130	30	
% Dibromofluoromethane	108	%	99	103	4.0	93	98	5.2	70 - 130	30	
% Toluene-d8	92	%	101	103	2.0	103	104	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499703 (ug/L), QC Sample No: CE15186 (CE13446 (5X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	101	100	1.0	109	111	1.8	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	90	88	2.2	104	105	1.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	108	105	2.8	108	112	3.6	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	98	96	2.1	102	107	4.8	70 - 130	30	
1,1-Dichloroethane	ND	1.0	94	94	0.0	98	100	2.0	70 - 130	30	
1,1-Dichloroethene	ND	1.0	89	89	0.0	98	96	2.1	70 - 130	30	
1,1-Dichloropropene	ND	1.0	82	78	5.0	101	102	1.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	132	135	2.2	142	142	0.0	70 - 130	30	l,m
1,2,3-Trichloropropane	ND	1.0	98	96	2.1	97	102	5.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	114	110	3.6	118	109	7.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	92	91	1.1	99	95	4.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	118	117	0.9	118	121	2.5	70 - 130	30	
1,2-Dibromoethane	ND	1.0	101	96	5.1	100	107	6.8	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	99	98	1.0	105	103	1.9	70 - 130	30	
1,2-Dichloroethane	ND	1.0	97	97	0.0	100	109	8.6	70 - 130	30	
1,2-Dichloropropane	ND	1.0	98	96	2.1	102	108	5.7	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	91	1.1	100	95	5.1	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	95	95	0.0	103	98	5.0	70 - 130	30	
1,3-Dichloropropane	ND	1.0	101	98	3.0	100	106	5.8	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	95	96	1.0	103	97	6.0	70 - 130	30	
1,4-dioxane	ND	100	93	92	1.1	93	115	21.2	40 - 160	30	
2,2-Dichloropropane	ND	1.0	95	93	2.1	99	100	1.0	70 - 130	30	
2-Chlorotoluene	ND	1.0	95	92	3.2	102	98	4.0	70 - 130	30	
2-Hexanone	ND	5.0	98	97	1.0	97	103	6.0	40 - 160	30	
4-Chlorotoluene	ND	1.0	93	92	1.1	100	95	5.1	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	102	99	3.0	102	109	6.6	40 - 160	30	
Acetone	ND	5.0	93	100	7.3	89	95	6.5	40 - 160	30	
Benzene	ND	0.70	93	92	1.1	101	104	2.9	70 - 130	30	
Bromobenzene	ND	1.0	96	95	1.0	105	105	0.0	70 - 130	30	
Bromochloromethane	ND	1.0	98	93	5.2	96	100	4.1	70 - 130	30	
Bromodichloromethane	ND	0.50	101	100	1.0	108	116	7.1	70 - 130	30	
Bromoform	ND	1.0	112	112	0.0	109	112	2.7	70 - 130	30	
Bromomethane	ND	1.0	115	113	1.8	77	82	6.3	40 - 160	30	
Carbon Disulfide	ND	1.0	85	83	2.4	88	88	0.0	70 - 130	30	
Carbon tetrachloride	ND	1.0	87	90	3.4	106	105	0.9	70 - 130	30	
Chlorobenzene	ND	1.0	96	95	1.0	103	104	1.0	70 - 130	30	

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Chloroethane	ND	1.0	93	94	1.1	110	112	1.8	70 - 130	30	
Chloroform	ND	1.0	100	100	0.0	95	98	3.1	70 - 130	30	
Chloromethane	ND	1.0	97	97	0.0	95	94	1.1	40 - 160	30	
cis-1,3-Dichloropropene	ND	0.40	103	100	3.0	102	108	5.7	70 - 130	30	
Dibromochloromethane	ND	0.50	106	105	0.9	109	119	8.8	70 - 130	30	
Dibromomethane	ND	1.0	100	100	0.0	105	112	6.5	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	98	98	0.0	104	84	21.3	40 - 160	30	
Ethyl ether	ND	1.0	98	97	1.0	90	94	4.3	70 - 130	30	
Ethylbenzene	ND	1.0	94	93	1.1	102	101	1.0	70 - 130	30	
Hexachlorobutadiene	ND	0.40	97	101	4.0	113	98	14.2	70 - 130	30	
Isopropylbenzene	ND	1.0	91	91	0.0	101	100	1.0	70 - 130	30	
m&p-Xylene	ND	1.0	92	92	0.0	100	97	3.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	107	106	0.9	126	121	4.0	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	109	104	4.7	103	110	6.6	70 - 130	30	
Methylene chloride	ND	1.0	89	86	3.4	86	88	2.3	70 - 130	30	
Naphthalene	ND	1.0	120	126	4.9	128	133	3.8	70 - 130	30	m
n-Butylbenzene	ND	1.0	95	95	0.0	106	95	10.9	70 - 130	30	
n-Propylbenzene	ND	1.0	92	91	1.1	103	96	7.0	70 - 130	30	
o-Xylene	ND	1.0	96	96	0.0	105	104	1.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	93	92	1.1	104	95	9.0	70 - 130	30	
sec-Butylbenzene	ND	1.0	98	97	1.0	110	104	5.6	70 - 130	30	
Styrene	ND	1.0	97	96	1.0	103	102	1.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	93	91	2.2	104	101	2.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	95	95	0.0	87	89	2.3	70 - 130	30	
Toluene	ND	1.0	95	93	2.1	104	108	3.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	93	91	2.2	98	98	0.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	106	104	1.9	104	110	5.6	70 - 130	30	
Trichlorofluoromethane	ND	1.0	90	88	2.2	106	95	10.9	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	82	84	2.4	98	83	16.6	70 - 130	30	
Vinyl chloride	ND	1.0	89	89	0.0	92	92	0.0	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	103	103	0.0	104	105	1.0	70 - 130	30	
% Bromofluorobenzene	100	%	103	100	3.0	102	103	1.0	70 - 130	30	
% Dibromofluoromethane	105	%	102	105	2.9	97	99	2.0	70 - 130	30	
% Toluene-d8	91	%	101	98	3.0	99	102	3.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 506526 (ug/L), QC Sample No: CE15268 (CE13443, CE13444, CE13447 (20X) , CE13448 (50X) , CE13449 (50X) , CE13450 (50X) , CE13457 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	118	101	15.5				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	118	98	18.5				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	114	102	11.1				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	98	93	5.2				70 - 130	30	
1,1-Dichloroethane	ND	1.0	114	97	16.1				70 - 130	30	
1,1-Dichloroethene	ND	1.0	107	94	12.9				70 - 130	30	
1,1-Dichloropropene	ND	1.0	107	94	12.9				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	101	93	8.2				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	103	98	5.0				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	110	96	13.6				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	108	96	11.8				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	106	89	17.4				70 - 130	30	
1,2-Dibromoethane	ND	1.0	110	100	9.5				70 - 130	30	

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2-Dichlorobenzene	ND	1.0	106	94	12.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	117	109	7.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	110	98	11.5				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	111	97	13.5				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	108	94	13.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	111	99	11.4				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	106	95	10.9				70 - 130	30
1,4-dioxane	ND	100	103	95	8.1				40 - 160	30
2,2-Dichloropropane	ND	1.0	128	105	19.7				70 - 130	30
2-Chlorotoluene	ND	1.0	106	93	13.1				70 - 130	30
2-Hexanone	ND	5.0	95	76	22.2				40 - 160	30
4-Chlorotoluene	ND	1.0	107	96	10.8				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	91	84	8.0				40 - 160	30
Acetone	ND	5.0	86	86	0.0				40 - 160	30
Benzene	ND	0.70	107	97	9.8				70 - 130	30
Bromobenzene	ND	1.0	103	95	8.1				70 - 130	30
Bromochloromethane	ND	1.0	105	98	6.9				70 - 130	30
Bromodichloromethane	ND	0.50	117	105	10.8				70 - 130	30
Bromoform	ND	1.0	128	116	9.8				70 - 130	30
Bromomethane	ND	1.0	188	169	10.6				40 - 160	30
Carbon Disulfide	ND	1.0	106	89	17.4				70 - 130	30
Carbon tetrachloride	ND	1.0	119	97	20.4				70 - 130	30
Chlorobenzene	ND	1.0	111	96	14.5				70 - 130	30
Chloroethane	ND	1.0	118	100	16.5				70 - 130	30
Chloroform	ND	1.0	116	97	17.8				70 - 130	30
Chloromethane	ND	1.0	101	92	9.3				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	107	92	15.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	110	100	9.5				70 - 130	30
Dibromochloromethane	ND	0.50	130	106	20.3				70 - 130	30
Dibromomethane	ND	1.0	115	105	9.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	130	106	20.3				40 - 160	30
Ethyl ether	ND	1.0	95	87	8.8				70 - 130	30
Ethylbenzene	ND	1.0	112	95	16.4				70 - 130	30
Hexachlorobutadiene	ND	0.40	116	103	11.9				70 - 130	30
Isopropylbenzene	ND	1.0	109	94	14.8				70 - 130	30
m&p-Xylene	ND	1.0	112	94	17.5				70 - 130	30
Methyl ethyl ketone	ND	5.0	99	92	7.3				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	89	77	14.5				70 - 130	30
Methylene chloride	ND	1.0	115	109	5.4				70 - 130	30
Naphthalene	ND	1.0	103	94	9.1				70 - 130	30
n-Butylbenzene	ND	1.0	109	95	13.7				70 - 130	30
n-Propylbenzene	ND	1.0	106	92	14.1				70 - 130	30
o-Xylene	ND	1.0	115	97	17.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	109	94	14.8				70 - 130	30
sec-Butylbenzene	ND	1.0	116	98	16.8				70 - 130	30
Styrene	ND	1.0	114	98	15.1				70 - 130	30
tert-Butylbenzene	ND	1.0	109	95	13.7				70 - 130	30
Tetrachloroethene	ND	1.0	108	96	11.8				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	100	87	13.9				70 - 130	30
Toluene	ND	1.0	107	98	8.8				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	111	94	16.6				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	114	105	8.2				70 - 130	30
Trichloroethene	ND	1.0	107	96	10.8				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Trichlorofluoromethane	ND	1.0	125	106	16.5				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	97	82	16.8				70 - 130	30
Vinyl chloride	ND	1.0	118	103	13.6				70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	97	101	4.0				70 - 130	30
% Bromofluorobenzene	100	%	108	107	0.9				70 - 130	30
% Dibromofluoromethane	99	%	98	96	2.1				70 - 130	30
% Toluene-d8	100	%	99	101	2.0				70 - 130	30

Comment:

The MS/MSD are not reported for this batch.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498690 (ug/L), QC Sample No: CE17705 (CE13443 (20X) , CE13444 (20X) , CE13446 (20X) , CE13448 (400X) , CE13449 (400X) , CE13450 (400X))

Volatiles - Ground Water

cis-1,2-Dichloroethene	ND	1.0	98	107	8.8				70 - 130	30
Tetrachloroethene	ND	1.0	103	107	3.8				70 - 130	30
Trichloroethene	ND	1.0	103	103	0.0				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	102	100	2.0				70 - 130	30
% Bromofluorobenzene	102	%	105	106	0.9				70 - 130	30
% Dibromofluoromethane	102	%	110	106	3.7				70 - 130	30
% Toluene-d8	99	%	100	101	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499279 (ug/L), QC Sample No: CE19546 (CE13445)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	96	100	4.1				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	96	98	2.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	110	9.5				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	90	104	14.4				70 - 130	30
1,1-Dichloroethane	ND	1.0	96	100	4.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	107	108	0.9				70 - 130	30
1,1-Dichloropropene	ND	1.0	100	107	6.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	91	103	12.4				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	92	103	11.3				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	91	99	8.4				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	94	95	1.1				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	94	110	15.7				70 - 130	30
1,2-Dibromoethane	ND	1.0	94	104	10.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	94	99	5.2				70 - 130	30
1,2-Dichloroethane	ND	1.0	91	100	9.4				70 - 130	30
1,2-Dichloropropane	ND	1.0	94	104	10.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	92	95	3.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	96	104	8.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	93	97	4.2				70 - 130	30
1,4-dioxane	ND	100	101	98	3.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	100	102	2.0				70 - 130	30
2-Chlorotoluene	ND	1.0	94	95	1.1				70 - 130	30
2-Hexanone	ND	5.0	87	99	12.9				40 - 160	30
4-Chlorotoluene	ND	1.0	93	94	1.1				70 - 130	30

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
4-Methyl-2-pentanone	ND	5.0	90	107	17.3				40 - 160	30
Acetone	ND	5.0	106	117	9.9				40 - 160	30
Benzene	ND	0.70	97	103	6.0				70 - 130	30
Bromobenzene	ND	1.0	93	96	3.2				70 - 130	30
Bromochloromethane	ND	1.0	97	108	10.7				70 - 130	30
Bromodichloromethane	ND	0.50	94	103	9.1				70 - 130	30
Bromoform	ND	1.0	92	104	12.2				70 - 130	30
Bromomethane	ND	1.0	151	155	2.6				40 - 160	30
Carbon Disulfide	ND	1.0	119	123	3.3				70 - 130	30
Carbon tetrachloride	ND	1.0	96	101	5.1				70 - 130	30
Chlorobenzene	ND	1.0	94	97	3.1				70 - 130	30
Chloroethane	ND	1.0	126	126	0.0				70 - 130	30
Chloroform	ND	1.0	90	96	6.5				70 - 130	30
Chloromethane	ND	1.0	123	127	3.2				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	96	101	5.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	95	106	10.9				70 - 130	30
Dibromochloromethane	ND	0.50	99	108	8.7				70 - 130	30
Dibromomethane	ND	1.0	92	107	15.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	170	172	1.2				40 - 160	30
Ethyl ether	ND	1.0	89	107	18.4				70 - 130	30
Ethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	99	100	1.0				70 - 130	30
Isopropylbenzene	ND	1.0	93	96	3.2				70 - 130	30
m&p-Xylene	ND	1.0	95	96	1.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	91	114	22.4				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	88	103	15.7				70 - 130	30
Methylene chloride	ND	1.0	95	100	5.1				70 - 130	30
Naphthalene	ND	1.0	96	106	9.9				70 - 130	30
n-Butylbenzene	ND	1.0	95	101	6.1				70 - 130	30
n-Propylbenzene	ND	1.0	94	97	3.1				70 - 130	30
o-Xylene	ND	1.0	95	97	2.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	92	96	4.3				70 - 130	30
sec-Butylbenzene	ND	1.0	97	104	7.0				70 - 130	30
Styrene	ND	1.0	91	96	5.3				70 - 130	30
tert-Butylbenzene	ND	1.0	92	97	5.3				70 - 130	30
Tetrachloroethene	ND	1.0	93	99	6.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	88	104	16.7				70 - 130	30
Toluene	ND	1.0	95	100	5.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	99	103	4.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	93	104	11.2				70 - 130	30
Trichloroethene	ND	1.0	92	98	6.3				70 - 130	30
Trichlorofluoromethane	ND	1.0	126	129	2.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	102	107	4.8				70 - 130	30
Vinyl chloride	ND	1.0	126	127	0.8				70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	97	101	4.0				70 - 130	30
% Bromofluorobenzene	94	%	96	98	2.1				70 - 130	30
% Dibromofluoromethane	99	%	90	97	7.5				70 - 130	30
% Toluene-d8	92	%	102	102	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Data

SDG I.D.: GCE13428

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498248 (ug/L), QC Sample No: CE14415 (CE13429, CE13430, CE13432, CE13441)										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	100	104	3.9	97	100	3.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	100	104	3.9	93	96	3.2	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	97	102	5.0	106	111	4.6	70 - 130	20
Benzene	ND	1.0	92	96	4.3	94	98	4.2	70 - 130	20
Ethyl Benzene	ND	1.0	93	98	5.2	95	101	6.1	70 - 130	20
MTBE	ND	1.0	95	99	4.1	92	95	3.2	70 - 130	20
Naphthalene	ND	5.0	94	99	5.2	92	95	3.2	70 - 130	20
Toluene	ND	1.0	91	96	5.3	93	98	5.2	70 - 130	20
m,p-Xylenes	ND	2.0	93	98	5.2	95	100	5.1	70 - 130	20
o-Xylene	ND	1.0	91	96	5.3	92	97	5.3	70 - 130	20
% 2,5-Dibromotoluene (PID)	93	%	96	96	0.0	94	91	3.2	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										
QA/QC Batch 498859 (ug/L), QC Sample No: CE17313 (CE13448)										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	81	86	6.0	83	89	7.0	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	87	95	8.8	89	96	7.6	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	81	86	6.0	83	89	7.0	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	87	95	8.8	85	92	7.9	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	90	96	6.5	88	97	9.7	70 - 130	20
Benzene	ND	1.0	84	89	5.8	83	91	9.2	70 - 130	20
Ethyl Benzene	ND	1.0	84	91	8.0	84	92	9.1	70 - 130	20
MTBE	ND	1.0	90	93	3.3	88	97	9.7	70 - 130	20
Naphthalene	ND	5.0	92	98	6.3	92	100	8.3	70 - 130	20
Toluene	ND	1.0	83	89	7.0	83	91	9.2	70 - 130	20
m,p-Xylenes	ND	2.0	85	91	6.8	85	93	9.0	70 - 130	20
o-Xylene	ND	1.0	84	90	6.9	84	92	9.1	70 - 130	20
% 2,5-Dibromotoluene (PID)	108	%	102	100	2.0	100	101	1.0	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 18, 2020

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13428	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13428	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13428	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13428	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13428	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13428	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13428	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13428	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13429	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13429	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13429	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13429	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13429	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13429	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13429	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13429	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13429	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.182	0.004	0.01	0.01	mg/L
CE13429	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.182	0.004	0.01	0.01	mg/L
CE13429	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.182	0.004	0.01	0.01	mg/L
CE13429	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.168	0.004	0.01	0.01	mg/L
CE13429	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.168	0.004	0.01	0.01	mg/L
CE13429	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.168	0.004	0.01	0.01	mg/L
CE13429	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	28.5	0.011	14	14	mg/L
CE13429	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.80	0.001	0.43	0.43	mg/L
CE13429	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED WILMINGTO	28.8	0.010	14	14	mg/L
CE13429	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.83	0.001	0.43	0.43	mg/L
CE13430	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	24	1.0	5	5	ug/L
CE13430	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13430	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13430	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13430	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	23	1.0	2	2	ug/L
CE13430	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	130	20	20	20	ug/L
CE13430	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	55	20	5	5	ug/L
CE13430	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	2	2	ug/L
CE13430	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	2	2	ug/L
CE13430	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	55	20	5	5	ug/L
CE13430	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	24	1.0	5	5	ug/L
CE13430	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	20	20	20	ug/L
CE13430	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13430	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	24	1.0	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13430	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	55	20	5	5	ug/L
CE13430	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13430	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	23	1.0	2	2	ug/L
CE13430	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	20	70	70	ug/L
CE13430	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.0	0.20	0.3	0.3	ug/l
CE13430	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.0	0.20	0.3	0.3	ug/l
CE13430	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13431	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13431	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13431	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13431	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.6	0.6	ug/L
CE13431	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	8.3	8.3	ug/L
CE13431	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE13431	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L
CE13431	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13431	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	210	100	20	20	ug/L
CE13431	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	4	4	ug/L
CE13431	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE13431	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	93	70	70	70	ug/L
CE13431	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13431	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L
CE13431	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	5100	400	5	5	ug/L
CE13431	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13431	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE13431	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	6700	400	5	5	ug/L
CE13431	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13431	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13431	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	210	100	20	20	ug/L
CE13431	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13431	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	6700	400	5	5	ug/L
CE13431	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13431	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE13431	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5100	400	5	5	ug/L
CE13431	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13431	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE13431	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE13431	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13431	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13431	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	93	70	70	70	ug/L
CE13431	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE13431	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	5100	400	5	5	ug/L
CE13431	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	93	70	70	70	ug/L
CE13431	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE13431	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	6700	400	5	5	ug/L
CE13431	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE13431	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE13431	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE13431	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE13431	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE13431	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13431	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	210	100	70	70	ug/L
CE13431	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13431	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	4000	0.3	0.3	ug/l
CE13431	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	4000	3	3	ug/l

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13431	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE13432	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	360	20	20	20	ug/L
CE13432	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1400	400	5	5	ug/L
CE13432	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13432	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13432	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	4	4	ug/L
CE13432	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13432	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13432	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	8.3	8.3	ug/L
CE13432	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.6	0.6	ug/L
CE13432	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13432	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13432	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	23	20	2	2	ug/L
CE13432	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13432	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13432	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	870	400	5	5	ug/L
CE13432	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE13432	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE13432	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE13432	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13432	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	870	400	5	5	ug/L
CE13432	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13432	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1400	400	5	5	ug/L
CE13432	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE13432	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE13432	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	20	2	2	ug/L
CE13432	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	20	2	2	ug/L
CE13432	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13432	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	360	20	20	20	ug/L
CE13432	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE13432	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE13432	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE13432	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13432	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13432	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1400	400	5	5	ug/L
CE13432	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE13432	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	23	20	2	2	ug/L
CE13432	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	870	400	5	5	ug/L
CE13432	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE13432	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE13432	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE13432	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13432	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	7	7	ug/L
CE13432	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	360	20	70	70	ug/L
CE13432	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13432	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	8.0	0.20	0.3	0.3	ug/l
CE13432	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	8.0	0.20	3	3	ug/l
CE13432	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	8.0	0.20	0.3	0.3	ug/l
CE13432	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	800	0.3	0.3	ug/l
CE13432	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED WILMINGTO	800	100	300	300	ug/L
CE13432	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	800	100	300	300	ug/L
CE13432	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	800	100	300	300	ug/L
CE13432	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2.48	0.021	0.43	0.43	mg/L
CE13432	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2.21	0.010	0.43	0.43	mg/L
CE13433	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13433	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13433	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.6	0.6	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13433	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13433	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	8.3	8.3	ug/L
CE13433	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE13433	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13433	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	330	20	20	20	ug/L
CE13433	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	4	4	ug/L
CE13433	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13433	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13433	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	100	20	2	2	ug/L
CE13433	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE13433	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3200	400	5	5	ug/L
CE13433	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE13433	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	77	20	70	70	ug/L
CE13433	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13433	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1700	400	5	5	ug/L
CE13433	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13433	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13433	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	20	2	2	ug/L
CE13433	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE13433	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3200	400	5	5	ug/L
CE13433	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1700	400	5	5	ug/L
CE13433	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	330	20	20	20	ug/L
CE13433	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	20	2	2	ug/L
CE13433	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE13433	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13433	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	20	10	7	7	ug/L
CE13433	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	77	20	70	70	ug/L
CE13433	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13433	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13433	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE13433	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13433	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE13433	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	3200	400	5	5	ug/L
CE13433	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	100	20	2	2	ug/L
CE13433	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1700	400	5	5	ug/L
CE13433	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	77	20	70	70	ug/L
CE13433	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	20	10	7	7	ug/L
CE13433	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE13433	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE13433	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13433	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	330	20	70	70	ug/L
CE13433	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13433	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE13433	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE13433	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	800	0.3	0.3	ug/l
CE13433	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	800	3	3	ug/l
CE13433	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	800	0.3	0.3	ug/l
CE13434	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13434	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13434	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13434	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13434	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.6	0.6	ug/L
CE13434	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	8.3	8.3	ug/L
CE13434	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L
CE13434	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE13434	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	700	100	20	20	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13434	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13434	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	4	4	ug/L
CE13434	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	7400	400	5	5	ug/L
CE13434	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE13434	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13434	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4100	400	5	5	ug/L
CE13434	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L
CE13434	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	140	100	70	70	ug/L
CE13434	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE13434	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	100	100	2	2	ug/L
CE13434	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13434	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	100	2	2	ug/L
CE13434	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	100	2	2	ug/L
CE13434	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	700	100	20	20	ug/L
CE13434	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7400	400	5	5	ug/L
CE13434	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13434	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE13434	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4100	400	5	5	ug/L
CE13434	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13434	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE13434	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13434	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13434	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	140	100	70	70	ug/L
CE13434	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE13434	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13434	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE13434	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7400	400	5	5	ug/L
CE13434	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	700	100	70	70	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13434	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE13434	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	140	100	70	70	ug/L
CE13434	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	4100	400	5	5	ug/L
CE13434	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	100	100	2	2	ug/L
CE13434	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE13434	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE13434	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE13434	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE13434	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13434	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE13434	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13434	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	43	1.0	0.3	0.3	ug/l
CE13434	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	43	1.0	3	3	ug/l
CE13434	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	43	1.0	0.3	0.3	ug/l
CE13434	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	4000	0.3	0.3	ug/l
CE13434	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE13435	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1100	100	20	20	ug/L
CE13435	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	9200	400	5	5	ug/L
CE13435	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13435	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13435	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	3	3	ug/L
CE13435	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	4	4	ug/L
CE13435	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13435	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L
CE13435	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	190	100	2	2	ug/L
CE13435	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.6	0.6	ug/L
CE13435	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	38	38	ug/L
CE13435	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.47	0.47	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13435	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	8.3	8.3	ug/L
CE13435	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	5500	400	5	5	ug/L
CE13435	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	120	100	70	70	ug/L
CE13435	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	7	7	ug/L
CE13435	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE13435	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE13435	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE13435	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13435	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE13435	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5500	400	5	5	ug/L
CE13435	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1100	100	20	20	ug/L
CE13435	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	120	100	70	70	ug/L
CE13435	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE13435	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	9200	400	5	5	ug/L
CE13435	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE13435	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	190	100	2	2	ug/L
CE13435	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13435	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	190	100	2	2	ug/L
CE13435	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13435	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE13435	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE13435	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE13435	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE13435	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE13435	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	190	100	2	2	ug/L
CE13435	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	5500	400	5	5	ug/L
CE13435	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	9200	400	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13435	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE13435	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE13435	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE13435	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE13435	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	120	100	70	70	ug/L
CE13435	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1100	100	70	70	ug/L
CE13435	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE13435	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE13435	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE13435	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	36	1.0	0.3	0.3	ug/l
CE13435	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	36	1.0	3	3	ug/l
CE13435	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	36	1.0	0.3	0.3	ug/l
CE13435	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	4000	0.3	0.3	ug/l
CE13435	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE13435	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.813	0.001	0.43	0.43	mg/L
CE13435	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.822	0.001	0.43	0.43	mg/L
CE13436	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	8.3	8.3	ug/L
CE13436	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE13436	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13436	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13436	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.6	0.6	ug/L
CE13436	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13436	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13436	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE13436	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13436	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13436	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	42	20	2	2	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13436	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4000	200	5	5	ug/L
CE13436	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE13436	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	390	20	20	20	ug/L
CE13436	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	4	4	ug/L
CE13436	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2100	200	5	5	ug/L
CE13436	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13436	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13436	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	390	20	20	20	ug/L
CE13436	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13436	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE13436	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	42	20	2	2	ug/L
CE13436	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13436	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4000	200	5	5	ug/L
CE13436	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	42	20	2	2	ug/L
CE13436	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2100	200	5	5	ug/L
CE13436	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	17	10	7	7	ug/L
CE13436	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13436	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE13436	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE13436	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13436	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE13436	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	4000	200	5	5	ug/L
CE13436	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2100	200	5	5	ug/L
CE13436	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	42	20	2	2	ug/L
CE13436	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE13436	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	17	10	7	7	ug/L

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13436	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	390	20	70	70	ug/L
CE13436	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13436	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13436	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE13436	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE13436	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE13436	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	800	0.3	0.3	ug/l
CE13436	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	800	3	3	ug/l
CE13436	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	800	0.3	0.3	ug/l
CE13437	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13437	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13437	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13437	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13437	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13437	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13437	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13437	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13438	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13438	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13438	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13438	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13438	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13438	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3.6	0.20	0.3	0.3	ug/l
CE13438	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.6	0.20	3	3	ug/l
CE13438	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	3.6	0.20	0.3	0.3	ug/l
CE13438	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13439	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13439	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13439	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13439	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13439	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13439	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13439	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13439	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13440	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	200	20	20	20	ug/L
CE13440	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	20	2.0	5	5	ug/L
CE13440	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.00075	0.00075	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13440	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE13440	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.0075	0.0075	ug/L
CE13440	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE13440	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE13440	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	1.0	0.6	0.6	ug/L
CE13440	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE13440	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.6	0.6	ug/L
CE13440	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE13440	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.02	0.02	ug/L
CE13440	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	200	20	20	20	ug/L
CE13440	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	20	2.0	5	5	ug/L
CE13440	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	20	2.0	5	5	ug/L
CE13440	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	200	20	70	70	ug/L
CE13440	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.6	0.6	ug/L
CE13440	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.02	0.02	ug/L
CE13440	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	80	0.3	0.3	ug/l
CE13440	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	80	3	3	ug/l
CE13440	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	80	0.3	0.3	ug/l
CE13441	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00033	0.00033	ug/L
CE13441	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	77	5.0	5	5	ug/L
CE13441	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13441	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	360	20	5	5	ug/L
CE13441	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	240	20	20	20	ug/L
CE13441	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE13441	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE13441	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13441	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00075	0.00075	ug/L
CE13441	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	360	20	5	5	ug/L
CE13441	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13441	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	77	5.0	5	5	ug/L
CE13441	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE13441	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE13441	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13441	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13441	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	240	20	20	20	ug/L
CE13441	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	77	5.0	5	5	ug/L
CE13441	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13441	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE13441	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	360	20	5	5	ug/L
CE13441	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	240	20	70	70	ug/L
CE13441	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE13441	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13441	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.4	0.20	0.3	0.3	ug/l
CE13441	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.4	0.20	0.3	0.3	ug/l
CE13441	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	0.3	0.3	ug/l
CE13442	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	18	5.0	5	5	ug/L
CE13442	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13442	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	200	20	5	5	ug/L
CE13442	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	180	20	20	20	ug/L
CE13442	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE13442	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00033	0.00033	ug/L
CE13442	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00075	0.00075	ug/L
CE13442	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE13442	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13442	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	200	20	5	5	ug/L
CE13442	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13442	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	18	5.0	5	5	ug/L
CE13442	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE13442	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE13442	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13442	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	180	20	20	20	ug/L
CE13442	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	18	5.0	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13442	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	200	20	5	5	ug/L
CE13442	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	180	20	70	70	ug/L
CE13442	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13442	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE13442	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE13442	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	0.3	0.3	ug/l
CE13442	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	200	3	3	ug/l
CE13442	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	200	0.3	0.3	ug/l
CE13443	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13443	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	12	1.0	5	5	ug/L
CE13443	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	130	20	20	20	ug/L
CE13443	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13443	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13443	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	20	20	20	ug/L
CE13443	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	12	1.0	5	5	ug/L
CE13443	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13443	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	12	1.0	5	5	ug/L
CE13443	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13443	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	20	70	70	ug/L
CE13443	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.5	0.20	0.3	0.3	ug/l
CE13443	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.5	0.20	0.3	0.3	ug/l
CE13443	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13444	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	130	20	20	20	ug/L
CE13444	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13444	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13444	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13444	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	7.9	1.0	5	5	ug/L
CE13444	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7.9	1.0	5	5	ug/L
CE13444	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13444	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	20	20	20	ug/L
CE13444	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	20	70	70	ug/L
CE13444	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13444	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7.9	1.0	5	5	ug/L
CE13444	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.6	0.20	0.3	0.3	ug/l
CE13444	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.6	0.20	0.3	0.3	ug/l
CE13444	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13445	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13445	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13445	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13445	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13445	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13445	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13445	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13445	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13446	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13446	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	130	20	5	5	ug/L
CE13446	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE13446	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	540	20	5	5	ug/L
CE13446	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	240	20	20	20	ug/L
CE13446	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	29	5.0	2	2	ug/L
CE13446	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE13446	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00033	0.00033	ug/L
CE13446	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.00075	0.00075	ug/L
CE13446	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE13446	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	5.0	2	2	ug/L
CE13446	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	540	20	5	5	ug/L
CE13446	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13446	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	20	5	5	ug/L
CE13446	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE13446	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	5.0	2	2	ug/L
CE13446	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	240	20	20	20	ug/L
CE13446	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE13446	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE13446	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	20	5	5	ug/L
CE13446	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	240	20	70	70	ug/L
CE13446	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE13446	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE13446	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE13446	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	29	5.0	2	2	ug/L
CE13446	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	540	20	5	5	ug/L
CE13446	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	9.0	0.20	0.3	0.3	ug/l
CE13446	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	9.0	0.20	3	3	ug/l
CE13446	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	9.0	0.20	0.3	0.3	ug/l
CE13446	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	200	0.3	0.3	ug/l

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13447	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	38	38	ug/L
CE13447	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13447	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.6	0.6	ug/L
CE13447	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	8.3	8.3	ug/L
CE13447	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13447	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13447	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	3	3	ug/L
CE13447	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.47	0.47	ug/L
CE13447	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	4	4	ug/L
CE13447	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	230	20	20	20	ug/L
CE13447	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	16	10	2	2	ug/L
CE13447	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3500	200	5	5	ug/L
CE13447	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE13447	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE13447	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE13447	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1800	200	5	5	ug/L
CE13447	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	7	7	ug/L
CE13447	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE13447	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1800	200	5	5	ug/L
CE13447	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3500	200	5	5	ug/L
CE13447	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13447	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	230	20	20	20	ug/L
CE13447	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	16	10	2	2	ug/L
CE13447	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	16	10	2	2	ug/L
CE13447	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE13447	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13447	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	12	10	7	7	ug/L
CE13447	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE13447	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE13447	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13447	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE13447	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE13447	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	12	10	7	7	ug/L
CE13447	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	16	10	2	2	ug/L
CE13447	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE13447	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	3500	200	5	5	ug/L
CE13447	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE13447	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE13447	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE13447	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	230	20	70	70	ug/L
CE13447	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE13447	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE13447	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1800	200	5	5	ug/L
CE13447	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	14	0.20	0.3	0.3	ug/l
CE13447	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	0.20	3	3	ug/l
CE13447	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	14	0.20	0.3	0.3	ug/l
CE13447	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	800	0.3	0.3	ug/l
CE13448	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.6	0.6	ug/L
CE13448	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00075	0.00075	ug/L
CE13448	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00033	0.00033	ug/L
CE13448	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.0075	0.0075	ug/L
CE13448	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	100	38	38	ug/L
CE13448	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13448	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2100	400	5	5	ug/L
CE13448	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13448	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	8.3	8.3	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13448	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13448	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13448	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	4	4	ug/L
CE13448	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13448	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	75	50	70	70	ug/L
CE13448	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	490	50	20	20	ug/L
CE13448	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4200	400	5	5	ug/L
CE13448	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	49	25	2	2	ug/L
CE13448	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13448	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	490	50	20	20	ug/L
CE13448	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13448	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.6	0.6	ug/L
CE13448	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2100	400	5	5	ug/L
CE13448	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13448	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4200	400	5	5	ug/L
CE13448	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	49	25	2	2	ug/L
CE13448	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	49	25	2	2	ug/L
CE13448	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.02	0.02	ug/L
CE13448	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	75	50	70	70	ug/L
CE13448	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13448	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13448	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13448	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	4	4	ug/L
CE13448	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13448	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	4200	400	5	5	ug/L
CE13448	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13448	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	10	10	ug/L
CE13448	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	49	25	2	2	ug/L
CE13448	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2100	400	5	5	ug/L
CE13448	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	75	50	70	70	ug/L
CE13448	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	490	50	70	70	ug/L
CE13448	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	25	4	4	ug/L
CE13448	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	3	3	ug/L
CE13448	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	7	7	ug/L
CE13448	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13448	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.6	0.6	ug/L
CE13448	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.02	0.02	ug/L
CE13448	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13448	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	19	0.20	0.3	0.3	ug/l
CE13448	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	19	0.20	3	3	ug/l
CE13448	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	19	0.20	0.3	0.3	ug/l
CE13448	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2000	0.3	0.3	ug/l
CE13448	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2200	100	300	300	ug/L
CE13448	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	2200	100	300	300	ug/L
CE13448	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	2200	100	300	300	ug/L
CE13449	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	8.3	8.3	ug/L
CE13449	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13449	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	100	38	38	ug/L
CE13449	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2400	400	5	5	ug/L
CE13449	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.6	0.6	ug/L
CE13449	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13449	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13449	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	4	4	ug/L
CE13449	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	520	50	20	20	ug/L
CE13449	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13449	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13449	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	71	50	2	2	ug/L
CE13449	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4400	400	5	5	ug/L
CE13449	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00075	0.00075	ug/L
CE13449	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13449	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.0075	0.0075	ug/L
CE13449	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13449	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00033	0.00033	ug/L
CE13449	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	520	50	20	20	ug/L
CE13449	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	71	50	2	2	ug/L
CE13449	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	71	50	2	2	ug/L
CE13449	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13449	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2400	400	5	5	ug/L
CE13449	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4400	400	5	5	ug/L
CE13449	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.6	0.6	ug/L
CE13449	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13449	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13449	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.02	0.02	ug/L
CE13449	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13449	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13449	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	4	4	ug/L
CE13449	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13449	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	71	50	2	2	ug/L
CE13449	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	4400	400	5	5	ug/L
CE13449	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	10	10	ug/L
CE13449	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	7	7	ug/L
CE13449	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2400	400	5	5	ug/L
CE13449	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	25	4	4	ug/L
CE13449	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13449	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.6	0.6	ug/L
CE13449	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13449	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13449	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	3	3	ug/L
CE13449	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	520	50	70	70	ug/L
CE13449	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.02	0.02	ug/L
CE13449	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2000	0.3	0.3	ug/l
CE13449	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2000	3	3	ug/l
CE13449	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	2000	0.3	0.3	ug/l
CE13450	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13450	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13450	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13450	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	8.3	8.3	ug/L
CE13450	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.6	0.6	ug/L
CE13450	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	3	3	ug/L
CE13450	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	100	38	38	ug/L
CE13450	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	490	50	20	20	ug/L
CE13450	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	4	4	ug/L
CE13450	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	56	50	2	2	ug/L
CE13450	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4600	400	5	5	ug/L
CE13450	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.0075	0.0075	ug/L
CE13450	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.47	0.47	ug/L
CE13450	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	2400	400	5	5	ug/L
CE13450	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	7	7	ug/L
CE13450	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00075	0.00075	ug/L
CE13450	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	25	0.00033	0.00033	ug/L
CE13450	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2400	400	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13450	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13450	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.6	0.6	ug/L
CE13450	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	56	50	2	2	ug/L
CE13450	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE13450	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4600	400	5	5	ug/L
CE13450	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	490	50	20	20	ug/L
CE13450	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	56	50	2	2	ug/L
CE13450	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13450	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.02	0.02	ug/L
CE13450	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13450	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	4	4	ug/L
CE13450	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE13450	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE13450	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	56	50	2	2	ug/L
CE13450	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	3	3	ug/L
CE13450	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	4600	400	5	5	ug/L
CE13450	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	25	4	4	ug/L
CE13450	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.02	0.02	ug/L
CE13450	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	7	7	ug/L
CE13450	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	10	10	ug/L
CE13450	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.6	0.6	ug/L
CE13450	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	490	50	70	70	ug/L
CE13450	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE13450	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE13450	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2400	400	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13450	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	20	1.0	0.3	0.3	ug/l
CE13450	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	20	1.0	3	3	ug/l
CE13450	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	20	1.0	0.3	0.3	ug/l
CE13450	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	2000	0.3	0.3	ug/l
CE13450	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	2000	0.3	0.3	ug/l
CE13451	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3.7	1.0	2	2	ug/L
CE13451	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13451	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13451	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13451	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.7	1.0	2	2	ug/L
CE13451	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.7	1.0	2	2	ug/L
CE13451	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13451	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	3.7	1.0	2	2	ug/L
CE13451	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13451	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.84	0.20	0.3	0.3	ug/l
CE13451	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.84	0.20	0.3	0.3	ug/l
CE13451	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13451	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	24.2	0.011	14	14	mg/L
CE13451	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.19	0.001	0.43	0.43	mg/L
CE13451	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED WILMINGTO	24.8	0.010	14	14	mg/L
CE13451	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.23	0.001	0.43	0.43	mg/L
CE13452	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	3.8	1.0	2	2	ug/L
CE13452	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13452	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13452	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13452	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.8	1.0	2	2	ug/L
CE13452	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13452	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.8	1.0	2	2	ug/L
CE13452	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13452	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	3.8	1.0	2	2	ug/L
CE13452	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.86	0.20	0.3	0.3	ug/l
CE13452	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.86	0.20	0.3	0.3	ug/l
CE13452	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13452	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	24.1	0.011	14	14	mg/L
CE13452	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.16	0.001	0.43	0.43	mg/L
CE13452	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED WILMINGTO	24.7	0.010	14	14	mg/L
CE13452	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.23	0.001	0.43	0.43	mg/L
CE13453	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.011	0.004	0.01	0.01	mg/L
CE13453	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.011	0.004	0.01	0.01	mg/L
CE13453	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.011	0.004	0.01	0.01	mg/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13453	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	27.0	0.011	14	14	mg/L
CE13453	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.08	0.001	0.43	0.43	mg/L
CE13453	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED WILMINGTO	28.0	0.010	14	14	mg/L
CE13453	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.14	0.001	0.43	0.43	mg/L
CE13454	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13454	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13454	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13454	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13454	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13454	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13454	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13454	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13455	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13455	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED WILMINGTO	4.6	1.0	2	2	ug/L
CE13455	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13455	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13455	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13455	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.6	1.0	2	2	ug/L
CE13455	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.6	1.0	2	2	ug/L
CE13455	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13455	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	4.6	1.0	2	2	ug/L
CE13455	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13455	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13455	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13456	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13456	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13456	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13456	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13456	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13456	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13456	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13456	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE13456	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.162	0.004	0.01	0.01	mg/L
CE13456	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.162	0.004	0.01	0.01	mg/L
CE13456	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.162	0.004	0.01	0.01	mg/L
CE13456	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.138	0.004	0.01	0.01	mg/L
CE13456	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.138	0.004	0.01	0.01	mg/L
CE13456	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.138	0.004	0.01	0.01	mg/L
CE13456	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.56	0.001	0.43	0.43	mg/L
CE13456	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.56	0.001	0.43	0.43	mg/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE13428 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE13457	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	53	20	5	5	ug/L
CE13457	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13457	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13457	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13457	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED WILMINGTO	28	20	5	5	ug/L
CE13457	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	53	20	5	5	ug/L
CE13457	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	28	20	5	5	ug/L
CE13457	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13457	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	28	20	5	5	ug/L
CE13457	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	53	20	5	5	ug/L
CE13457	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13457	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	0.82	0.20	0.3	0.3	ug/l
CE13457	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.82	0.20	0.3	0.3	ug/l
CE13457	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13457	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.99	0.001	0.43	0.43	mg/L
CE13457	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED WILMINGTO	1.90	0.010	0.43	0.43	mg/L
CE13458	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE13458	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE13458	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE13458	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE13458	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE13458	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE13458	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE13458	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED WILMINGTON MA 60552044 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE13428, CE13429, CE13430, CE13431, CE13432, CE13433, CE13434, CE13435, CE13436, CE13437, CE13438, CE13439, CE13440, CE13441, CE13442, CE13443, CE13444, CE13445, CE13446, CE13447, CE13448, CE13449, CE13450, CE13451, CE13452, CE13453, CE13454, CE13455, CE13456, CE13457, CE13458

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: VOA Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: Phyllis Shiller

Date: Wednesday, March 18, 2020

Printed Name: Phyllis Shiller

Position: Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria. 1,4-Dioxane does not meet the GWP. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Lab ID CE13431, CE13432, CE13433, CE13434, CE13435, CE13436, CE13440, CE13441, CE13442, CE13446, CE13447, CE13448, CE13449, CE13450
Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

Version 2:
Chem 02 on 9/26 VOA QC batch 506526 has been reported.

Chem17 VOA QC batch 499703 CE13446 (5X) has been reported.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/23/19-1 Adam Werner, Chemist 09/23/19

CE13429 (1X), CE13441 (1X), CE13448 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/20/19-1 Adam Werner, Chemist 09/20/19

CE13430 (1X), CE13432 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/23/19-1 Adam Werner, Chemist 09/23/19

CE13429 (1X), CE13441 (1X), CE13448 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 497786 (CE10289)

CE13429, CE13430, CE13432, CE13441, CE13448

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: C9 - Nonane(38%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: C36 - Hexatriacontane(57.6%)
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

EPH Narration

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/25/19-1 Greg Danielewski, Chemist 09/25/19

CE13432 , CE13435 , CE13441 , CE13457

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498233 (CE13800)

CE13432, CE13435, CE13441, CE13457

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 498423 (CE16348)

CE13432, CE13435, CE13441, CE13457

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/19/19-2 Tara Banning, Chemist 09/19/19

CE13432 , CE13435 , CE13441 , CE13457

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 497937 (CE13487)

CE13432, CE13435, CE13441, CE13457

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 497938 (CE13699)

CE13432, CE13435

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

IC

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

ARCOS 09/24/19 09:50 Tina Hall, Chemist 09/24/19

CE13429, CE13432, CE13435, CE13441, CE13451, CE13452, CE13453, CE13456, CE13457

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/21/19 08:02 Cindy Pearce, Chemist 09/21/19

CE13429, CE13432, CE13435, CE13441, CE13451, CE13452, CE13453, CE13456, CE13457

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/26/19 09:40 Cindy Pearce, Chemist 09/26/19

CE13432

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 497673 (CE13214)

CE13451, CE13452, CE13453, CE13456, CE13457

All LCS recoveries were within 80 - 120 with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

March 18, 2020

SDG I.D.: GCE13428

ICP Metals Narration

All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 497883 (CE13800)

CE13429, CE13432, CE13435, CE13441

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 498136 (CE14415)

CE13429, CE13432, CE13435, CE13441, CE13451, CE13452, CE13453, CE13456, CE13457

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/24/19-1 Keith Aloisa, Chemist 09/24/19

CE13430 (1X), CE13432 (1X), CE13434 (1X), CE13435 (1X), CE13438 (1X), CE13441 (1X), CE13443 (1X), CE13444 (1X), CE13446 (1X), CE13447 (1X), CE13448 (1X), CE13450 (1X), CE13451 (1X), CE13452 (1X), CE13457 (1X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0924_04-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM22 09/25/19-1 Keith Aloisa, Chemist 09/25/19

CE13434 (5X), CE13435 (5X), CE13450 (5X)

Initial Calibration Evaluation (CHEM22/):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification #2 (CHEM22/0925_02-DIOX_061319) (MCP Compliance):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

SVOA-Dioxane

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
50% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497892 (CE13430)

CE13430, CE13432, CE13434, CE13435, CE13438, CE13441, CE13443, CE13444, CE13446, CE13447, CE13448, CE13450, CE13451, CE13452, CE13457

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 09/23/19-1 Wes Bryon, Chemist 09/23/19

CE13429 (1X), CE13430 (1X), CE13432 (1X), CE13441 (1X), CE13448 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0911):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0923_05-27_BNSIM18_0911) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 497878 (CE14374)

CE13429, CE13430, CE13432, CE13441, CE13448

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

SVOASIM Narration

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498452 (Samples: CE13428, CE13430, CE13431, CE13432): -----

The LCS and/or the LCSD recovery is below the method criteria. All of the other QC is acceptable, therefore no significant bias is suspected. (Ethyl ether, Tetrahydrofuran (THF))

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (Acetone)

QC Batch 498698 (Samples: CE13430, CE13431, CE13432, CE13433, CE13434, CE13435, CE13436, CE13440, CE13441, CE13442): -----

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Trichlorofluoromethane)

QC Batch 498972 (Samples: CE13429): -----

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)

QC Batch 499279 (Samples: CE13445): -----

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Dichlorodifluoromethane)

QC Batch 499703 (Samples: CE13446): -----

The QC recovery for one or more analytes is above the upper range but were not reported in the sample(s), therefore no significant bias is suspected. (1,2,3-Trichlorobenzene)

QC Batch 506526 (Samples: CE13443, CE13444, CE13447, CE13448, CE13449, CE13450, CE13457): -----

The LCS and/or the LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromomethane)

Instrument:

CHEM02 09/25/19-1 Michael Hahn, Chemist 09/25/19

CE13429 (1X)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), Acetone 24% (20%), Bromomethane 32% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.076 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

Continuing Calibration Verification (CHEM02/0925_02-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
87% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.233 (0.3), 1,2-Dibromo-3-chloropropane 0.041 (0.05), 2-Hexanone 0.063 (0.1), 4-Methyl-2-pentanone 0.091 (0.1), Acetone 0.032 (0.1), Methyl ethyl ketone 0.052 (0.1), Tetrahydrofuran (THF) 0.030 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

CHEM02 09/25/19-2 Michael Hahn, Chemist 09/25/19

CE13443 (20X), CE13444 (20X), CE13446 (20X), CE13448 (400X), CE13449 (400X), CE13450 (400X)

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM02/0925_30-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM02 09/26/19-1 Michael Hahn, Chemist 09/26/19

CE13443 (1X), CE13444 (1X), CE13447 (20X), CE13448 (50X), CE13449 (50X), CE13450 (50X), CE13457 (20X)

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), Acetone 24% (20%), Bromomethane 32% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.076 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

Continuing Calibration Verification (CHEM02/0926_02-VT-P092319) (MCP Compliance):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.201 (0.3), 1,2-Dibromo-3-chloropropane 0.034 (0.05), 2-Hexanone 0.056 (0.1), 4-Methyl-2-pentanone 0.076 (0.1), Acetone 0.028 (0.1), Bromomethane 0.089 (0.1), Methyl ethyl ketone 0.040 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

CHEM17 09/24/19-2 Michael Hahn, Chemist 09/24/19

CE13428 (1X), CE13430 (20X), CE13431 (400X), CE13432 (400X)

Initial Calibration Evaluation (CHEM17/VT-S092119):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 22% (20%), Acetone 24% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.070 (0.1), Bromoform 0.065 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05)

Continuing Calibration Verification (CHEM17/0924_27-VT-S092119) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
86% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.040 (0.05), Acetone 0.060 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.089 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.045 (0.05)

CHEM17 09/25/19-1 Michael Hahn, Chemist 09/25/19

CE13430 (1X), CE13431 (100X), CE13432 (20X), CE13433 (400X), CE13434 (400X), CE13435 (400X), CE13436 (20X), CE13440 (20X), CE13441 (20X), CE13442 (20X)

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

Continuing Calibration Verification (CHEM17/0925_10-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.045 (0.05), Acetone 0.043 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.085 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.05)

CHEM17 09/26/19-1 Michael Hahn, Chemist 09/26/19

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

CE13433 (20X), CE13434 (100X), CE13435 (100X), CE13436 (200X), CE13437 (1X), CE13438 (1X), CE13439 (1X), CE13441 (5X), CE13442 (5X)

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

Continuing Calibration Verification (CHEM17/0926_02-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
96% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.043 (0.05), Acetone 0.053 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

CHEM17 09/27/19-1 Michael Hahn, Chemist 09/27/19

CE13440 (2X)

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

Continuing Calibration Verification (CHEM17/0927_02-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.041 (0.05), Acetone 0.053 (0.1), Bromoform 0.053 (0.1), Methyl ethyl ketone 0.093 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

CHEM17 09/27/19-2 Michael Hahn, Chemist 09/27/19

CE13445 (1X)

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

Continuing Calibration Verification (CHEM17/0927_28-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.062 (0.1), Bromoform 0.054 (0.1), Methyl ethyl ketone 0.095 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.039 (0.05)

CHEM17 09/28/19-1 Michael Hahn, Chemist 09/28/19

CE13447 (200X), CE13451 (1X), CE13452 (1X), CE13454 (1X), CE13455 (1X), CE13456 (1X), CE13457 (1X), CE13458 (1X)

Initial Calibration Evaluation (CHEM17/VT-S092819):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 30% (20%), Acetone 22% (20%), Bromoform 21% (20%), Methyl ethyl ketone 21% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.061 (0.1), Bromoform 0.059 (0.1), Methyl ethyl ketone 0.088 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.042 (0.05)

Continuing Calibration Verification (CHEM17/0928_13-VT-S092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.055 (0.1), Bromoform 0.061 (0.1), Methyl ethyl ketone 0.092 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.042 (0.05)

CHEM17 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE13446 (5X)

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

Continuing Calibration Verification (CHEM17/1001_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), Acetone 0.055 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.083 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

QC (Batch Specific):

Batch 498452 (CE11849) CHEM17 9/24/2019-2

CE13428(1X), CE13430(20X), CE13431(400X), CE13432(400X)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: Ethyl ether(68%), Tetrahydrofuran (THF)(66%)
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: Acetone(32.2%)
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498690 (CE17705) CHEM02 9/25/2019-2

CE13443(20X), CE13444(20X), CE13446(20X), CE13448(400X), CE13449(400X), CE13450(400X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498698 (CE10969) CHEM17 9/25/2019-1

CE13430(1X), CE13431(100X), CE13432(20X), CE13433(400X), CE13434(400X), CE13435(400X), CE13436(20X), CE13440(20X), CE13441(20X), CE13442(20X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: Trichlorofluoromethane(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 498972 (CE12549) CHEM02 9/25/2019-1

CE13429(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: Bromomethane(179%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(171%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
The MS/MSD are not reported for this batch.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499270 (CE13437) CHEM17 9/26/2019-1

CE13433(20X), CE13434(100X), CE13435(100X), CE13436(200X), CE13437(1X), CE13438(1X), CE13439(1X), CE13441(5X), CE13442(5X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499279 (CE19546) CHEM17 9/27/2019-2

CE13445(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(170%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(172%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499283 (CE14415) CHEM17 9/27/2019-1

CE13440(2X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VOA Narration

All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499302_(CE13451) CHEM17 9/28/2019-1

CE13447(200X), CE13451(1X), CE13452(1X), CE13454(1X), CE13455(1X), CE13456(1X), CE13457(1X), CE13458(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499703_(CE15186) CHEM17 10/1/2019-1

CE13446(5X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(132%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 506526_(CE15268) CHEM02 9/26/2019-1

CE13443(1X), CE13444(1X), CE13447(20X), CE13448(50X), CE13449(50X), CE13450(50X), CE13457(20X)

All LCS recoveries were within 70 - 130 with the following exceptions: Bromomethane(188%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Bromomethane(169%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
The MS/MSD are not reported for this batch.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/22/19-2 Raman Makol, Chemist 09/22/19

CE13429 (1X), CE13430 (1X), CE13432 (1X), CE13441 (1X)

PIDFID 09/26/19-2 Raman Makol, Chemist 09/26/19

CE13448 (1X)

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 498248_(CE14415)

CE13429(1X), CE13430(1X), CE13432(1X), CE13441(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE13428

VPH Narration

All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

Batch 498859 (CE17313)

CE13448(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE13428

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE13428

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☐ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 1.3 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature]
Date: 9/18/19

Client Sample - Information - Identification

Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
13428	19A-TB01-091819-1	GW	9/18/19	0800	2				X									
13429	19A-GZA105S-091819-1	GW	9/18/19	1005	5	2		2	X		X	X	X	X				
13430	19A-GZA105D-091819-1	GW	9/18/19	1225	5	4			X	X	X	X						
13431	19A-GZA105R-091819-1	GW	9/18/19	1515	3				X									
13432	19A-AE103R1-091819-1	GW	9/18/19	1350	4	5		4	X	X	X	X	X	X	X	X	X	
13433	19A-AE103R3-091819-1	GW	9/18/19	1425	3				X									
13434	19A-AE103R4-091819-1	GW	9/18/19	1430	3	2			X	X								
13435	19A-AE103R5-091819-1	GW	9/18/19	1405	3	3		~~2~~ 4	X	X			X	X	X	X	X	
13436	19A-AE103R7-091819-1	GW	9/18/19	1435	3	~~2~~ 0			X	~~X~~ O								
13437	19A-AE109R1-091819-1	GW	9/18/19	1440	3				X									
13438	19A-AE109R2-091819-1	GW	9/18/19	1442	3	2			X	X								
13439	19A-AE109R3-091819-1	GW	9/18/19	1447	3				X									

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-19-19	14:25
[signature]	[signature]	9-19-19	11:00

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 1.3 Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herbierich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature
Date: 9/18/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic			Total	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
13440	19A-AE1Ø9R4-Ø91819-1	GW	9/18/19	1452	3	3		4			3	X									
13441	19A-AE1Ø9R5-Ø91819-1	GW	9/18/19	1500	5	5		4				X	X	X	X	X	X	X	X	X	
13442	19A-AE1Ø9R6-Ø91819-1	GW	9/18/19	1515	3							X									
13443	19A-AE1Ø9R7-Ø91819-1	GW	9/18/19	1520	3	2						X	X			+					
13444	19A-AE1Ø9R7-Ø91819-2	GW	9/18/19	1520	3	2						X	X								
13445	19A-AE1Ø9R8-Ø91819-1	GW	9/18/19	1530	3							X									
13446	19A-AE1Ø4R1-Ø91819-1	GW	9/18/19	1335	3	2						X	X								
13447	19A-AE1Ø4R3-Ø91819-1	GW	9/18/19	1340	3	2						X	X								
13448	19A-AE1Ø4R4-Ø91819-1	GW	9/18/19	1345	5	4						X	X	X	X						
13449	19A-AE1Ø4R5-Ø91819-1	GW	9/18/19	1350	3							X									
13450	19A-AE1Ø4R6-Ø91819-1	GW	9/18/19	1355	3	2						X	X								
13451	19A-MW4-Ø91919-1	GW	9/19/19	1120	3	2		2				X	X			X	X				

Relinquished by:	Accepted by:	Date:	Time:
		9/19/19	1425
		9-19-19	17:00

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 1.3 Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature
Client Sample - Information - Identification
Date: 9/18/19

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Wasle Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
13452	MA-MW4-091919-2	GW	9/19/19	1125	3	2		2	X	X			X	X				
13453	MA-MW4A-091919-1	GW	9/19/19	1035	~~3~~ 6			2					X	X				
13454	MA-PS3-091919-1	GW	9/19/19	1030	3				X									
13455	MA-PS5D-091919-1	GW	9/19/19	1045	3				X									
13456	MA-AE1035-091919-1	GW	9/19/19	1100	3	~~3~~ 6		2	X				X	X				
13457	MA-AE1D3D-091919-1	GW	9/19/19	1150	3	3		4	X	X			X	X	X	X	X	
13458	MA-EMW11D-091919-1	GW	9/19/19	0940	3				X									

Relinquished by:
9-19-19 14:25

Accepted by:
9-19-19 17:00

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

Rf
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☑ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED-WILMINGTON MA 60552044.13**
SDG ID: **GCE14410**
Sample ID#s: **CE14410 - CE14417**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE14410

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE14410

Project ID: LOCKHEED-WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-091919-1	CE14410	GROUND WATER
19A-TRC101-091919-1	CE14411	GROUND WATER
19A-TRC103-091919-1	CE14412	GROUND WATER
19A-AE104S-092019-1	CE14413	GROUND WATER
19A-AE104D-092019-1	CE14414	GROUND WATER
19A-TRC102-092019-1	CE14415	GROUND WATER
19A-AE109D-092019-1	CE14416	GROUND WATER
19A-GZA6-092019-1	CE14417	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14410

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14410

Client ID: 19A-TB01-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/27/19	MH	70 - 130 %
% Toluene-d8	92		%	1	09/27/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C 7

Ver 2

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14410
Client ID: 19A-TB01-091919-1

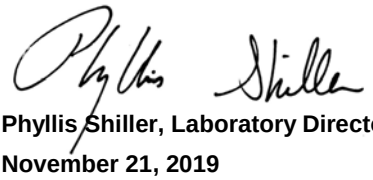
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	15:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14411

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC101-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/22/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	3.0	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	5.6	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	11	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	7.6	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	11	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	109		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	0.62	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	0.03	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	0.09	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	67		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	96		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	63		%	1	09/24/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	83		%	1	09/24/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	86		%	1	09/24/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	59		%	1	09/24/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	500	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14411
Client ID: 19A-TRC101-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	280	100	ug/L	1	09/22/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	220	100	ug/L	1	09/22/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/22/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	100		%	1	09/22/19	RM	70 - 130 %

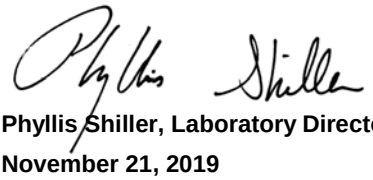
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	14:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14412

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC103-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC103-091919-1

Phoenix I.D.: CE14412

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	1.2	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	1.1	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	111		%	1	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	92		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	73		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	89		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	64		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	87		%	1	09/24/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	112		%	1	09/24/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	101		%	1	09/24/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	93		%	1	09/24/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14412
Client ID: 19A-TRC103-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	107		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	106		%	1	09/23/19	RM	70 - 130 %

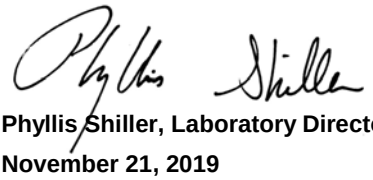
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14413

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104S-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	91		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14413
Client ID: 19A-AE104S-092019-1

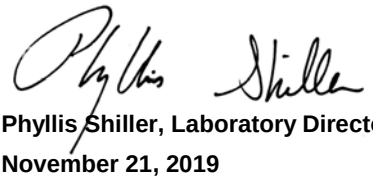
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:10
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14414

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104D-092019-1

Phoenix I.D.: CE14414

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	2.2	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	0.42	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	91		%	1	09/26/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14415

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC102-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.060	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.050	0.004	mg/L	1	09/24/19	TH	SW6010D
Iron (Dissolved)	22.5	0.011	mg/L	1	09/24/19	TH	SW6010D
Manganese (Dissolved)	3.18	0.011	mg/L	10	09/27/19	TH	SW6010D
Iron	23.7	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	3.26	0.010	mg/L	10	09/25/19	TH	SW6010D
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC102-092019-1

Phoenix I.D.: CE14415

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	6.1	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	96		%	1	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene	95		%	1	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	09/27/19	MH	70 - 130 %	
% Toluene-d8	95		%	1	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				09/24/19			
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	0.21	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	57		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	71		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	52		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 1-chlorooctadecane (aliphatic)	75		%	1	09/24/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	126		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	84		%	1	09/24/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	1.1	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	2.4	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	97		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14416

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE109D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.014	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	1.18	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.055	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.83	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE109D-092019-1

Phoenix I.D.: CE14416

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14416
Client ID: 19A-AE109D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	105		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	93		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.37	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	13:25
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14417

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-GZA6-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.011	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.009	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	1.50	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.143	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	1.59	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.147	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE14410

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498136 (mg/L), QC Sample No: CE14415 (CE14415, CE14416, CE14417)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	0.060	0.059	1.70	102	103	1.0	103	102	1.0	75 - 125	20
Iron	BRL	0.010	23.7	23.1	2.60	102	102	0.0	NC	NC	NC	75 - 125	20
Manganese	BRL	0.001	3.26	2.79	15.5	104	104	0.0	109	104	4.7	75 - 125	20
QA/QC Batch 498137 (mg/L), QC Sample No: CE14415 (CE14415, CE14416, CE14417)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	0.050	0.053	5.80	94.5	94.8	0.3	98.5	99.5	1.0	75 - 125	20
Iron	BRL	0.011	22.5	22.4	0.40	90.4	92.0	1.8	NC	NC	NC	75 - 125	20
Manganese	BRL	0.001	3.18	2.97	6.80	92.7	94.4	1.8	96.7	94.6	2.2	75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE14410

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498062 (ug/L), QC Sample No: CE14415 (CE14411, CE14412, CE14415)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	69	61	12.3	64	65	1.6	40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	70	67	4.4	77	72	6.7	40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	47	45	4.3	56	52	7.4	40 - 140	25	
Total TPH 1,2*	ND	100	60	58	3.4	68	63	7.6	40 - 140	25	
% 1-chlorooctadecane (aliphatic)	71	%	67	63	6.2	66	64	3.1	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	77	%	86	81	6.0	80	77	3.8	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	78	%	86	81	6.0	80	76	5.1	40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	65	%	65	56	14.9	62	61	1.6	40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 498505 (ug/l), QC Sample No: CE16346 (CE14414, CE14416)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	97	99	2.0	93	92	1.7	30 - 130	20	
% 1,4-dioxane-d8	90	%	92	93	1.1	89	92	3.3	30 - 130	20	
QA/QC Batch 498126 (ug/L), QC Sample No: CE14415 (CE14411, CE14412, CE14415)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	58	60	3.4	63	61	3.2	40 - 140	20	
Acenaphthene	ND	0.50	70	72	2.8	77	73	5.3	40 - 140	20	
Acenaphthylene	ND	0.10	67	70	4.4	71	68	4.3	40 - 140	20	
Anthracene	ND	0.10	80	83	3.7	79	77	2.6	40 - 140	20	
Benz(a)anthracene	ND	0.02	78	84	7.4	67	66	1.5	40 - 140	20	
Benzo(a)pyrene	ND	0.02	62	71	13.5	41	44	7.1	40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	83	94	12.4	53	54	1.9	40 - 140	20	
Benzo(ghi)perylene	ND	0.02	69	83	18.4	31	36	14.9	40 - 140	20	m
Benzo(k)fluoranthene	ND	0.02	75	88	16.0	45	49	8.5	40 - 140	20	
Chrysene	ND	0.02	69	74	7.0	55	55	0.0	40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	65	78	18.2	26	33	23.7	40 - 140	20	m,r
Fluoranthene	ND	0.50	75	77	2.6	74	71	4.1	40 - 140	20	
Fluorene	ND	0.10	72	74	2.7	77	74	4.0	40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	64	77	18.4	30	36	18.2	40 - 140	20	m
Naphthalene	ND	0.50	57	59	3.4	61	59	3.3	40 - 140	20	
Phenanthrene	ND	0.06	75	77	2.6	76	73	4.0	40 - 140	20	
Pyrene	ND	0.07	76	78	2.6	74	71	4.1	40 - 140	20	
% 2-Fluorobiphenyl	66	%	61	62	1.6	66	63	4.7	40 - 140	20	
% Nitrobenzene-d5	81	%	75	79	5.2	84	82	2.4	40 - 140	20	
% Terphenyl-d14	61	%	57	62	8.4	47	47	0.0	40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 499302 (ug/L), QC Sample No: CE13451 (CE14411, CE14412, CE14413, CE14414, CE14416)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	104	1.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	104	108	3.8				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	107	108	0.9				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	102	101	1.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	104	105	1.0				70 - 130	30
1,1-Dichloroethene	ND	1.0	106	106	0.0				70 - 130	30
1,1-Dichloropropene	ND	1.0	97	97	0.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	109	120	9.6				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	98	99	1.0				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	106	108	1.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	97	97	0.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	113	121	6.8				70 - 130	30
1,2-Dibromoethane	ND	1.0	102	100	2.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	101	103	2.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	100	101	1.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	105	106	0.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	96	98	2.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	99	101	2.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	103	102	1.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	99	100	1.0				70 - 130	30
1,4-dioxane	ND	100	102	102	0.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	103	104	1.0				70 - 130	30
2-Chlorotoluene	ND	1.0	98	100	2.0				70 - 130	30
2-Hexanone	ND	5.0	111	112	0.9				40 - 160	30
4-Chlorotoluene	ND	1.0	98	97	1.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	114	115	0.9				40 - 160	30
Acetone	ND	5.0	99	128	25.6				40 - 160	30
Benzene	ND	0.70	82	82	0.0				70 - 130	30
Bromobenzene	ND	1.0	104	103	1.0				70 - 130	30
Bromochloromethane	ND	1.0	108	110	1.8				70 - 130	30
Bromodichloromethane	ND	0.50	107	106	0.9				70 - 130	30
Bromoform	ND	1.0	113	112	0.9				70 - 130	30
Bromomethane	ND	1.0	129	132	2.3				40 - 160	30
Carbon Disulfide	ND	1.0	105	108	2.8				70 - 130	30
Carbon tetrachloride	ND	1.0	108	113	4.5				70 - 130	30
Chlorobenzene	ND	1.0	99	98	1.0				70 - 130	30
Chloroethane	ND	1.0	115	116	0.9				70 - 130	30
Chloroform	ND	1.0	101	104	2.9				70 - 130	30
Chloromethane	ND	1.0	115	119	3.4				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	102	106	3.8				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	105	0.0				70 - 130	30
Dibromochloromethane	ND	0.50	113	111	1.8				70 - 130	30
Dibromomethane	ND	1.0	102	103	1.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	117	123	5.0				40 - 160	30
Ethyl ether	ND	1.0	108	110	1.8				70 - 130	30
Ethylbenzene	ND	1.0	98	99	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	100	102	2.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Isopropylbenzene	ND	1.0	97	95	2.1				70 - 130	30	
m&p-Xylene	ND	1.0	97	97	0.0				70 - 130	30	
Methyl ethyl ketone	ND	5.0	122	142	15.2				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	112	115	2.6				70 - 130	30	
Methylene chloride	ND	1.0	101	104	2.9				70 - 130	30	
Naphthalene	ND	1.0	112	118	5.2				70 - 130	30	
n-Butylbenzene	ND	1.0	97	99	2.0				70 - 130	30	
n-Propylbenzene	ND	1.0	97	99	2.0				70 - 130	30	
o-Xylene	ND	1.0	100	100	0.0				70 - 130	30	
p-Isopropyltoluene	ND	1.0	94	97	3.1				70 - 130	30	
sec-Butylbenzene	ND	1.0	100	101	1.0				70 - 130	30	
Styrene	ND	1.0	97	98	1.0				70 - 130	30	
tert-Butylbenzene	ND	1.0	96	97	1.0				70 - 130	30	
Tetrachloroethene	ND	1.0	100	102	2.0				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	99	106	6.8				70 - 130	30	
Toluene	ND	1.0	101	102	1.0				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	107	110	2.8				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	104	105	1.0				70 - 130	30	
Trichloroethene	ND	1.0	101	103	2.0				70 - 130	30	
Trichlorofluoromethane	ND	1.0	110	119	7.9				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	109	113	3.6				70 - 130	30	
Vinyl chloride	ND	1.0	109	112	2.7				70 - 130	30	
% 1,2-dichlorobenzene-d4	98	%	101	100	1.0				70 - 130	30	
% Bromofluorobenzene	97	%	100	101	1.0				70 - 130	30	
% Dibromofluoromethane	100	%	103	99	4.0				70 - 130	30	
% Toluene-d8	91	%	103	102	1.0				70 - 130	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499283 (ug/L), QC Sample No: CE14415 (CE14415)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	106	2.9	101	112	10.3	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	97	97	0.0	106	117	9.9	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	119	117	1.7	111	118	6.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	109	110	0.9	112	120	6.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0	106	105	0.9	109	114	4.5	70 - 130	30	
1,1-Dichloroethene	ND	1.0	104	100	3.9	117	122	4.2	70 - 130	30	
1,1-Dichloropropene	ND	1.0	112	99	12.3	114	133	15.4	70 - 130	30	m
1,2,3-Trichlorobenzene	ND	1.0	111	111	0.0	97	109	11.7	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	109	109	0.0	102	108	5.7	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	104	106	1.9	93	105	12.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	101	99	2.0	97	106	8.9	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	121	123	1.6	105	102	2.9	70 - 130	30	
1,2-Dibromoethane	ND	1.0	110	107	2.8	105	111	5.6	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	105	103	1.9	99	108	8.7	70 - 130	30	
1,2-Dichloroethane	ND	1.0	105	106	0.9	101	106	4.8	70 - 130	30	
1,2-Dichloropropane	ND	1.0	110	110	0.0	106	113	6.4	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	99	97	2.0	97	107	9.8	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	102	101	1.0	97	105	7.9	70 - 130	30	
1,3-Dichloropropane	ND	1.0	110	109	0.9	108	113	4.5	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	103	102	1.0	97	108	10.7	70 - 130	30	
1,4-dioxane	ND	100	110	100	9.5	97	106	8.9	40 - 160	30	

QA/QC Data

SDG I.D.: GCE14410

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2,2-Dichloropropane	ND	1.0	104	105	1.0	107	113	5.5	70 - 130	30	
2-Chlorotoluene	ND	1.0	101	99	2.0	97	107	9.8	70 - 130	30	
2-Hexanone	ND	5.0	97	97	0.0	91	94	3.2	40 - 160	30	
4-Chlorotoluene	ND	1.0	99	98	1.0	96	107	10.8	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	103	103	0.0	95	100	5.1	40 - 160	30	
Acetone	ND	5.0	93	88	5.5	99	98	1.0	40 - 160	30	
Benzene	ND	0.70	104	106	1.9	106	115	8.1	70 - 130	30	
Bromobenzene	ND	1.0	101	101	0.0	96	105	9.0	70 - 130	30	
Bromochloromethane	ND	1.0	112	110	1.8	107	111	3.7	70 - 130	30	
Bromodichloromethane	ND	0.50	111	111	0.0	101	113	11.2	70 - 130	30	
Bromoform	ND	1.0	112	112	0.0	99	110	10.5	70 - 130	30	
Bromomethane	ND	1.0	135	139	2.9	101	135	28.8	40 - 160	30	
Carbon Disulfide	ND	1.0	107	108	0.9	115	121	5.1	70 - 130	30	
Carbon tetrachloride	ND	1.0	96	95	1.0	102	115	12.0	70 - 130	30	
Chlorobenzene	ND	1.0	101	100	1.0	102	108	5.7	70 - 130	30	
Chloroethane	ND	1.0	117	117	0.0	122	128	4.8	70 - 130	30	
Chloroform	ND	1.0	108	110	1.8	101	115	13.0	70 - 130	30	
Chloromethane	ND	1.0	110	111	0.9	99	105	5.9	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	107	107	0.0	109	115	5.4	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	111	112	0.9	103	113	9.3	70 - 130	30	
Dibromochloromethane	ND	0.50	113	117	3.5	105	117	10.8	70 - 130	30	
Dibromomethane	ND	1.0	111	113	1.8	104	112	7.4	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	106	106	0.0	100	109	8.6	40 - 160	30	
Ethyl ether	ND	1.0	112	114	1.8	104	104	0.0	70 - 130	30	
Ethylbenzene	ND	1.0	96	98	2.1	101	111	9.4	70 - 130	30	
Hexachlorobutadiene	ND	0.40	95	104	9.0	94	108	13.9	70 - 130	30	
Isopropylbenzene	ND	1.0	99	97	2.0	98	109	10.6	70 - 130	30	
m&p-Xylene	ND	1.0	98	98	0.0	103	109	5.7	70 - 130	30	
Methyl ethyl ketone	ND	5.0	123	112	9.4	105	118	11.7	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	93	94	1.1	88	92	4.4	70 - 130	30	
Methylene chloride	ND	1.0	106	105	0.9	101	105	3.9	70 - 130	30	
Naphthalene	ND	1.0	116	115	0.9	99	113	13.2	70 - 130	30	
n-Butylbenzene	ND	1.0	104	102	1.9	96	110	13.6	70 - 130	30	
n-Propylbenzene	ND	1.0	101	99	2.0	98	109	10.6	70 - 130	30	
o-Xylene	ND	1.0	100	100	0.0	102	109	6.6	70 - 130	30	
p-Isopropyltoluene	ND	1.0	101	100	1.0	97	108	10.7	70 - 130	30	
sec-Butylbenzene	ND	1.0	107	105	1.9	102	115	12.0	70 - 130	30	
Styrene	ND	1.0	101	101	0.0	100	108	7.7	70 - 130	30	
tert-Butylbenzene	ND	1.0	101	98	3.0	92	102	10.3	70 - 130	30	
Tetrachloroethene	ND	1.0	96	99	3.1	98	111	12.4	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	104	106	1.9	96	97	1.0	70 - 130	30	
Toluene	ND	1.0	101	102	1.0	101	112	10.3	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	105	104	1.0	111	117	5.3	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	113	113	0.0	101	111	9.4	70 - 130	30	
Trichloroethene	ND	1.0	97	99	2.0	99	110	10.5	70 - 130	30	
Trichlorofluoromethane	ND	1.0	101	100	1.0	120	131	8.8	70 - 130	30	m
Trichlorotrifluoroethane	ND	1.0	83	84	1.2	97	106	8.9	70 - 130	30	
Vinyl chloride	ND	1.0	105	106	0.9	109	114	4.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	103	102	1.0	99	100	1.0	70 - 130	30	
% Bromofluorobenzene	96	%	100	101	1.0	102	101	1.0	70 - 130	30	
% Dibromofluoromethane	108	%	99	103	4.0	93	98	5.2	70 - 130	30	
% Toluene-d8	92	%	101	103	2.0	103	104	1.0	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Comment:										
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.										
QA/QC Batch 499279 (ug/L), QC Sample No: CE19546 (CE14410)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	1.0	96	100	4.1				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	96	98	2.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	100	110	9.5				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	90	104	14.4				70 - 130	30
1,1-Dichloroethane	ND	1.0	96	100	4.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	107	108	0.9				70 - 130	30
1,1-Dichloropropene	ND	1.0	100	107	6.8				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	91	103	12.4				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	92	103	11.3				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	91	99	8.4				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	94	95	1.1				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	94	110	15.7				70 - 130	30
1,2-Dibromoethane	ND	1.0	94	104	10.1				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	94	99	5.2				70 - 130	30
1,2-Dichloroethane	ND	1.0	91	100	9.4				70 - 130	30
1,2-Dichloropropane	ND	1.0	94	104	10.1				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	92	95	3.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	96	104	8.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	93	97	4.2				70 - 130	30
1,4-dioxane	ND	100	101	98	3.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	100	102	2.0				70 - 130	30
2-Chlorotoluene	ND	1.0	94	95	1.1				70 - 130	30
2-Hexanone	ND	5.0	87	99	12.9				40 - 160	30
4-Chlorotoluene	ND	1.0	93	94	1.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	90	107	17.3				40 - 160	30
Acetone	ND	5.0	106	117	9.9				40 - 160	30
Benzene	ND	0.70	97	103	6.0				70 - 130	30
Bromobenzene	ND	1.0	93	96	3.2				70 - 130	30
Bromochloromethane	ND	1.0	97	108	10.7				70 - 130	30
Bromodichloromethane	ND	0.50	94	103	9.1				70 - 130	30
Bromoform	ND	1.0	92	104	12.2				70 - 130	30
Bromomethane	ND	1.0	151	155	2.6				40 - 160	30
Carbon Disulfide	ND	1.0	119	123	3.3				70 - 130	30
Carbon tetrachloride	ND	1.0	96	101	5.1				70 - 130	30
Chlorobenzene	ND	1.0	94	97	3.1				70 - 130	30
Chloroethane	ND	1.0	126	126	0.0				70 - 130	30
Chloroform	ND	1.0	90	96	6.5				70 - 130	30
Chloromethane	ND	1.0	123	127	3.2				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	96	101	5.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	95	106	10.9				70 - 130	30
Dibromochloromethane	ND	0.50	99	108	8.7				70 - 130	30
Dibromomethane	ND	1.0	92	107	15.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	170	172	1.2				40 - 160	30
Ethyl ether	ND	1.0	89	107	18.4				70 - 130	30
Ethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	99	100	1.0				70 - 130	30
Isopropylbenzene	ND	1.0	93	96	3.2				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
m&p-Xylene	ND	1.0	95	96	1.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	91	114	22.4				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	88	103	15.7				70 - 130	30
Methylene chloride	ND	1.0	95	100	5.1				70 - 130	30
Naphthalene	ND	1.0	96	106	9.9				70 - 130	30
n-Butylbenzene	ND	1.0	95	101	6.1				70 - 130	30
n-Propylbenzene	ND	1.0	94	97	3.1				70 - 130	30
o-Xylene	ND	1.0	95	97	2.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	92	96	4.3				70 - 130	30
sec-Butylbenzene	ND	1.0	97	104	7.0				70 - 130	30
Styrene	ND	1.0	91	96	5.3				70 - 130	30
tert-Butylbenzene	ND	1.0	92	97	5.3				70 - 130	30
Tetrachloroethene	ND	1.0	93	99	6.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	88	104	16.7				70 - 130	30
Toluene	ND	1.0	95	100	5.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	99	103	4.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	93	104	11.2				70 - 130	30
Trichloroethene	ND	1.0	92	98	6.3				70 - 130	30
Trichlorofluoromethane	ND	1.0	126	129	2.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	102	107	4.8				70 - 130	30
Vinyl chloride	ND	1.0	126	127	0.8				70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	97	101	4.0				70 - 130	30
% Bromofluorobenzene	94	%	96	98	2.1				70 - 130	30
% Dibromofluoromethane	99	%	90	97	7.5				70 - 130	30
% Toluene-d8	92	%	102	102	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498122 (ug/L), QC Sample No: CE14411 (CE14411)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	101	95	6.1	94	94	0.0	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	101	96	5.1	96	95	1.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	101	95	6.1	94	94	0.0	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	101	96	5.1	96	95	1.0	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	105	99	5.9	99	99	0.0	70 - 130	20
Benzene	ND	1.0	98	92	6.3	92	92	0.0	70 - 130	20
Ethyl Benzene	ND	1.0	99	94	5.2	93	94	1.1	70 - 130	20
MTBE	ND	1.0	105	101	3.9	100	101	1.0	70 - 130	20
Naphthalene	ND	5.0	109	107	1.9	109	110	0.9	70 - 130	20
Toluene	ND	1.0	98	92	6.3	91	92	1.1	70 - 130	20
m,p-Xylenes	ND	2.0	100	94	6.2	94	94	0.0	70 - 130	20
o-Xylene	ND	1.0	98	93	5.2	93	93	0.0	70 - 130	20
% 2,5-Dibromotoluene (PID)	100	%	101	104	2.9	107	109	1.9	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

QA/QC Batch 498248 (ug/L), QC Sample No: CE14415 (CE14412, CE14415)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	100	104	3.9	97	100	3.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	102	106	3.8	101	105	3.9	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	100	104	3.9	93	96	3.2	70 - 130	20

QA/QC Data

SDG I.D.: GCE14410

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
C9-C10 Aromatic Hydrocarbons *1	ND	100	97	102	5.0	106	111	4.6	70 - 130	20
Benzene	ND	1.0	92	96	4.3	94	98	4.2	70 - 130	20
Ethyl Benzene	ND	1.0	93	98	5.2	95	101	6.1	70 - 130	20
MTBE	ND	1.0	95	99	4.1	92	95	3.2	70 - 130	20
Naphthalene	ND	5.0	94	99	5.2	92	95	3.2	70 - 130	20
Toluene	ND	1.0	91	96	5.3	93	98	5.2	70 - 130	20
m,p-Xylenes	ND	2.0	93	98	5.2	95	100	5.1	70 - 130	20
o-Xylene	ND	1.0	91	96	5.3	92	97	5.3	70 - 130	20
% 2,5-Dibromotoluene (PID)	93	%	96	96	0.0	94	91	3.2	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14410 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14410	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14410	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14410	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14410	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14410	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14410	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14410	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14410	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14411	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14411	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14411	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14411	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14411	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14411	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14411	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14411	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14411	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	220	100	200	200	ug/L
CE14411	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / CMR 310.40.1600 / GW-1 (mg/l)	220	100	200	200	ug/L
CE14411	$VPHRANGE-	C9-C10 Aromatic Hydrocarbons *1	MA / GROUNDWATER STANDARDS / GW-1	220	100	200	200	ug/L
CE14412	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14412	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14412	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14412	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14412	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14412	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14412	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14412	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14413	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14413	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14413	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14413	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14413	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14413	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14413	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14413	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14414	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14414	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14414	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14414	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14410 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14414	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14414	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.42	0.20	0.3	0.3	ug/l
CE14414	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.42	0.20	0.3	0.3	ug/l
CE14414	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14415	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14415	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14415	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14415	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14415	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14415	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14415	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14415	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14415	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.060	0.004	0.01	0.01	mg/L
CE14415	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.060	0.004	0.01	0.01	mg/L
CE14415	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.060	0.004	0.01	0.01	mg/L
CE14415	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.050	0.004	0.01	0.01	mg/L
CE14415	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.050	0.004	0.01	0.01	mg/L
CE14415	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.050	0.004	0.01	0.01	mg/L
CE14415	D-FE	Iron (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	22.5	0.011	14	14	mg/L
CE14415	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	3.18	0.011	0.43	0.43	mg/L
CE14415	FE-WM	Iron	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	23.7	0.010	14	14	mg/L
CE14415	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	3.26	0.010	0.43	0.43	mg/L
CE14416	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14416	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14416	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14416	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14416	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14416	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.37	0.20	0.3	0.3	ug/l
CE14416	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.37	0.20	0.3	0.3	ug/l
CE14416	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE14416	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.18	0.001	0.43	0.43	mg/L
CE14416	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.83	0.001	0.43	0.43	mg/L
CE14417	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.011	0.004	0.01	0.01	mg/L
CE14417	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.011	0.004	0.01	0.01	mg/L
CE14417	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.011	0.004	0.01	0.01	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED-WILMINGTOM MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE14410, CE14411, CE14412, CE14413, CE14414, CE14415, CE14416, CE14417

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: SVOASIM, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14410

SDG Comments

Metals Analysis:
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane and 1,4-Dioxane do not meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/24/19-1 Adam Werner, Chemist 09/24/19

CE14411

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/23/19-1 Adam Werner, Chemist 09/23/19

CE14412, CE14415

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/24/19-1 Adam Werner, Chemist 09/24/19

CE14411

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Site Specific):

Batch 498062 (CE14415)

CE14411, CE14412, CE14415

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
All MS recoveries were within 40 - 140 with the following exceptions: None.
All MSD recoveries were within 40 - 140 with the following exceptions: None.
All MS/MSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE14410

ICP Metals Narration

ARCOS 09/24/19 09:50 Tina Hall, Chemist 09/24/19

CE14415, CE14416, CE14417

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/24/19 09:35 Tina Hall, Chemist 09/24/19

CE14415

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/26/19 09:40 Tina Hall, Chemist 09/26/19

CE14415

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 498136 (CE14415)

CE14415, CE14416, CE14417

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
All MSD recoveries were within 75 - 125 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.

Batch 498137 (CE14415)

CE14415, CE14416, CE14417

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE14410

ICP Metals Narration

All MS recoveries were within 75 - 125 with the following exceptions: None.
All MSD recoveries were within 75 - 125 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/26/19-1 Keith Aloisa, Chemist 09/26/19

CE14414, CE14416

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0926_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498505 (CE16346)

CE14414, CE14416

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498126 (Samples: CE14411, CE14412, CE14415): -----

The LCS/LCSD recovery is acceptable. One analyte in the site specific matrix spike recovery is below the lower range but within the method criteria. A slight low bias is possible. (Dibenz(a,h)anthracene)

The MS/MSD RPD exceeds the method criteria for one analyte. Therefore there may be variability in the reported result. (Dibenz(a,h)anthracene)

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14410

SVOASIM Narration

CHEM25 09/24/19-2 Wes Bryon, Chemist 09/24/19

CE14411, CE14412, CE14415

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM25/25_BNSIM18_0910):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM25/0924_19-25_BNSIM18_0910) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
90% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Site Specific):

Batch 498126 (CE14415)

CE14411, CE14412, CE14415

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 40 - 140 with the following exceptions: Benzo(ghi)perylene(31%), Dibenz(a,h)anthracene(26%), Indeno(1,2,3-cd)pyrene(30%)
All MSD recoveries were within 40 - 140 with the following exceptions: Benzo(ghi)perylene(36%), Dibenz(a,h)anthracene(33%), Indeno(1,2,3-cd)pyrene(36%)
All MS/MSD RPDs were less than 20% with the following exceptions: Dibenz(a,h)anthracene(23.7%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14410

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499279 (Samples: CE14410): -----

The LCS/LCSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Dichlorodifluoromethane)

QC Batch 499283 (Samples: CE14415): -----

The MSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (1,1-Dichloropropene, Trichlorofluoromethane)

Instrument:

CHEM17 09/27/19-1 Michael Hahn, Chemist 09/27/19

CE14415

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0927_02-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.041 (0.05), Acetone 0.053 (0.1), Bromoform 0.053 (0.1), Methyl ethyl ketone 0.093 (0.1)
The following compounds did not meet minimum response factors: None.

CHEM17 09/27/19-2 Michael Hahn, Chemist 09/27/19

CE14410

Initial Calibration Evaluation (CHEM17/VT-S092519):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 34% (20%), Bromoform 28% (20%), Dibromochloromethane 22% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), Acetone 0.050 (0.1), Bromoform 0.057 (0.1), Methyl ethyl ketone 0.084 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0927_28-VT-S092519) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.062 (0.1), Bromoform 0.054 (0.1), Methyl ethyl ketone 0.095 (0.1)
The following compounds did not meet minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14410

VOA Narration

CHEM17 09/28/19-1 Michael Hahn, Chemist 09/28/19

CE14411, CE14412, CE14413, CE14414, CE14416

Initial Calibration Evaluation (CHEM17/VT-S092819):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 30% (20%), Acetone 22% (20%), Bromoform 21% (20%), Methyl ethyl ketone 21% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.061 (0.1), Bromoform 0.059 (0.1), Methyl ethyl ketone 0.088 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/0928_13-VT-S092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.055 (0.1), Bromoform 0.061 (0.1), Methyl ethyl ketone 0.092 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 499279 (CE19546)

CE14410

All LCS recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(170%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(172%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499302 (CE13451)

CE14411, CE14412, CE14413, CE14414, CE14416

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QC (Site Specific):

Batch 499283 (CE14415)

CE14415

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: 1,1-Dichloropropene(133%), Trichlorofluoromethane(131%)
All MS/MSD RPDs were less than 30% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14410

VOA Narration

compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/21/19-3 Raman Makol, Chemist 09/21/19

CE14411

PIDFID 09/22/19-2 Raman Makol, Chemist 09/22/19

CE14412, CE14415

QC (Batch Specific):

Batch 498122 (CE14411)

CE14411

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

QC (Site Specific):

Batch 498248 (CE14415)

CE14412, CE14415

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE14410

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE14410

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☑ No ☐
Coolant: IPK ☒ ICE ☐ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp 1.5° C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Samplers Signature: [signature] Date: 09/19/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
14410	19A-TB01-091919-1	GW	9/19/19	0800	2							X									
14411	19A-TRC101-091919-1	GW	9/19/19	1550	5	2						X		X	X						
14412	19A-TRC103-091919-1	GW	9/19/19	1445	5	2						X		X	X						
14413	19A-AE104S-092019-1	GW	9/20/19	0955	3							X									
14414	19A-AE104D-092019-1	GW	9/20/19	0910	3	2						X	X								
	~~19A-TRC103~~			DUP																	
14415	19A-TRC102-092019-1	GW	9/20/19	0955	15	6		6				X		X	X	X	X				MS/MSD
14416	19A-AE109D-092019-1	GW	9/20/19	1040	3	2		2				X	X			X	X				
14417	19A-GZA6-092019-1	GW	9/20/19	1325				2								X	X				

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-2019	
[signature]	Principal Bruce	9.20.19	15:46

Comments, Special Requirements or Regulations:
Dissolved Metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED- WILMINGTON MA 60552044.13**
SDG ID: **GCE14947**
Sample ID#s: CE14947 - CE14951

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE14947

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE14947

Project ID: LOCKHEED- WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-AE100R1-092319-1	CE14947	GROUND WATER
19A-AE100R3-092319-1	CE14948	GROUND WATER
19A-AE100R4-092319-1	CE14949	GROUND WATER
19A-AE100R5-092319-1	CE14950	GROUND WATER
19A-AE100R6-092319-1	CE14951	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14947

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14947

Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	16	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	4.7	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	4.3	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	2.0	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	1.2	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	13	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	2.2	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	6.7	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	3.6	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	1.4	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	13	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	4.8	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	108		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	09/27/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	99		%	1	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.20	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	1.7	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	77		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	91		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	73		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	43		%	1	09/26/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	68		%	1	09/26/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	73		%	1	09/26/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	56		%	1	09/26/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	200	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14947

Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	100	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Ethyl Benzene	4.4	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Toluene	1.3	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	09/24/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/24/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

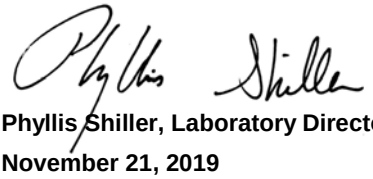
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14948

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	73	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	500	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14948

Client ID: 19A-AE100R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	61	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	500	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	5700	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	7300	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	102		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	99		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	101		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	13	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	93		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14949

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	500	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14949

Client ID: 19A-AE100R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	89	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	500	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	4000	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	5400	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	108		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	98		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	102		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	104		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	13	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	96		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

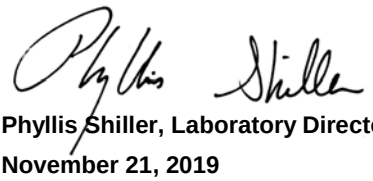
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14950

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R5-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/25/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.076	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.675	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.076	0.010	mg/L	1	09/25/19	EK	SW6010D
Manganese	0.642	0.001	mg/L	1	09/25/19	EK	SW6010D
Chloride	368	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 03:53	BS/EG	E300.0
Nitrate as Nitrogen	0.68	0.05	mg/L	1	09/23/19 22:56	BS/GD	E300.0
Sulfate	31.0	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/24/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R5-092319-1

Phoenix I.D.: CE14950

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
2-Hexanone	ND	250	ug/L	50	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/27/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/27/19	MH	SW8260C
Benzene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/27/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	160	50	ug/L	50	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	250	ug/L	50	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/27/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/27/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/27/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Tetrachloroethene	1400	50	ug/L	50	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/27/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/27/19	MH	SW8260C	
Trichloroethene	2300	400	ug/L	400	09/27/19	MH	SW8260C	
Trichlorofluoromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C	
Vinyl chloride	ND	25	ug/L	50	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (50x)	99		%	50	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (50x)	101		%	50	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (50x)	113		%	50	09/27/19	MH	70 - 130 %	
% Toluene-d8 (50x)	98		%	50	09/27/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	99		%	400	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	107		%	400	09/27/19	MH	70 - 130 %	
% Toluene-d8 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14951

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R6-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethane	32	20	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14951

Client ID: 19A-AE100R6-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	110	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Tetrachloroethene	1200	400	ug/L	400	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/27/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Trichloroethene	1600	400	ug/L	400	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	103		%	20	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	104		%	20	09/27/19	MH	70 - 130 %
% Toluene-d8 (20x)	95		%	20	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	96		%	400	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	103		%	400	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	110		%	400	09/27/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	12	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	90		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE14947

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498137 (mg/L), QC Sample No: CE14415 (CE14950)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	0.050	0.053	5.80	94.5	94.8	0.3	98.5	99.5	1.0	75 - 125	20
Iron	BRL	0.011	22.5	22.4	0.40	90.4	92.0	1.8	NC	NC	NC	75 - 125	20
Manganese	BRL	0.001	3.18	2.97	6.80	92.7	94.4	1.8	96.7	94.6	2.2	75 - 125	20
QA/QC Batch 498307 (mg/L), QC Sample No: CE14737 (CE14950)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	88.9	90.5	1.8	96.4			75 - 125	20
Iron	BRL	0.010	0.154	0.138	11.0	91.5	92.3	0.9	92.1			75 - 125	20
Manganese	BRL	0.001	0.014	0.012	15.4	91.1	92.2	1.2	92.5			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE14947

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498423 (mg/L), QC Sample No: CE16348 (CE14950)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	106			112			90 - 110	20
QA/QC Batch 498486 (mg/L), QC Sample No: CE14653 (CE14950)													
Chloride	BRL	3.0	69.1	72.3	4.50	96.9			107			90 - 110	20
QA/QC Batch 498337 (mg/L), QC Sample No: CE15272 (CE14950)													
Chloride	BRL	3.0	27.6	27.0	2.20	101			104			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	2.70	2.63	2.60	103			95.1			90 - 110	20
Sulfate	BRL	3.0	9.6	9.2	NC	102			102			90 - 110	20
QA/QC Batch 498337 (mg/L), QC Sample No: CE15272 (CE14950)													
Nitrite as Nitrogen	BRL	0.01	<0.01	<0.01	NC	93.1			93.8			90 - 110	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE14947

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498238 (ug/L), QC Sample No: CE14867 (CE14947)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	61	56	8.5				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	66	55	18.2				40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	30	24	22.2				40 - 140	25	l
Total TPH 1,2*	ND	100	51	42	19.4				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	69	%	64	55	15.1				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	79	%	75	79	5.2				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	79	%	75	78	3.9				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	66	%	57	52	9.2				40 - 140	25	
Comment:											
The LCS/LCSD exhibited low recoveries for the C9-C18 Aliphatic Hydrocarbon Range, a negative bias is possible.											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 498505 (ug/l), QC Sample No: CE16346 (CE14948, CE14949, CE14951)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	97	99	2.0	93	92	1.7	30 - 130	20	
% 1,4-dioxane-d8	90	%	92	93	1.1	89	92	3.3	30 - 130	20	
QA/QC Batch 498161 (ug/L), QC Sample No: CE14707 (CE14947)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	78	81	3.8	67	49	31.0	40 - 140	20	r
Acenaphthene	ND	0.50	90	90	0.0	83	59	33.8	40 - 140	20	r
Acenaphthylene	ND	0.10	93	94	1.1	86	61	34.0	40 - 140	20	r
Anthracene	ND	0.10	99	104	4.9	91	66	31.8	40 - 140	20	r
Benz(a)anthracene	ND	0.02	97	96	1.0	75	56	29.0	40 - 140	20	r
Benzo(a)pyrene	ND	0.02	132	130	1.5	82	67	20.1	40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	107	110	2.8	73	55	28.1	40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	95	93	2.1	52	44	16.7	40 - 140	20	
Benzo(k)fluoranthene	ND	0.02	101	98	3.0	59	50	16.5	40 - 140	20	
Chrysene	ND	0.02	92	93	1.1	68	53	24.8	40 - 140	20	r
Dibenz(a,h)anthracene	ND	0.02	114	112	1.8	59	51	14.5	40 - 140	20	
Fluoranthene	ND	0.50	99	101	2.0	88	64	31.6	40 - 140	20	r
Fluorene	ND	0.10	98	99	1.0	92	64	35.9	40 - 140	20	r
Indeno(1,2,3-cd)pyrene	ND	0.02	116	113	2.6	64	54	16.9	40 - 140	20	
Naphthalene	ND	0.50	67	73	8.6	23	23	0.0	40 - 140	20	m
Phenanthrene	ND	0.06	93	95	2.1	84	61	31.7	40 - 140	20	r
Pyrene	ND	0.07	101	102	1.0	90	64	33.8	40 - 140	20	r
% 2-Fluorobiphenyl	76	%	80	79	1.3	73	51	35.5	40 - 140	20	r
% Nitrobenzene-d5	84	%	88	85	3.5	76	50	41.3	40 - 140	20	r

Parameter	Blank	Blk RL		LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
% Terphenyl-d14	80	%		78	78	0.0	59	45	26.9	40 - 140	20	r

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 499265 (ug/L), QC Sample No: CE14374 (CE14947, CE14948 (100X) , CE14949 (100X) , CE14950 (50X) , CE14951 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0		114	116	1.7	107	105	1.9	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0		112	117	4.4	113	111	1.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50		108	114	5.4	117	110	6.2	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0		103	103	0.0	104	101	2.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0		110	111	0.9	113	112	0.9	70 - 130	30	
1,1-Dichloroethene	ND	1.0		97	100	3.0	113	111	1.8	70 - 130	30	
1,1-Dichloropropene	ND	1.0		99	102	3.0	114	108	5.4	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0		101	105	3.9	98	100	2.0	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0		106	104	1.9	103	102	1.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0		106	109	2.8	103	102	1.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0		105	108	2.8	106	101	4.8	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0		98	103	5.0	105	98	6.9	70 - 130	30	
1,2-Dibromoethane	ND	1.0		108	109	0.9	105	102	2.9	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0		102	106	3.8	105	100	4.9	70 - 130	30	
1,2-Dichloroethane	ND	1.0		120	123	2.5	103	98	5.0	70 - 130	30	
1,2-Dichloropropane	ND	1.0		102	104	1.9	107	105	1.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0		105	108	2.8	109	102	6.6	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0		104	106	1.9	106	102	3.8	70 - 130	30	
1,3-Dichloropropane	ND	1.0		104	103	1.0	103	102	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0		101	105	3.9	105	98	6.9	70 - 130	30	
1,4-dioxane	ND	100		112	87	25.1	88	83	5.8	40 - 160	30	
2,2-Dichloropropane	ND	1.0		119	121	1.7	107	103	3.8	70 - 130	30	
2-Chlorotoluene	ND	1.0		102	105	2.9	108	105	2.8	70 - 130	30	
2-Hexanone	ND	5.0		86	90	4.5	93	86	7.8	40 - 160	30	
4-Chlorotoluene	ND	1.0		105	107	1.9	107	100	6.8	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0		95	99	4.1	92	92	0.0	40 - 160	30	
Acetone	ND	5.0		93	88	5.5	66	68	3.0	40 - 160	30	
Benzene	ND	0.70		101	105	3.9	111	108	2.7	70 - 130	30	
Bromobenzene	ND	1.0		101	104	2.9	107	103	3.8	70 - 130	30	
Bromochloromethane	ND	1.0		103	107	3.8	104	108	3.8	70 - 130	30	
Bromodichloromethane	ND	0.50		117	122	4.2	106	106	0.0	70 - 130	30	
Bromoform	ND	1.0		134	135	0.7	119	113	5.2	70 - 130	30	I
Bromomethane	ND	1.0		151	171	12.4	120	146	19.5	40 - 160	30	I
Carbon Disulfide	ND	1.0		99	98	1.0	116	112	3.5	70 - 130	30	
Carbon tetrachloride	ND	1.0		118	117	0.9	117	113	3.5	70 - 130	30	
Chlorobenzene	ND	1.0		104	108	3.8	110	102	7.5	70 - 130	30	
Chloroethane	ND	1.0		108	120	10.5	121	107	12.3	70 - 130	30	
Chloroform	ND	1.0		112	120	6.9	114	105	8.2	70 - 130	30	
Chloromethane	ND	1.0		94	92	2.2	100	102	2.0	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0		105	102	2.9	109	105	3.7	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40		107	113	5.5	106	103	2.9	70 - 130	30	
Dibromochloromethane	ND	0.50		126	123	2.4	116	109	6.2	70 - 130	30	
Dibromomethane	ND	1.0		118	123	4.1	110	108	1.8	70 - 130	30	
Dichlorodifluoromethane	ND	1.0		116	114	1.7	109	112	2.7	40 - 160	30	
Ethyl ether	ND	1.0		98	104	5.9	97	101	4.0	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Ethylbenzene	ND	1.0	101	105	3.9	110	105	4.7	70 - 130	30
Hexachlorobutadiene	ND	0.40	112	120	6.9	103	99	4.0	70 - 130	30
Isopropylbenzene	ND	1.0	102	103	1.0	114	107	6.3	70 - 130	30
m&p-Xylene	ND	1.0	102	106	3.8	110	105	4.7	70 - 130	30
Methyl ethyl ketone	ND	5.0	97	105	7.9	101	98	3.0	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	91	91	0.0	91	89	2.2	70 - 130	30
Methylene chloride	ND	1.0	99	98	1.0	101	100	1.0	70 - 130	30
Naphthalene	ND	1.0	105	104	1.0	104	108	3.8	70 - 130	30
n-Butylbenzene	ND	1.0	105	105	0.0	105	101	3.9	70 - 130	30
n-Propylbenzene	ND	1.0	102	104	1.9	111	101	9.4	70 - 130	30
o-Xylene	ND	1.0	105	108	2.8	112	108	3.6	70 - 130	30
p-Isopropyltoluene	ND	1.0	103	106	2.9	106	102	3.8	70 - 130	30
sec-Butylbenzene	ND	1.0	110	112	1.8	118	113	4.3	70 - 130	30
Styrene	ND	1.0	108	112	3.6	111	107	3.7	70 - 130	30
tert-Butylbenzene	ND	1.0	101	104	2.9	109	103	5.7	70 - 130	30
Tetrachloroethene	ND	1.0	101	104	2.9	114	110	3.6	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	97	93	4.2	92	89	3.3	70 - 130	30
Toluene	ND	1.0	103	106	2.9	112	112	0.0	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	101	104	2.9	124	112	10.2	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	114	114	0.0	105	102	2.9	70 - 130	30
Trichloroethene	ND	1.0	103	107	3.8	113	109	3.6	70 - 130	30
Trichlorofluoromethane	ND	1.0	121	121	0.0	128	118	8.1	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	89	89	0.0	101	97	4.0	70 - 130	30
Vinyl chloride	ND	1.0	100	107	6.8	112	119	6.1	70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	101	3.0	99	96	3.1	70 - 130	30
% Bromofluorobenzene	101	%	109	108	0.9	99	100	1.0	70 - 130	30
% Dibromofluoromethane	104	%	102	102	0.0	104	99	4.9	70 - 130	30
% Toluene-d8	99	%	97	100	3.0	99	99	0.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498982 (ug/L), QC Sample No: CE14875 (CE14948 (400X) , CE14949 (400X) , CE14950 (400X) , CE14951 (400X))

Volatiles - Ground Water

Tetrachloroethene	ND	1.0	107	108	0.9				70 - 130	30
Trichloroethene	ND	1.0	102	112	9.3				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	100	99	1.0				70 - 130	30
% Bromofluorobenzene	101	%	106	105	0.9				70 - 130	30
% Dibromofluoromethane	103	%	102	106	3.8				70 - 130	30
% Toluene-d8	98	%	99	99	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498257 (ug/L), QC Sample No: CE14947 (CE14947)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	101	102	1.0	102	97	5.0	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	101	100	1.0	103	97	6.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	101	102	1.0	102	97	5.0	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	101	100	1.0	103	97	6.0	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	101	101	0.0	103	99	4.0	70 - 130	20
Benzene	ND	1.0	94	94	0.0	97	93	4.2	70 - 130	20
Ethyl Benzene	ND	1.0	95	95	0.0	97	94	3.1	70 - 130	20
MTBE	ND	1.0	103	103	0.0	105	103	1.9	70 - 130	20

QA/QC Data

SDG I.D.: GCE14947

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Naphthalene	ND	5.0	113	112	0.9	113	112	0.9	70 - 130	20
Toluene	ND	1.0	94	93	1.1	96	92	4.3	70 - 130	20
m,p-Xylenes	ND	2.0	96	96	0.0	98	95	3.1	70 - 130	20
o-Xylene	ND	1.0	95	94	1.1	96	93	3.2	70 - 130	20
% 2,5-Dibromotoluene (PID)	111	%	105	106	0.9	109	107	1.9	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14947	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14947	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14947	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	13	1.0	5	5	ug/L
CE14947	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14947	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	4.8	1.0	2	2	ug/L
CE14947	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.8	1.0	2	2	ug/L
CE14947	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14947	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	1.0	5	5	ug/L
CE14947	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.8	1.0	2	2	ug/L
CE14947	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	4.8	1.0	2	2	ug/L
CE14947	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	13	1.0	5	5	ug/L
CE14947	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14947	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	40	0.3	0.3	ug/l
CE14947	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14947	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14948	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14948	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14948	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14948	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	8.3	8.3	ug/L
CE14948	$8260GWR-WI	1,3,5-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	60	60	ug/L
CE14948	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	38	38	ug/L
CE14948	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	61	50	20	20	ug/L
CE14948	$8260GWR-WI	Bromobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	62	62	ug/L
CE14948	$8260GWR-WI	Bromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	83	83	ug/L
CE14948	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14948	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14948	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	5700	400	5	5	ug/L
CE14948	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	73	70	70	70	ug/L
CE14948	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	0.00075	0.00075	ug/L
CE14948	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	7300	400	5	5	ug/L
CE14948	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14948	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14948	$8260GWR-WI	1,2,4-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	56	56	ug/L
CE14948	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	38	38	ug/L
CE14948	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	7	7	ug/L
CE14948	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14948	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	0.00033	0.00033	ug/L
CE14948	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14948	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14948	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	61	50	20	20	ug/L
CE14948	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5700	400	5	5	ug/L
CE14948	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7300	400	5	5	ug/L
CE14948	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14948	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14948	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14948	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	73	70	70	70	ug/L
CE14948	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14948	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14948	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14948	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14948	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14948	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7300	400	5	5	ug/L
CE14948	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14948	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14948	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	73	70	70	70	ug/L
CE14948	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	5700	400	5	5	ug/L
CE14948	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14948	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14948	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE14948	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14948	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14948	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14948	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	13	0.20	0.3	0.3	ug/l
CE14948	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	0.20	3	3	ug/l
CE14948	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	13	0.20	0.3	0.3	ug/l
CE14948	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14949	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14949	$8260GWR-WI	Bromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	83	83	ug/L
CE14949	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14949	$8260GWR-WI	Bromobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	62	62	ug/L
CE14949	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14949	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	89	50	20	20	ug/L
CE14949	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14949	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	8.3	8.3	ug/L
CE14949	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14949	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	38	38	ug/L
CE14949	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	4000	400	5	5	ug/L
CE14949	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	38	38	ug/L
CE14949	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	0.00075	0.00075	ug/L
CE14949	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	5400	400	5	5	ug/L
CE14949	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	0.00033	0.00033	ug/L
CE14949	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2,4-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	56	56	ug/L
CE14949	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14949	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	7	7	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14949	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14949	$8260GWR-WI	1,3,5-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	60	60	ug/L
CE14949	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14949	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4000	400	5	5	ug/L
CE14949	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14949	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5400	400	5	5	ug/L
CE14949	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14949	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14949	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	89	50	20	20	ug/L
CE14949	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14949	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14949	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14949	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14949	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14949	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14949	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14949	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14949	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE14949	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	89	50	70	70	ug/L
CE14949	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14949	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14949	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14949	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14949	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	4000	400	5	5	ug/L
CE14949	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14949	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14949	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5400	400	5	5	ug/L
CE14949	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	13	0.20	0.3	0.3	ug/l
CE14949	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	0.20	3	3	ug/l
CE14949	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	13	0.20	0.3	0.3	ug/l
CE14949	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14950	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	7	7	ug/L
CE14950	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	0.6	0.6	ug/L
CE14950	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	3	3	ug/L
CE14950	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	4	4	ug/L
CE14950	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	2300	400	5	5	ug/L
CE14950	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	250	38	38	ug/L
CE14950	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	250	38	38	ug/L
CE14950	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L
CE14950	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1400	50	5	5	ug/L
CE14950	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	160	50	20	20	ug/L
CE14950	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	0.47	0.47	ug/L
CE14950	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	0.47	0.47	ug/L
CE14950	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	0.0075	0.0075	ug/L
CE14950	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14950	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14950	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	3	3	ug/L
CE14950	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14950	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE14950	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE14950	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14950	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1400	50	5	5	ug/L
CE14950	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2300	400	5	5	ug/L
CE14950	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.5	0.5	ug/L
CE14950	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.6	0.6	ug/L
CE14950	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	4	4	ug/L
CE14950	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE14950	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	3	3	ug/L
CE14950	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	7	7	ug/L
CE14950	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	0.02	0.02	ug/L
CE14950	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	160	50	20	20	ug/L
CE14950	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	160	50	70	70	ug/L
CE14950	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1400	50	5	5	ug/L
CE14950	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	2300	400	5	5	ug/L
CE14950	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	10	10	ug/L
CE14950	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.6	0.6	ug/L
CE14950	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	25	4	4	ug/L
CE14950	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	25	7	7	ug/L
CE14950	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	0.02	0.02	ug/L
CE14950	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	5	5	ug/L
CE14950	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	2	2	ug/L
CE14950	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	25	3	3	ug/L
CE14950	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2000	0.3	0.3	ug/l
CE14950	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2000	3	3	ug/l
CE14950	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	2000	0.3	0.3	ug/l
CE14950	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.675	0.001	0.43	0.43	mg/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14950	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.642	0.001	0.43	0.43	mg/L
CE14951	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.6	0.6	ug/L
CE14951	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	3	3	ug/L
CE14951	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	20	8.3	8.3	ug/L
CE14951	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	38	38	ug/L
CE14951	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	100	38	38	ug/L
CE14951	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	3	3	ug/L
CE14951	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.47	0.47	ug/L
CE14951	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	110	20	20	20	ug/L
CE14951	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	7	7	ug/L
CE14951	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	4	4	ug/L
CE14951	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1600	400	5	5	ug/L
CE14951	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1200	400	5	5	ug/L
CE14951	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE14951	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	20	0.00033	0.00033	ug/L
CE14951	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	20	0.00075	0.00075	ug/L
CE14951	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	20	7	7	ug/L
CE14951	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.47	0.47	ug/L
CE14951	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	110	20	20	20	ug/L
CE14951	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE14951	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE14951	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1200	400	5	5	ug/L
CE14951	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE14951	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1600	400	5	5	ug/L
CE14951	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14947 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14951	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE14951	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE14951	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE14951	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE14951	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE14951	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1600	400	5	5	ug/L
CE14951	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1200	400	5	5	ug/L
CE14951	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	7	7	ug/L
CE14951	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE14951	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	110	20	70	70	ug/L
CE14951	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14951	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE14951	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14951	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE14951	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE14951	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	12	0.20	0.3	0.3	ug/l
CE14951	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	12	0.20	3	3	ug/l
CE14951	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	12	0.20	0.3	0.3	ug/l
CE14951	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	800	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED- WILMIMGTON MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE14947, CE14948, CE14949, CE14950, CE14951

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: EPH, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

SDG Comments

Metals Analysis: CE14950
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

Not all requested reporting levels were achieved. Please refer to the Sample Criteria Exceedances section of this report.

8260 Volatile Organics:
1,2-Dibromoethane and 1,4-Dioxane do not meet GW-1 criteria.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498238 (Samples: CE14947): -----

The LCS/LCSD recovery is below the method criteria. A low bias for these analytes is possible. (C9-C18 Aliphatic Hydrocarbons 1*)

Instrument:

AU-FID3 09/25/19-1 Adam Werner, Chemist 09/25/19

CE14947

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/25/19-1 Adam Werner, Chemist 09/25/19

CE14947

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 498238 (CE14867)

CE14947

All LCS recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(30%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(24%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
The LCS/LCSD exhibited low recoveries for the C9-C18 Aliphatic Hydrocarbon Range, a negative bias is possible.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/25/19-1 Greg Danielewski, Chemist 09/25/19

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

Wet Chemistry Analysis

CE14950

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498423 (CE16348)

CE14950

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/23/19-2 Brian Sheriden, Greg Danielewski, Chemist 09/23/19

CE14950

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/24/19-1 Brian Sheriden, Eric Geyer, Chemist 09/24/19

CE14950

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498337 (CE15272)

CE14950

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 498486 (CE14653)

CE14950

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE14947

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

ARCOS 09/24/19 09:50 Tina Hall, Chemist 09/24/19

CE14950

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/24/19 09:35 Emily Kolominskaya, Chemist 09/24/19

CE14950

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 498137 (CE14415)

CE14950

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 498307 (CE14737)

CE14950

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/26/19-1 Keith Aloisa, Chemist 09/26/19

CE14948, CE14949, CE14951

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

SVOA-Dioxane

The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0926_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498505 (CE16346)

CE14948, CE14949, CE14951

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 09/24/19-1 Wes Bryon, Chemist 09/24/19

CE14947

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0911):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0924_07-27_BNSIM18_0911) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498161 (CE14707)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

SVOASIM Narration

CE14947

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499265 (Samples: CE14947, CE14948, CE14949, CE14950, CE14951): -----

The LCS/LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s), therefore no significant bias is suspected. (Bromoform, Bromomethane)

Instrument:

CHEM02 09/26/19-2 Michael Hahn, Chemist 09/26/19

CE14948, CE14949, CE14950, CE14951

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0926_33-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
96% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM02 09/27/19-1 Michael Hahn, Chemist 09/27/19

CE14947, CE14948, CE14949, CE14950, CE14951

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), Acetone 24% (20%), Bromomethane 32% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.076 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0927_04-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

VOA Narration

94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.206 (0.3), 1,2-Dibromo-3-chloropropane 0.036 (0.05), 2-Hexanone 0.061 (0.1), 4-Methyl-2-pentanone 0.081 (0.1), Acetone 0.031 (0.1), Bromomethane 0.072 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498982 (CE14875)

CE14948, CE14949, CE14950, CE14951

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499265 (CE14374)

CE14947, CE14948, CE14949, CE14950, CE14951

All LCS recoveries were within 70 - 130 with the following exceptions: Bromoform(134%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Bromoform(135%), Bromomethane(171%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/23/19-1 Raman Makol, Chemist 09/23/19

CE14947

QC (Batch Specific):

Batch 498257 (CE14947)

CE14947

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE14947

VPH Narration

obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE14947

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE14947

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes ☐ No ☐
Coolant: (PK) ICE ☐ No ☐
Temp 1.0 °C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herblerich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/23/19

Client Sample - Information - Identification

Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
14947	19A-AE100R1-092319-1	GW	9/23/19	1235	5	2			X		X	X						
14948	19A-AE100R3-092319-1	GW	9/23/19	1240	3	2			X	X								
14949	19A-AE100R4-092319-1	GW	9/23/19	1245	3	2			X	X								
14950	19A-AE100R5-092319-1	GW	9/23/19	1230	3			4	X				X	X	X	X		
14951	19A-AE100R6-092319-1	GW	9/23/19	1250	3	2			X	X								

Relinquished by: [signature] Date: 9-23-19 Time: 13:50

Accepted by: [signature] 92319 1552

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
- ☐ Direct Exposure (Residential)
- ☐ GW
- ☐ Other

CT
- ☐ RCP Cert
- ☐ GW Protection
- ☐ SW Protection
- ☐ GA Mobility
- ☐ GB Mobility
- ☐ Residential DEC
- ☐ I/C DEC
- ☐ Other

MA
- ☑ MCP (CAM Report)
- ☐ GW-1
- ☐ GW-2
- ☐ GW-3
- ☐ S-1
- ☐ S-2
- ☐ S-3
- ☐ MWRA eSMART
- ☐ Other

State where samples were collected: MA

Data Format
- x PDF
- x AECOM EQuIS 4-File EDD format

Data Package
- ☐ Tier II Checklist
- ☐ Full Data Package*
- ☐ Phoenix Std Report
- ☐ Other

* SURCHARGE APPLIES

Thursday, March 19, 2020

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED- WILMINGTON MA 60552044.13**
SDG ID: **GCE14952**
Sample ID#s: CE14952 - CE14962

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 19, 2020

SDG I.D.: GCE14952

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH acceptance ranges were modified.

Revision 3
This report has been revised to include the area of all peaks eluting within the retention time windows specified for the Unadjusted C5-C8 aliphatic range, excluding surrogates. The final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily PCE & TCE.

Revision 4
This report has been revised to be consistent with Revision 2 for samples CE14959 & CE14962 VPH Targets.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 19, 2020

SDG I.D.: GCE14952

Project ID: LOCKHEED- WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-092319-1	CE14952	GROUND WATER
19A-AE26S-092319-1	CE14953	GROUND WATER
19A-AE24-092319-1	CE14954	GROUND WATER
19A-AE26R1-092319-1	CE14955	GROUND WATER
19A-AE26R2-092319-1	CE14956	GROUND WATER
19A-AE26R5-092319-1	CE14957	GROUND WATER
19A-AE28R1-092319-1	CE14958	GROUND WATER
19A-AE28R2-092319-1	CE14959	GROUND WATER
19A-AE28R3-092319-1	CE14960	GROUND WATER
19A-AE28R4-092319-1	CE14961	GROUND WATER
19A-AE23R-092319-1	CE14962	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14952

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-TB01-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-TB01-092319-1

Phoenix I.D.: CE14952

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	104		%	1	09/27/19	MH	70 - 130 %
% Toluene-d8	100		%	1	09/27/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C

7

Ver 4

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-TB01-092319-1

Phoenix I.D.: CE14952

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	9:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14953

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26S-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/25/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.011	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.440	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.057	0.010	mg/L	1	09/25/19	EK	SW6010D
Manganese	0.437	0.001	mg/L	1	09/25/19	EK	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/24/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	57	2.0	ug/L	2	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	29	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	2.3	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	23	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	2.2	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	97		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	97		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	106		%	1	10/01/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (2x)	102		%	2	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (2x)	90		%	2	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (2x)	94		%	2	09/30/19	MH	70 - 130 %	
% Toluene-d8 (2x)	112		%	2	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14954

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE24-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	5500	400	ug/L	400	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	104		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	101		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	100		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	92		%	400	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	101		%	400	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.4	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	94		%	1	09/26/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	9:20
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14955

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.058	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.636	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.243	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.667	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	133	15.0	mg/L	5	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/23/19 23:07	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/23/19 23:07	BS/GD	E300.0
Sulfate	17.5	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	0.17	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/27/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloroethane	22	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloroethene	3.7	2.5	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/30/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/30/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	09/30/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/30/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	260	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Tetrachloroethene	270	20	ug/L	20	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/30/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	19	5.0	ug/L	5	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Trichloroethene	500	20	ug/L	20	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	92		%	5	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	96		%	5	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	86		%	5	09/30/19	MH	70 - 130 %
% Toluene-d8 (5x)	117		%	5	09/30/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	102		%	20	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	100		%	20	09/27/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	09/27/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	200	ug/l	5	09/30/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	76		%	1	09/24/19	WB	40 - 140 %
% Nitrobenzene-d5	81		%	1	09/24/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	76		%	1	09/24/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	25	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8 (5x)	104		%	5	09/27/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	95		%	1	09/24/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	107		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	81		%	1	09/24/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	360	100	ug/L	1	09/24/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/24/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	360	100	ug/L	1	09/24/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/24/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/24/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/24/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/24/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/24/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 19, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14956

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R2-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloroethane	20	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloroethene	2.4	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	10/01/19	MH	SW8260C
Acetone	ND	50	ug/L	2	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	10/01/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	130	5.0	ug/L	5	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Tetrachloroethene	9.3	2.0	ug/L	2	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	10/01/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	6.6	2.0	ug/L	2	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Trichloroethene	79	5.0	ug/L	5	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Vinyl chloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	98		%	2	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	100		%	2	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	89		%	2	10/01/19	MH	70 - 130 %
% Toluene-d8 (2x)	107		%	2	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (5x)	100		%	5	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	93		%	5	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	100		%	5	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (5x)	99		%	5	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14957

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R5-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethane	38	20	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	510	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Tetrachloroethene	1000	100	ug/L	100	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/27/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	37	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Trichloroethene	1900	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	95		%	20	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/27/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	93		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (100x)	100		%	100	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	34	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8 (5x)	97		%	5	09/27/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14958

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	100	100	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	1900	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	3500	500	ug/L	500	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	250	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	10000	500	ug/L	500	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	380	100	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	96		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	105		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	100		%	500	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	92		%	500	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	99		%	500	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	98		%	500	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	

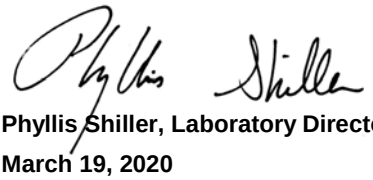
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 19, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14959

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R2-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.823	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	1.87	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.892	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	1.92	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	422	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 04:03	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/23/19 23:17	BS/GD	E300.0
Sulfate	39.4	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	0.30	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/27/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	160	100	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	50	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	840	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Tetrachloroethene	17000	1000	ug/L	1000	09/29/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C	
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C	
trans-1,2-Dichloroethene	140	100	ug/L	100	09/27/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C	
Trichloroethene	19000	1000	ug/L	1000	09/29/19	MH	SW8260C	
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Vinyl chloride	99	50	ug/L	100	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (100x)	95		%	100	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (100x)	101		%	100	09/27/19	MH	70 - 130 %	
% Toluene-d8 (100x)	99		%	100	09/27/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (1000x)	101		%	1000	09/29/19	MH	70 - 130 %	
% Bromofluorobenzene (1000x)	90		%	1000	09/29/19	MH	70 - 130 %	
% Dibromofluoromethane (1000x)	96		%	1000	09/29/19	MH	70 - 130 %	
% Toluene-d8 (1000x)	96		%	1000	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	0.87	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	75		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	83		%	1	09/24/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	77		%	1	09/24/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	60	1.0	ug/l	5	10/01/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8 (5x)	92		%	5	10/01/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	41		%	1	09/26/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	67		%	1	09/26/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	72		%	1	09/26/19	AW	40 - 140 %
% o-terphenyl (aromatic)	52		%	1	09/26/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	11000	100	ug/L	1	09/25/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/25/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	11000	100	ug/L	1	09/25/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/25/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/25/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/25/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	5.0	ug/L	1	09/25/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/25/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/25/19	PS	MA VPH 5/2004
Toluene	ND	10	ug/L	1	09/25/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	10	ug/L	1	09/25/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/25/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	101		%	1	09/25/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	98		%	1	09/25/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 19, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14960

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/29/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/29/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/29/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	730	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/29/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Tetrachloroethene	3600	500	ug/L	500	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/29/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	120	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Trichloroethene	5100	500	ug/L	500	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	101		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	90		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	102		%	100	09/29/19	MH	70 - 130 %
% Toluene-d8 (100x)	99		%	100	09/29/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	92		%	500	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	93		%	500	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	88		%	500	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	96		%	500	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	46	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8 (5x)	96		%	5	09/27/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14961

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethane	72	70	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/29/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/29/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/29/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	540	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/29/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Tetrachloroethene	7000	500	ug/L	500	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/29/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Trichloroethene	7300	500	ug/L	500	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	100		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	91		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/29/19	MH	70 - 130 %
% Toluene-d8 (100x)	100		%	100	09/29/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	94		%	500	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	97		%	500	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	95		%	500	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	97		%	500	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director

March 19, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 19, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	11:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14962

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE23R-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	1200	1000	ug/L	1000	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloroethane	800	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloroethene	580	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	600	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	500	ug/L	1000	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	500	ug/L	1000	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Acetone	ND	6300	ug/L	1000	09/29/19	MH	SW8260C
Benzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromochloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromodichloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromoform	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromomethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Carbon Disulfide	ND	810	ug/L	1000	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chloroethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Chloroform	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dibromochloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dibromomethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Ethylbenzene	ND	700	ug/L	1000	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Isopropylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
m&p-Xylene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	2000	ug/L	1000	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Methylene chloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Naphthalene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
n-Butylbenzene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
n-Propylbenzene	ND	660	ug/L	1000	09/29/19	MH	SW8260C
o-Xylene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Styrene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	690	ug/L	1000	09/29/19	MH	SW8260C
Tetrachloroethene	100000	10000	ug/L	10000	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2500	ug/L	1000	09/29/19	MH	SW8260C
Toluene	4200	1000	ug/L	1000	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Trichloroethene	240000	10000	ug/L	10000	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Vinyl chloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (1000x)	101		%	1000	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (1000x)	89		%	1000	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (1000x)	92		%	1000	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (1000x)	100		%	1000	09/29/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (10000x)	94		%	10000	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (10000x)	95		%	10000	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (10000x)	93		%	10000	09/30/19	MH	70 - 130 %	
% Toluene-d8 (10000x)	101		%	10000	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40000	ug/l	1000	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Naphthalene	1.1	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	70		%	1	09/26/19	WB	40 - 140 %	
% Nitrobenzene-d5	84		%	1	09/26/19	WB	40 - 140 %	
% Terphenyl-d14	65		%	1	09/26/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	15	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	64		%	1	09/26/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14962
Client ID: 19A-AE23R-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	85		%	1	09/25/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	89		%	1	09/25/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	100		%	1	09/25/19	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	09/25/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	74000	10000	ug/L	100	09/30/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	220	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	70000	10000	ug/L	100	09/26/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Toluene	4000	100	ug/L	100	09/30/19	PS	MA VPH 5/2004
m,p-Xylenes	33	2.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
o-Xylene	12	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	95		%	1	09/26/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	90		%	1	09/26/19	PS	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

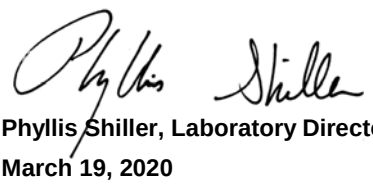
MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 19, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Ver 4

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 19, 2020

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498137 (mg/L), QC Sample No: CE14415 (CE14953, CE14955, CE14959)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	0.050	0.053	5.80	94.5	94.8	0.3	98.5	99.5	1.0	80 - 120	20
Iron	BRL	0.011	22.5	22.4	0.40	90.4	92.0	1.8	NC	NC	NC	80 - 120	20
Manganese	BRL	0.001	3.18	2.97	6.80	92.7	94.4	1.8	96.7	94.6	2.2	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 498307 (mg/L), QC Sample No: CE14737 (CE14953)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	88.9	90.5	1.8	96.4			80 - 120	20
Iron	BRL	0.010	0.154	0.138	11.0	91.5	92.3	0.9	92.1			80 - 120	20
Manganese	BRL	0.001	0.014	0.012	15.4	91.1	92.2	1.2	92.5			80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 498523 (mg/L), QC Sample No: CE16348 (CE14955, CE14959)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	98.1	97.1	1.0	96.4	104	7.6	80 - 120	20
Iron	BRL	0.010	6.88	6.89	0.10	103	101	2.0	NC	NC	NC	80 - 120	20
Manganese	BRL	0.001	2.91	2.91	0	101	99.9	1.1	116	107	8.1	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 19, 2020

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498881 (mg/L), QC Sample No: CE15209 (CE14955, CE14959)													
Total Organic Carbon	BRL	1.0	<1.0	<1.0	NC	110			98.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 498423 (mg/L), QC Sample No: CE16348 (CE14955, CE14959)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	106			112			90 - 110	20
QA/QC Batch 498486 (mg/L), QC Sample No: CE14653 (CE14955, CE14959)													
Chloride	BRL	3.0	69.1	72.3	4.50	96.9			107			90 - 110	20
QA/QC Batch 498337 (mg/L), QC Sample No: CE15272 (CE14955, CE14959)													
Chloride	BRL	3.0	27.6	27.0	2.20	101			104			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	2.70	2.63	2.60	103			95.1			90 - 110	20
Sulfate	BRL	3.0	9.6	9.2	NC	102			102			90 - 110	20
QA/QC Batch 498337 (mg/L), QC Sample No: CE15272 (CE14955, CE14959)													
Nitrite as Nitrogen	BRL	0.01	<0.01	<0.01	NC	93.1			93.8			90 - 110	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 19, 2020

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498238 (ug/L), QC Sample No: CE14867 (CE14955, CE14959, CE14962)											
MAEPH - Ground Water											
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	30	24	22.2				40 - 140	25	l
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	66	55	18.2				40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	100	61	56	8.5				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
Total TPH 1,2*	ND	100	51	42	19.4				40 - 140	25	
C9 - Nonane			<10	<10	NC				40 - 140	25	l
C-10 Decane			<10	<10	NC				40 - 140	25	l
C12 - Dodecane			12	<10	NC				40 - 140	25	l
C14 - Tetradecane			34	22	42.9				40 - 140	25	l,r
C16 - Hexadecane			54	42	25.0				40 - 140	25	
C18 - Octadecane			65	53	20.3				40 - 140	25	
C19 - Nonadecane			65	54	18.5				40 - 140	25	
C20 - Eicosane			67	56	17.9				40 - 140	25	
C22 - Docosane			67	55	19.7				40 - 140	25	
C24 - Tetracosane			67	56	17.9				40 - 140	25	
C26 - Hexacosane			68	56	19.4				40 - 140	25	
C28 - Octacosane			67	56	17.9				40 - 140	25	
C30 - Tricotane			66	55	18.2				40 - 140	25	
C36 - Hexatriacontane			62	56	10.2				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	69	%	64	55	15.1				40 - 140	25	
% o-terphenyl (aromatic)	66	%	57	52	9.2				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	79	%	75	78	3.9				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	79	%	75	79	5.2				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		

Comment:

The LCS/LCSD exhibited low recoveries for the C9-C18 Aliphatic Hydrocarbon Range, a negative bias is possible.

Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

QA/QC Batch 498505 (ug/l), QC Sample No: CE16346 (CE14954, CE14955, CE14957, CE14959, CE14960, CE14962)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	97	99	2.0	93	92	1.7	40 - 140	30	
% 1,4-dioxane-d8	90	%	92	93	1.1	89	92	3.3	40 - 140	30	
QA/QC Batch 498161 (ug/L), QC Sample No: CE14707 (CE14955, CE14959, CE14962)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	78	81	3.8	67	49	31.0	40 - 140	20	r
Acenaphthene	ND	0.50	90	90	0.0	83	59	33.8	40 - 140	20	r
Acenaphthylene	ND	0.10	93	94	1.1	86	61	34.0	40 - 140	20	r
Anthracene	ND	0.10	99	104	4.9	91	66	31.8	40 - 140	20	r
Benz(a)anthracene	ND	0.02	97	96	1.0	75	56	29.0	40 - 140	20	r

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(a)pyrene	ND	0.02	132	130	1.5	82	67	20.1	40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	107	110	2.8	73	55	28.1	40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	95	93	2.1	52	44	16.7	40 - 140	20	
Benzo(k)fluoranthene	ND	0.02	101	98	3.0	59	50	16.5	40 - 140	20	
Chrysene	ND	0.02	92	93	1.1	68	53	24.8	40 - 140	20	r
Dibenz(a,h)anthracene	ND	0.02	114	112	1.8	59	51	14.5	40 - 140	20	
Fluoranthene	ND	0.50	99	101	2.0	88	64	31.6	40 - 140	20	r
Fluorene	ND	0.10	98	99	1.0	92	64	35.9	40 - 140	20	r
Indeno(1,2,3-cd)pyrene	ND	0.02	116	113	2.6	64	54	16.9	40 - 140	20	
Naphthalene	ND	0.50	67	73	8.6	23	23	0.0	40 - 140	20	m
Phenanthrene	ND	0.06	93	95	2.1	84	61	31.7	40 - 140	20	r
Pyrene	ND	0.07	101	102	1.0	90	64	33.8	40 - 140	20	r
% 2-Fluorobiphenyl	76	%	80	79	1.3	73	51	35.5	40 - 140	20	r
% Nitrobenzene-d5	84	%	88	85	3.5	76	50	41.3	40 - 140	20	r
% Terphenyl-d14	80	%	78	78	0.0	59	45	26.9	40 - 140	20	r

Comment:

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 499265 (ug/L), QC Sample No: CE14374 (CE14952, CE14954 (100X) , CE14955 (20X) , CE14957 (20X) , CE14958 (100X) , CE14959 (100X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	114	116	1.7	107	105	1.9	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	112	117	4.4	113	111	1.8	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	108	114	5.4	117	110	6.2	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	103	103	0.0	104	101	2.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0	110	111	0.9	113	112	0.9	70 - 130	30	
1,1-Dichloroethene	ND	1.0	97	100	3.0	113	111	1.8	70 - 130	30	
1,1-Dichloropropene	ND	1.0	99	102	3.0	114	108	5.4	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	101	105	3.9	98	100	2.0	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	106	104	1.9	103	102	1.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	106	109	2.8	103	102	1.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	105	108	2.8	106	101	4.8	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	98	103	5.0	105	98	6.9	70 - 130	30	
1,2-Dibromoethane	ND	1.0	108	109	0.9	105	102	2.9	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	102	106	3.8	105	100	4.9	70 - 130	30	
1,2-Dichloroethane	ND	1.0	120	123	2.5	103	98	5.0	70 - 130	30	
1,2-Dichloropropane	ND	1.0	102	104	1.9	107	105	1.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	105	108	2.8	109	102	6.6	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	104	106	1.9	106	102	3.8	70 - 130	30	
1,3-Dichloropropane	ND	1.0	104	103	1.0	103	102	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	101	105	3.9	105	98	6.9	70 - 130	30	
1,4-dioxane	ND	100	112	87	25.1	88	83	5.8	40 - 160	30	
2,2-Dichloropropane	ND	1.0	119	121	1.7	107	103	3.8	70 - 130	30	
2-Chlorotoluene	ND	1.0	102	105	2.9	108	105	2.8	70 - 130	30	
2-Hexanone	ND	5.0	86	90	4.5	93	86	7.8	40 - 160	30	
4-Chlorotoluene	ND	1.0	105	107	1.9	107	100	6.8	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	95	99	4.1	92	92	0.0	40 - 160	30	
Acetone	ND	5.0	93	88	5.5	66	68	3.0	40 - 160	30	
Benzene	ND	0.70	101	105	3.9	111	108	2.7	70 - 130	30	
Bromobenzene	ND	1.0	101	104	2.9	107	103	3.8	70 - 130	30	
Bromochloromethane	ND	1.0	103	107	3.8	104	108	3.8	70 - 130	30	
Bromodichloromethane	ND	0.50	117	122	4.2	106	106	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Bromoform	ND	1.0	134	135	0.7	119	113	5.2	70 - 130	30
Bromomethane	ND	1.0	151	171	12.4	120	146	19.5	40 - 160	30
Carbon Disulfide	ND	1.0	99	98	1.0	116	112	3.5	70 - 130	30
Carbon tetrachloride	ND	1.0	118	117	0.9	117	113	3.5	70 - 130	30
Chlorobenzene	ND	1.0	104	108	3.8	110	102	7.5	70 - 130	30
Chloroethane	ND	1.0	108	120	10.5	121	107	12.3	70 - 130	30
Chloroform	ND	1.0	112	120	6.9	114	105	8.2	70 - 130	30
Chloromethane	ND	1.0	94	92	2.2	100	102	2.0	40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	105	102	2.9	109	105	3.7	70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	107	113	5.5	106	103	2.9	70 - 130	30
Dibromochloromethane	ND	0.50	126	123	2.4	116	109	6.2	70 - 130	30
Dibromomethane	ND	1.0	118	123	4.1	110	108	1.8	70 - 130	30
Dichlorodifluoromethane	ND	1.0	116	114	1.7	109	112	2.7	40 - 160	30
Ethyl ether	ND	1.0	98	104	5.9	97	101	4.0	70 - 130	30
Ethylbenzene	ND	1.0	101	105	3.9	110	105	4.7	70 - 130	30
Hexachlorobutadiene	ND	0.40	112	120	6.9	103	99	4.0	70 - 130	30
Isopropylbenzene	ND	1.0	102	103	1.0	114	107	6.3	70 - 130	30
m&p-Xylene	ND	1.0	102	106	3.8	110	105	4.7	70 - 130	30
Methyl ethyl ketone	ND	5.0	97	105	7.9	101	98	3.0	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	91	91	0.0	91	89	2.2	70 - 130	30
Methylene chloride	ND	1.0	99	98	1.0	101	100	1.0	70 - 130	30
Naphthalene	ND	1.0	105	104	1.0	104	108	3.8	70 - 130	30
n-Butylbenzene	ND	1.0	105	105	0.0	105	101	3.9	70 - 130	30
n-Propylbenzene	ND	1.0	102	104	1.9	111	101	9.4	70 - 130	30
o-Xylene	ND	1.0	105	108	2.8	112	108	3.6	70 - 130	30
p-Isopropyltoluene	ND	1.0	103	106	2.9	106	102	3.8	70 - 130	30
sec-Butylbenzene	ND	1.0	110	112	1.8	118	113	4.3	70 - 130	30
Styrene	ND	1.0	108	112	3.6	111	107	3.7	70 - 130	30
tert-Butylbenzene	ND	1.0	101	104	2.9	109	103	5.7	70 - 130	30
Tetrachloroethene	ND	1.0	101	104	2.9	114	110	3.6	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	97	93	4.2	92	89	3.3	70 - 130	30
Toluene	ND	1.0	103	106	2.9	112	112	0.0	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	101	104	2.9	124	112	10.2	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	114	114	0.0	105	102	2.9	70 - 130	30
Trichloroethene	ND	1.0	103	107	3.8	113	109	3.6	70 - 130	30
Trichlorofluoromethane	ND	1.0	121	121	0.0	128	118	8.1	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	89	89	0.0	101	97	4.0	70 - 130	30
Vinyl chloride	ND	1.0	100	107	6.8	112	119	6.1	70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	101	3.0	99	96	3.1	70 - 130	30
% Bromofluorobenzene	101	%	109	108	0.9	99	100	1.0	70 - 130	30
% Dibromofluoromethane	104	%	102	102	0.0	104	99	4.9	70 - 130	30
% Toluene-d8	99	%	97	100	3.0	99	99	0.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499703 (ug/L), QC Sample No: CE15186 (CE14953, CE14956 (2X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	101	100	1.0	109	111	1.8	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	90	88	2.2	104	105	1.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	108	105	2.8	108	112	3.6	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	98	96	2.1	102	107	4.8	70 - 130	30
1,1-Dichloroethane	ND	1.0	94	94	0.0	98	100	2.0	70 - 130	30
1,1-Dichloroethene	ND	1.0	89	89	0.0	98	96	2.1	70 - 130	30

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,1-Dichloropropene	ND	1.0	82	78	5.0	101	102	1.0	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	132	135	2.2	142	142	0.0	70 - 130	30	l,m
1,2,3-Trichloropropane	ND	1.0	98	96	2.1	97	102	5.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	114	110	3.6	118	109	7.9	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	92	91	1.1	99	95	4.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	118	117	0.9	118	121	2.5	70 - 130	30	
1,2-Dibromoethane	ND	1.0	101	96	5.1	100	107	6.8	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	99	98	1.0	105	103	1.9	70 - 130	30	
1,2-Dichloroethane	ND	1.0	97	97	0.0	100	109	8.6	70 - 130	30	
1,2-Dichloropropane	ND	1.0	98	96	2.1	102	108	5.7	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	91	1.1	100	95	5.1	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	95	95	0.0	103	98	5.0	70 - 130	30	
1,3-Dichloropropane	ND	1.0	101	98	3.0	100	106	5.8	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	95	96	1.0	103	97	6.0	70 - 130	30	
1,4-dioxane	ND	100	93	92	1.1	93	115	21.2	40 - 160	30	
2,2-Dichloropropane	ND	1.0	95	93	2.1	99	100	1.0	70 - 130	30	
2-Chlorotoluene	ND	1.0	95	92	3.2	102	98	4.0	70 - 130	30	
2-Hexanone	ND	5.0	98	97	1.0	97	103	6.0	40 - 160	30	
4-Chlorotoluene	ND	1.0	93	92	1.1	100	95	5.1	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	102	99	3.0	102	109	6.6	40 - 160	30	
Acetone	ND	5.0	93	100	7.3	89	95	6.5	40 - 160	30	
Benzene	ND	0.70	93	92	1.1	101	104	2.9	70 - 130	30	
Bromobenzene	ND	1.0	96	95	1.0	105	105	0.0	70 - 130	30	
Bromochloromethane	ND	1.0	98	93	5.2	96	100	4.1	70 - 130	30	
Bromodichloromethane	ND	0.50	101	100	1.0	108	116	7.1	70 - 130	30	
Bromoform	ND	1.0	112	112	0.0	109	112	2.7	70 - 130	30	
Bromomethane	ND	1.0	115	113	1.8	77	82	6.3	40 - 160	30	
Carbon Disulfide	ND	1.0	85	83	2.4	88	88	0.0	70 - 130	30	
Carbon tetrachloride	ND	1.0	87	90	3.4	106	105	0.9	70 - 130	30	
Chlorobenzene	ND	1.0	96	95	1.0	103	104	1.0	70 - 130	30	
Chloroethane	ND	1.0	93	94	1.1	110	112	1.8	70 - 130	30	
Chloroform	ND	1.0	100	100	0.0	95	98	3.1	70 - 130	30	
Chloromethane	ND	1.0	97	97	0.0	95	94	1.1	40 - 160	30	
cis-1,3-Dichloropropene	ND	0.40	103	100	3.0	102	108	5.7	70 - 130	30	
Dibromochloromethane	ND	0.50	106	105	0.9	109	119	8.8	70 - 130	30	
Dibromomethane	ND	1.0	100	100	0.0	105	112	6.5	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	98	98	0.0	104	84	21.3	40 - 160	30	
Ethyl ether	ND	1.0	98	97	1.0	90	94	4.3	70 - 130	30	
Ethylbenzene	ND	1.0	94	93	1.1	102	101	1.0	70 - 130	30	
Hexachlorobutadiene	ND	0.40	97	101	4.0	113	98	14.2	70 - 130	30	
Isopropylbenzene	ND	1.0	91	91	0.0	101	100	1.0	70 - 130	30	
m&p-Xylene	ND	1.0	92	92	0.0	100	97	3.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	107	106	0.9	126	121	4.0	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	109	104	4.7	103	110	6.6	70 - 130	30	
Methylene chloride	ND	1.0	89	86	3.4	86	88	2.3	70 - 130	30	
Naphthalene	ND	1.0	120	126	4.9	128	133	3.8	70 - 130	30	m
n-Butylbenzene	ND	1.0	95	95	0.0	106	95	10.9	70 - 130	30	
n-Propylbenzene	ND	1.0	92	91	1.1	103	96	7.0	70 - 130	30	
o-Xylene	ND	1.0	96	96	0.0	105	104	1.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	93	92	1.1	104	95	9.0	70 - 130	30	
sec-Butylbenzene	ND	1.0	98	97	1.0	110	104	5.6	70 - 130	30	
Styrene	ND	1.0	97	96	1.0	103	102	1.0	70 - 130	30	
tert-Butylbenzene	ND	1.0	93	91	2.2	104	101	2.9	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Tetrachloroethene	ND	1.0	93	90	3.3	107	105	1.9	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	95	95	0.0	87	89	2.3	70 - 130	30
Toluene	ND	1.0	95	93	2.1	104	108	3.8	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	93	91	2.2	98	98	0.0	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	106	104	1.9	104	110	5.6	70 - 130	30
Trichloroethene	ND	1.0	93	90	3.3	103	106	2.9	70 - 130	30
Trichlorofluoromethane	ND	1.0	90	88	2.2	106	95	10.9	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	82	84	2.4	98	83	16.6	70 - 130	30
Vinyl chloride	ND	1.0	89	89	0.0	92	92	0.0	70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	103	103	0.0	104	105	1.0	70 - 130	30
% Bromofluorobenzene	100	%	103	100	3.0	102	103	1.0	70 - 130	30
% Dibromofluoromethane	105	%	102	105	2.9	97	99	2.0	70 - 130	30
% Toluene-d8	91	%	101	98	3.0	99	102	3.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499312 (ug/L), QC Sample No: CE16181 (CE14954 (400X) , CE14956 (5X))

Volatiles - Ground Water

cis-1,2-Dichloroethene	ND	1.0	95	97	2.1				70 - 130	30
Tetrachloroethene	ND	1.0	95	94	1.1				70 - 130	30
Trichloroethene	ND	1.0	95	96	1.0				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	103	103	0.0				70 - 130	30
% Bromofluorobenzene	97	%	101	99	2.0				70 - 130	30
% Dibromofluoromethane	101	%	100	102	2.0				70 - 130	30
% Toluene-d8	99	%	102	97	5.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499453 (ug/L), QC Sample No: CE16343 (CE14953 (2X))

Volatiles - Ground Water

cis-1,2-Dichloroethene	ND	1.0	89	90	1.1	89	90	1.1	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	102	101	1.0	100	101	1.0	70 - 130	30
% Bromofluorobenzene	94	%	96	99	3.1	98	101	3.0	70 - 130	30
% Dibromofluoromethane	98	%	95	95	0.0	99	95	4.1	70 - 130	30
% Toluene-d8	106	%	116	116	0.0	116	117	0.9	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499458 (ug/L), QC Sample No: CE17181 (CE14955 (5X) , CE14960 (500X) , CE14961 (500X) , CE14962 (10000X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	102	109	6.6	97	102	5.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	103	106	2.9	104	105	1.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	96	107	10.8	90	94	4.3	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	95	107	11.9	92	93	1.1	70 - 130	30
1,1-Dichloroethane	ND	1.0	102	106	3.8	90	91	1.1	70 - 130	30
1,1-Dichloroethene	ND	1.0	106	112	5.5	102	106	3.8	70 - 130	30
1,1-Dichloropropene	ND	1.0	103	105	1.9	125	119	4.9	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	91	107	16.2	77	87	12.2	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	87	99	12.9	86	89	3.4	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	99	107	7.8	87	95	8.8	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	101	101	0.0	98	98	0.0	70 - 130	30

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dibromo-3-chloropropane	ND	1.0	97	116	17.8	95	93	2.1	70 - 130	30	
1,2-Dibromoethane	ND	1.0	95	104	9.0	90	94	4.3	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	99	105	5.9	98	102	4.0	70 - 130	30	
1,2-Dichloroethane	ND	1.0	92	102	10.3	89	89	0.0	70 - 130	30	
1,2-Dichloropropane	ND	1.0	102	110	7.5	97	95	2.1	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	102	103	1.0	101	102	1.0	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	101	105	3.9	99	103	4.0	70 - 130	30	
1,3-Dichloropropane	ND	1.0	97	107	9.8	89	91	2.2	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	101	105	3.9	100	102	2.0	70 - 130	30	
1,4-dioxane	ND	100	111	111	0.0	97	101	4.0	40 - 160	30	
2,2-Dichloropropane	ND	1.0	105	108	2.8	95	99	4.1	70 - 130	30	
2-Chlorotoluene	ND	1.0	105	104	1.0	101	105	3.9	70 - 130	30	
2-Hexanone	ND	5.0	92	110	17.8	87	86	1.2	40 - 160	30	
4-Chlorotoluene	ND	1.0	102	103	1.0	101	104	2.9	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	92	110	17.8	93	89	4.4	40 - 160	30	
Acetone	ND	5.0	80	103	25.1	72	76	5.4	40 - 160	30	
Benzene	ND	0.70	105	106	0.9	100	98	2.0	70 - 130	30	
Bromobenzene	ND	1.0	103	104	1.0	102	104	1.9	70 - 130	30	
Bromochloromethane	ND	1.0	94	104	10.1	87	90	3.4	70 - 130	30	
Bromodichloromethane	ND	0.50	102	111	8.5	93	97	4.2	70 - 130	30	
Bromoform	ND	1.0	96	112	15.4	86	89	3.4	70 - 130	30	
Bromomethane	ND	1.0	151	154	2.0	78	100	24.7	40 - 160	30	
Carbon Disulfide	ND	1.0	113	113	0.0	99	102	3.0	70 - 130	30	
Carbon tetrachloride	ND	1.0	106	109	2.8	106	114	7.3	70 - 130	30	
Chlorobenzene	ND	1.0	103	106	2.9	97	101	4.0	70 - 130	30	
Chloroethane	ND	1.0	123	121	1.6	114	109	4.5	70 - 130	30	
Chloroform	ND	1.0	96	101	5.1	86	91	5.6	70 - 130	30	
Chloromethane	ND	1.0	117	124	5.8	90	92	2.2	40 - 160	30	
cis-1,3-Dichloropropene	ND	0.40	100	110	9.5	92	93	1.1	70 - 130	30	
Dibromochloromethane	ND	0.50	104	115	10.0	97	101	4.0	70 - 130	30	
Dibromomethane	ND	1.0	93	103	10.2	87	90	3.4	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	137	137	0.0	107	111	3.7	40 - 160	30	
Ethyl ether	ND	1.0	93	107	14.0	76	77	1.3	70 - 130	30	
Ethylbenzene	ND	1.0	106	105	0.9	103	106	2.9	70 - 130	30	
Hexachlorobutadiene	ND	0.40	113	108	4.5	95	108	12.8	70 - 130	30	
Isopropylbenzene	ND	1.0	102	103	1.0	104	101	2.9	70 - 130	30	
m&p-Xylene	ND	1.0	103	104	1.0	99	102	3.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	107	129	18.6	109	103	5.7	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	92	110	17.8	83	85	2.4	70 - 130	30	
Methylene chloride	ND	1.0	97	104	7.0	81	84	3.6	70 - 130	30	
Naphthalene	ND	1.0	95	109	13.7	98	104	5.9	70 - 130	30	
n-Butylbenzene	ND	1.0	103	102	1.0	100	98	2.0	70 - 130	30	
n-Propylbenzene	ND	1.0	105	104	1.0	104	101	2.9	70 - 130	30	
o-Xylene	ND	1.0	103	107	3.8	101	105	3.9	70 - 130	30	
p-Isopropyltoluene	ND	1.0	101	100	1.0	113	110	2.7	70 - 130	30	
sec-Butylbenzene	ND	1.0	106	105	0.9	105	100	4.9	70 - 130	30	
Styrene	ND	1.0	99	103	4.0	95	97	2.1	70 - 130	30	
tert-Butylbenzene	ND	1.0	101	101	0.0	103	102	1.0	70 - 130	30	
Tetrachloroethene	ND	1.0	105	109	3.7	111	111	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	83	98	16.6	67	71	5.8	70 - 130	30	m
Toluene	ND	1.0	105	109	3.7	103	104	1.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	109	111	1.8	97	97	0.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	97	108	10.7	88	91	3.4	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Trichloroethene	ND	1.0	106	109	2.8	107	108	0.9	70 - 130	30
Trichlorofluoromethane	ND	1.0	115	117	1.7	118	122	3.3	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	106	107	0.9	114	120	5.1	70 - 130	30
Vinyl chloride	ND	1.0	114	119	4.3	94	97	3.1	70 - 130	30
% 1,2-dichlorobenzene-d4	94	%	97	101	4.0	97	96	1.0	70 - 130	30
% Bromofluorobenzene	96	%	97	100	3.0	96	96	0.0	70 - 130	30
% Dibromofluoromethane	101	%	88	102	14.7	88	87	1.1	70 - 130	30
% Toluene-d8	93	%	102	103	1.0	103	101	2.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499331 (ug/L), QC Sample No: CE17362 (CE14957 (100X) , CE14958 (500X) , CE14959 (1000X) , CE14960 (100X) , CE14961 (100X) , CE14962 (1000X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	89	86	3.4				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	84	79	6.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	102	94	8.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	88	89	1.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	94	93	1.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	96	92	4.3				70 - 130	30
1,1-Dichloropropene	ND	1.0	97	93	4.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	85	84	1.2				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	91	88	3.4				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	91	93	2.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	98	93	5.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	94	94	0.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	93	90	3.3				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	93	92	1.1				70 - 130	30
1,2-Dichloroethane	ND	1.0	76	74	2.7				70 - 130	30
1,2-Dichloropropane	ND	1.0	103	99	4.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	94	4.2				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	96	95	1.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	91	90	1.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	91	89	2.2				70 - 130	30
1,4-dioxane	ND	100	91	84	8.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	92	88	4.4				70 - 130	30
2-Chlorotoluene	ND	1.0	105	99	5.9				70 - 130	30
2-Hexanone	ND	5.0	103	92	11.3				40 - 160	30
4-Chlorotoluene	ND	1.0	98	96	2.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	88	96	8.7				40 - 160	30
Acetone	ND	5.0	81	83	2.4				40 - 160	30
Benzene	ND	0.70	102	97	5.0				70 - 130	30
Bromobenzene	ND	1.0	98	92	6.3				70 - 130	30
Bromochloromethane	ND	1.0	92	95	3.2				70 - 130	30
Bromodichloromethane	ND	0.50	82	82	0.0				70 - 130	30
Bromoform	ND	1.0	88	87	1.1				70 - 130	30
Bromomethane	ND	1.0	149	149	0.0				40 - 160	30
Carbon Disulfide	ND	1.0	98	94	4.2				70 - 130	30
Carbon tetrachloride	ND	1.0	81	80	1.2				70 - 130	30
Chlorobenzene	ND	1.0	98	95	3.1				70 - 130	30
Chloroethane	ND	1.0	95	92	3.2				70 - 130	30
Chloroform	ND	1.0	84	82	2.4				70 - 130	30
Chloromethane	ND	1.0	99	102	3.0				40 - 160	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
cis-1,2-Dichloroethene	ND	1.0	97	98	1.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	95	89	6.5				70 - 130	30
Dibromochloromethane	ND	0.50	91	92	1.1				70 - 130	30
Dibromomethane	ND	1.0	83	82	1.2				70 - 130	30
Dichlorodifluoromethane	ND	1.0	87	86	1.2				40 - 160	30
Ethyl ether	ND	1.0	90	89	1.1				70 - 130	30
Ethylbenzene	ND	1.0	104	101	2.9				70 - 130	30
Hexachlorobutadiene	ND	0.40	94	93	1.1				70 - 130	30
Isopropylbenzene	ND	1.0	108	104	3.8				70 - 130	30
m&p-Xylene	ND	1.0	97	98	1.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	95	89	6.5				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	92	90	2.2				70 - 130	30
Methylene chloride	ND	1.0	86	82	4.8				70 - 130	30
Naphthalene	ND	1.0	97	94	3.1				70 - 130	30
n-Butylbenzene	ND	1.0	100	95	5.1				70 - 130	30
n-Propylbenzene	ND	1.0	103	98	5.0				70 - 130	30
o-Xylene	ND	1.0	99	98	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	99	95	4.1				70 - 130	30
sec-Butylbenzene	ND	1.0	109	104	4.7				70 - 130	30
Styrene	ND	1.0	98	95	3.1				70 - 130	30
tert-Butylbenzene	ND	1.0	100	95	5.1				70 - 130	30
Tetrachloroethene	ND	1.0	94	93	1.1				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	93	87	6.7				70 - 130	30
Toluene	ND	1.0	96	94	2.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	102	103	1.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	85	82	3.6				70 - 130	30
Trichloroethene	ND	1.0	96	93	3.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	86	84	2.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	91	93	2.2				70 - 130	30
Vinyl chloride	ND	1.0	105	100	4.9				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	97	1.0				70 - 130	30
% Bromofluorobenzene	89	%	92	93	1.1				70 - 130	30
% Dibromofluoromethane	96	%	95	99	4.1				70 - 130	30
% Toluene-d8	101	%	100	99	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498257 (ug/L), QC Sample No: CE14947 (CE14955)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	101	102	1.0	102	97	5.0	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	101	100	1.0	103	97	6.0	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	101	102	1.0	102	97	5.0	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	101	100	1.0	103	97	6.0	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	101	101	0.0	103	99	4.0	70 - 130	20
Benzene	ND	1.0	94	94	0.0	97	93	4.2	70 - 130	20
Ethyl Benzene	ND	1.0	95	95	0.0	97	94	3.1	70 - 130	20
MTBE	ND	1.0	103	103	0.0	105	103	1.9	70 - 130	20
Naphthalene	ND	5.0	113	112	0.9	113	112	0.9	70 - 130	20
Toluene	ND	1.0	94	93	1.1	96	92	4.3	70 - 130	20
m,p-Xylenes	ND	2.0	96	96	0.0	98	95	3.1	70 - 130	20
o-Xylene	ND	1.0	95	94	1.1	96	93	3.2	70 - 130	20
% 2,5-Dibromotoluene (PID)	111	%	105	106	0.9	109	107	1.9	70 - 130	20

QA/QC Data

SDG I.D.: GCE14952

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Comment:										
A blank MS/MSD was analyzed with this batch.										
QA/QC Batch 498859 (ug/L), QC Sample No: CE17313 (CE14962)										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C9-C12 Aliphatics (*1)	ND	100	87	95	8.8	89	96	7.6	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	87	95	8.8	85	92	7.9	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	90	96	6.5	88	97	9.7	70 - 130	20
Benzene	ND	1.0	84	89	5.8	83	91	9.2	70 - 130	20
Ethyl Benzene	ND	1.0	84	91	8.0	84	92	9.1	70 - 130	20
MTBE	ND	1.0	90	93	3.3	88	97	9.7	70 - 130	20
Naphthalene	ND	5.0	92	98	6.3	92	100	8.3	70 - 130	20
m,p-Xylenes	ND	2.0	85	91	6.8	85	93	9.0	70 - 130	20
o-Xylene	ND	1.0	84	90	6.9	84	92	9.1	70 - 130	20
% 2,5-Dibromotoluene (PID)	108	%	102	100	2.0	100	101	1.0	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										
QA/QC Batch 499422 (ug/L), QC Sample No: CE17352 (CE14962 (100X))										
Volatile Petroleum Hydrocarbons - Ground Water										
Unadjusted C5-C8 Aliphatics (*1)	ND	100	83	85	2.4	85	82	3.6	70 - 130	20
Toluene	ND	1.0	86	89	3.4	89	85	4.6	70 - 130	20
Comment:										
A blank MS/MSD was analyzed with this batch.										

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 19, 2020

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14952	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE14952	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14952	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE14952	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14952	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14952	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	40	0.3	0.3	ug/l
CE14952	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14952	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14953	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE14953	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	23	1.0	5	5	ug/L
CE14953	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	29	1.0	5	5	ug/L
CE14953	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	57	2.0	20	20	ug/L
CE14953	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE14953	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE14953	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	57	2.0	20	20	ug/L
CE14953	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	1.0	5	5	ug/L
CE14953	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	5	5	ug/L
CE14953	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE14953	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE14953	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	23	1.0	5	5	ug/L
CE14953	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	29	1.0	5	5	ug/L
CE14953	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	40	0.3	0.3	ug/l
CE14953	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE14953	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE14953	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.440	0.001	0.43	0.43	mg/L
CE14953	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.437	0.001	0.43	0.43	mg/L
CE14954	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14954	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14954	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	38	38	ug/L
CE14954	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14954	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L
CE14954	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14954	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	20	20	ug/L
CE14954	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14954	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14954	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	5500	400	5	5	ug/L
CE14954	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14954	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	38	38	ug/L
CE14954	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14954	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14954	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14954	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14954	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14954	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14954	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14954	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5500	400	5	5	ug/L
CE14954	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14954	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	20	20	ug/L
CE14954	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14954	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14954	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14954	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14954	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14954	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14954	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14954	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14954	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	5500	400	5	5	ug/L
CE14954	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14954	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14954	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14954	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14954	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14954	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14954	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14954	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1.4	0.20	0.3	0.3	ug/l
CE14954	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	1.4	0.20	0.3	0.3	ug/l
CE14954	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14955	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	260	20	20	20	ug/L
CE14955	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	260	20	20	20	ug/L
CE14955	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	260	20	70	70	ug/L
CE14955	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	500	20	5	5	ug/L
CE14955	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	500	20	5	5	ug/L
CE14955	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	500	20	5	5	ug/L
CE14955	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE14955	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE14955	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE14955	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE14955	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE14955	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE14955	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE14955	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	270	20	5	5	ug/L
CE14955	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	270	20	5	5	ug/L
CE14955	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	270	20	5	5	ug/L
CE14955	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14955	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE14955	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.00075	0.00075	ug/L
CE14955	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.00033	0.00033	ug/L
CE14955	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE14955	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE14955	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE14955	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	25	1.0	0.3	0.3	ug/l
CE14955	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	25	1.0	3	3	ug/l
CE14955	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	25	1.0	0.3	0.3	ug/l
CE14955	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	0.3	0.3	ug/l
CE14955	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	200	0.3	0.3	ug/l
CE14955	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	360	100	300	300	ug/L
CE14955	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	360	100	300	300	ug/L
CE14955	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	360	100	300	300	ug/L
CE14955	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.636	0.001	0.43	0.43	mg/L
CE14955	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	0.667	0.001	0.43	0.43	mg/L
CE14956	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	79	5.0	5	5	ug/L
CE14956	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE14956	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	9.3	2.0	5	5	ug/L
CE14956	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	130	5.0	20	20	ug/L
CE14956	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.6	0.6	ug/L
CE14956	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE14956	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.0075	0.0075	ug/L
CE14956	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE14956	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE14956	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE14956	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	9.3	2.0	5	5	ug/L
CE14956	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.6	0.6	ug/L
CE14956	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE14956	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	79	5.0	5	5	ug/L
CE14956	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	5.0	20	20	ug/L
CE14956	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.02	0.02	ug/L
CE14956	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	79	5.0	5	5	ug/L
CE14956	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.6	0.6	ug/L
CE14956	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	5.0	70	70	ug/L
CE14956	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.02	0.02	ug/L
CE14956	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	9.3	2.0	5	5	ug/L
CE14956	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	80	0.3	0.3	ug/l

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14956	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	80	3	3	ug/l
CE14956	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	80	0.3	0.3	ug/l
CE14957	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	510	20	20	20	ug/L
CE14957	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	3	3	ug/L
CE14957	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.47	0.47	ug/L
CE14957	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	3	3	ug/L
CE14957	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	4	4	ug/L
CE14957	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	7	7	ug/L
CE14957	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1000	100	5	5	ug/L
CE14957	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1900	100	5	5	ug/L
CE14957	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.47	0.47	ug/L
CE14957	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	8.3	8.3	ug/L
CE14957	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.6	0.6	ug/L
CE14957	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	7	7	ug/L
CE14957	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	40	38	38	ug/L
CE14957	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE14957	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE14957	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE14957	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	510	20	20	20	ug/L
CE14957	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE14957	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE14957	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1000	100	5	5	ug/L
CE14957	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE14957	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE14957	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1900	100	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14957	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE14957	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE14957	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE14957	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE14957	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE14957	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1900	100	5	5	ug/L
CE14957	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1000	100	5	5	ug/L
CE14957	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	7	7	ug/L
CE14957	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE14957	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE14957	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE14957	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE14957	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	510	20	70	70	ug/L
CE14957	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE14957	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE14957	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	34	1.0	0.3	0.3	ug/l
CE14957	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	34	1.0	3	3	ug/l
CE14957	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	34	1.0	0.3	0.3	ug/l
CE14957	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	800	0.3	0.3	ug/l
CE14957	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	800	0.3	0.3	ug/l
CE14958	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	38	38	ug/L
CE14958	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	38	38	ug/L
CE14958	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14958	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14958	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14958	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14958	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14958	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	100	100	70	70	ug/L
CE14958	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14958	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14958	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14958	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	10000	500	5	5	ug/L
CE14958	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	380	100	2	2	ug/L
CE14958	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14958	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	trans-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	250	100	80	80	ug/L
CE14958	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14958	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	3500	500	5	5	ug/L
CE14958	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14958	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14958	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1900	100	20	20	ug/L
CE14958	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	380	100	2	2	ug/L
CE14958	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1900	100	20	20	ug/L
CE14958	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	380	100	2	2	ug/L
CE14958	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	10000	500	5	5	ug/L
CE14958	$8260GWR-WI	trans-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	250	100	80	80	ug/L
CE14958	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14958	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14958	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3500	500	5	5	ug/L
CE14958	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14958	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14958	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14958	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14958	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	100	70	70	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14958	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14958	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14958	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14958	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14958	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14958	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	3500	500	5	5	ug/L
CE14958	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	100	100	70	70	ug/L
CE14958	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14958	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14958	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	10000	500	5	5	ug/L
CE14958	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	380	100	2	2	ug/L
CE14958	$8260GWR-WI	trans-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	250	100	100	100	ug/L
CE14958	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14958	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE14958	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1900	100	70	70	ug/L
CE14958	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14958	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14958	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14958	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14958	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14958	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	4000	3	3	ug/l
CE14958	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE14959	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	99	50	2	2	ug/L
CE14959	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	99	50	2	2	ug/L
CE14959	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	99	50	2	2	ug/L
CE14959	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	99	50	2	2	ug/L
CE14959	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14959	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14959	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14959	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	50	50	7	7	ug/L
CE14959	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	50	50	7	7	ug/L
CE14959	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14959	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	trans-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	140	100	80	80	ug/L
CE14959	$8260GWR-WI	trans-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	140	100	80	80	ug/L
CE14959	$8260GWR-WI	trans-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	140	100	100	100	ug/L
CE14959	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	160	100	70	70	ug/L
CE14959	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	160	100	70	70	ug/L
CE14959	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	160	100	70	70	ug/L
CE14959	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	840	100	20	20	ug/L
CE14959	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	840	100	20	20	ug/L
CE14959	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	840	100	70	70	ug/L
CE14959	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	38	38	ug/L
CE14959	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	19000	1000	5	5	ug/L
CE14959	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	19000	1000	5	5	ug/L
CE14959	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	19000	1000	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14959	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14959	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L
CE14959	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14959	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14959	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14959	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14959	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14959	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14959	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14959	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14959	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14959	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14959	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	17000	1000	5	5	ug/L
CE14959	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	17000	1000	5	5	ug/L
CE14959	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	17000	1000	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14959	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	38	38	ug/L
CE14959	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14959	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14959	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14959	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14959	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14959	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14959	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14959	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14959	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14959	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14959	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14959	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14959	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	60	1.0	0.3	0.3	ug/l
CE14959	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	60	1.0	3	3	ug/l
CE14959	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	60	1.0	0.3	0.3	ug/l
CE14959	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14959	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE14959	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	11000	100	300	300	ug/L
CE14959	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	11000	100	300	300	ug/L
CE14959	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	11000	100	300	300	ug/L
CE14959	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1.87	0.001	0.43	0.43	mg/L
CE14959	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1.92	0.001	0.43	0.43	mg/L
CE14960	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14960	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	3600	500	5	5	ug/L
CE14960	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14960	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	38	38	ug/L
CE14960	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14960	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	38	38	ug/L
CE14960	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L
CE14960	$8260GWR-WI	trans-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	120	100	80	80	ug/L
CE14960	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14960	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	730	100	20	20	ug/L
CE14960	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14960	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14960	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14960	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	5100	500	5	5	ug/L
CE14960	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14960	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14960	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14960	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14960	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3600	500	5	5	ug/L
CE14960	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	730	100	20	20	ug/L
CE14960	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14960	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	trans-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	120	100	80	80	ug/L
CE14960	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5100	500	5	5	ug/L
CE14960	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14960	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14960	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14960	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14960	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14960	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14960	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14960	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14960	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14960	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14960	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14960	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14960	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5100	500	5	5	ug/L
CE14960	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14960	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE14960	$8260GWR-WI	trans-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	120	100	100	100	ug/L
CE14960	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14960	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14960	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14960	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	730	100	70	70	ug/L
CE14960	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14960	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	3600	500	5	5	ug/L
CE14960	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	46	1.0	0.3	0.3	ug/l
CE14960	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	46	1.0	3	3	ug/l
CE14960	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	46	1.0	0.3	0.3	ug/l
CE14960	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14960	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE14961	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	540	100	20	20	ug/L
CE14961	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14961	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	200	38	38	ug/L
CE14961	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.0075	0.0075	ug/L
CE14961	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.6	0.6	ug/L
CE14961	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	8.3	8.3	ug/L
CE14961	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14961	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14961	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00033	0.00033	ug/L
CE14961	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	4	4	ug/L
CE14961	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	38	38	ug/L
CE14961	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14961	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	3	3	ug/L
CE14961	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	7300	500	5	5	ug/L
CE14961	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.00075	0.00075	ug/L
CE14961	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	7000	500	5	5	ug/L
CE14961	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	7	7	ug/L
CE14961	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	72	70	70	70	ug/L
CE14961	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	50	0.47	0.47	ug/L
CE14961	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14961	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14961	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7300	500	5	5	ug/L
CE14961	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	540	100	20	20	ug/L
CE14961	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7000	500	5	5	ug/L
CE14961	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.5	0.5	ug/L
CE14961	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.6	0.6	ug/L
CE14961	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	72	70	70	70	ug/L
CE14961	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14961	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	7	7	ug/L
CE14961	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	40	40	ug/L
CE14961	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	0.02	0.02	ug/L
CE14961	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	3	3	ug/L
CE14961	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	4	4	ug/L
CE14961	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7300	500	5	5	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14961	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	50	4	4	ug/L
CE14961	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	7000	500	5	5	ug/L
CE14961	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	72	70	70	70	ug/L
CE14961	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	7	7	ug/L
CE14961	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	3	3	ug/L
CE14961	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.02	0.02	ug/L
CE14961	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	2	2	ug/L
CE14961	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	540	100	70	70	ug/L
CE14961	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	5	5	ug/L
CE14961	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	50	10	10	ug/L
CE14961	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	50	0.6	0.6	ug/L
CE14961	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	4000	0.3	0.3	ug/l
CE14961	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	4000	3	3	ug/l
CE14961	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	4000	0.3	0.3	ug/l
CE14962	$8260GWR-WI	Bromobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	62	62	ug/L
CE14962	$8260GWR-WI	Chloroform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	50	50	ug/L
CE14962	$8260GWR-WI	Chlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	7	7	ug/L
CE14962	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	4	4	ug/L
CE14962	$8260GWR-WI	Bromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	83	83	ug/L
CE14962	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.47	0.47	ug/L
CE14962	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	4-Methyl-2-pentanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	350	350	ug/L
CE14962	$8260GWR-WI	2-Chlorotoluene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	240	240	ug/L
CE14962	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	38	38	ug/L
CE14962	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,3-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	370	370	ug/L
CE14962	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	3	3	ug/L
CE14962	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,3-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	100	100	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14962	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	240000	10000	5	5	ug/L
CE14962	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.47	0.47	ug/L
CE14962	$8260GWR-WI	trans-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	80	80	ug/L
CE14962	$8260GWR-WI	Toluene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	4200	1000	1000	1000	ug/L
CE14962	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	100000	10000	5	5	ug/L
CE14962	$8260GWR-WI	Chloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	190	190	ug/L
CE14962	$8260GWR-WI	Naphthalene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	140	140	ug/L
CE14962	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	20	20	ug/L
CE14962	$8260GWR-WI	Methyl t-butyl ether (MTBE)	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	2000	38	38	ug/L
CE14962	$8260GWR-WI	Isopropylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	450	450	ug/L
CE14962	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.6	0.6	ug/L
CE14962	$8260GWR-WI	Dichlorodifluoromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	200	200	ug/L
CE14962	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	8.3	8.3	ug/L
CE14962	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Styrene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	1,1,1-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	1200	1000	200	200	ug/L
CE14962	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	7	7	ug/L
CE14962	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	800	500	70	70	ug/L
CE14962	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.0075	0.0075	ug/L
CE14962	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	4-Chlorotoluene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	250	250	ug/L
CE14962	$8260GWR-WI	1,2,4-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	56	56	ug/L
CE14962	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.00033	0.00033	ug/L
CE14962	$8260GWR-WI	1,3,5-Trimethylbenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	60	60	ug/L
CE14962	$8260GWR-WI	1,2,4-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	3	3	ug/L
CE14962	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	500	0.00075	0.00075	ug/L
CE14962	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	0.6	0.6	ug/L
CE14962	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	0.5	0.5	ug/L
CE14962	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	580	500	7	7	ug/L
CE14962	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	20	20	ug/L
CE14962	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	800	500	70	70	ug/L
CE14962	$8260GWR-WI	Methyl ethyl ketone	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2000	500	500	ug/L
CE14962	$8260GWR-WI	Methyl t-butyl ether (MTBE)	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	Styrene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	100	100	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14962	$8260GWR-WI	1,1,1-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	1200	1000	200	200	ug/L
CE14962	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	100000	10000	5	5	ug/L
CE14962	$8260GWR-WI	Toluene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4200	1000	1000	1000	ug/L
CE14962	$8260GWR-WI	trans-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	80	80	ug/L
CE14962	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	0.5	0.5	ug/L
CE14962	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	240000	10000	5	5	ug/L
CE14962	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	7	7	ug/L
CE14962	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	0.02	0.02	ug/L
CE14962	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	3	3	ug/L
CE14962	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	4	4	ug/L
CE14962	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	4-Methyl-2-pentanone	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	350	350	ug/L
CE14962	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	3	3	ug/L
CE14962	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	1,3-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	40	40	ug/L
CE14962	$8260GWR-WI	Chloroform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	50	50	ug/L
CE14962	$8260GWR-WI	Chlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	1,2,4-Trichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	1,3,5-Trimethylbenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	100000	10000	5	5	ug/L
CE14962	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	trans-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	Toluene	MA / GROUNDWATER STANDARDS / GW-1	4200	1000	1000	1000	ug/L
CE14962	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	Styrene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	240000	10000	5	5	ug/L
CE14962	$8260GWR-WI	1,3-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	100	100	ug/L
CE14962	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	800	500	70	70	ug/L
CE14962	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	580	500	7	7	ug/L
CE14962	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	0.02	0.02	ug/L
CE14962	$8260GWR-WI	Chlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	100	100	ug/L

Thursday, March 19, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE14952 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE14962	$8260GWR-WI	Chloroform	MA / GROUNDWATER STANDARDS / GW-1	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	Bromomethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	10	10	ug/L
CE14962	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	4-Methyl-2-pentanone	MA / GROUNDWATER STANDARDS / GW-1	ND	500	350	350	ug/L
CE14962	$8260GWR-WI	1,2,4-Trichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	500	4	4	ug/L
CE14962	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	2	2	ug/L
CE14962	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	3	3	ug/L
CE14962	$8260GWR-WI	Methyl t-butyl ether (MTBE)	MA / GROUNDWATER STANDARDS / GW-1	ND	500	70	70	ug/L
CE14962	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	500	5	5	ug/L
CE14962	$8260GWR-WI	1,1,1-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	1200	1000	200	200	ug/L
CE14962	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	500	0.6	0.6	ug/L
CE14962	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	15	0.20	0.3	0.3	ug/l
CE14962	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	15	0.20	3	3	ug/l
CE14962	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	15	0.20	0.3	0.3	ug/l
CE14962	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	ND	40000	0.3	0.3	ug/l
CE14962	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	70000	10000	300	300	ug/L
CE14962	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	70000	10000	300	300	ug/L
CE14962	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	70000	10000	300	300	ug/L
CE14962	$VPHRANGE-	Toluene	MA / Client Specified Criteria / LOCKHEED- WILMINGTO	4000	100	1000	1000	ug/L
CE14962	$VPHRANGE-	Toluene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4000	100	1000	1000	ug/L
CE14962	$VPHRANGE-	Toluene	MA / GROUNDWATER STANDARDS / GW-1	4000	100	1000	1000	ug/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED- WILMINGTON MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE14952, CE14953, CE14954, CE14955, CE14956, CE14957, CE14958, CE14959, CE14960, CE14961, CE14962

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: EPH, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, March 19, 2020

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

SDG Comments

Metals Analysis: CE14953, CE14955 and CE14959
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria. 1,4-Dioxane does not meet the GWP. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Lab ID CE14954, CE14955, CE14956, CE14957, CE14958, CE14959, CE14960, CE14961, CE14962
Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

VPH comment:
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498238 (Samples: CE14955, CE14959, CE14962): -----

The LCS/LCSD recovery is below the method criteria. A low bias for these analytes is possible. (C9-C18 Aliphatic Hydrocarbons 1*)

Instrument:

AU-FID3 09/25/19-1 Adam Werner, Chemist 09/25/19

CE14959 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/24/19-1 Adam Werner, Chemist 09/24/19

CE14955 (1X), CE14962 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/25/19-1 Adam Werner, Chemist 09/25/19

CE14959 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 498238 (CE14867)

CE14955, CE14959, CE14962

All LCS recoveries were within 40 - 140 with the following exceptions: C-10 Decane(<10%), C12 - Dodecane(12%), C14 - Tetradecane(34%), C9 - Nonane(<10%), C9-C18 Aliphatic Hydrocarbons 1*(30%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C-10 Decane(<10%), C12 - Dodecane(<10%), C14 - Tetradecane(22%), C9 - Nonane(<10%), C9-C18 Aliphatic Hydrocarbons 1*(24%)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

EPH Narration

All LCS/LCSD RPDs were less than 25% with the following exceptions: C14 - Tetradecane(42.9%)
The LCS/LCSD exhibited low recoveries for the C9-C18 Aliphatic Hydrocarbon Range, a negative bias is possible.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/25/19-1 Greg Danielewski, Chemist 09/25/19

CE14955 , CE14959

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498423 (CE16348)

CE14955, CE14959

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 498881 (CE15209)

CE14955, CE14959

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/23/19-2 Brian Sheriden, Greg Danielewski, Chemist 09/23/19

CE14955 , CE14959

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/24/19-1 Brian Sheriden, Eric Geyer, Chemist 09/24/19

CE14955 , CE14959

The initial calibration met all criteria including a standard run at the reporting level.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

IC

All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498337 (CE15272)

CE14955, CE14959

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 498486 (CE14653)

CE14955, CE14959

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

ARCOS 09/24/19 09:50 Tina Hall, Chemist 09/24/19

CE14953, CE14955, CE14959

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/24/19 09:35 Emily Kolominskaya, Chemist 09/24/19

CE14953

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/25/19 10:00 Emily Kolominskaya, Chemist 09/25/19

CE14955, CE14959

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

March 19, 2020

SDG I.D.: GCE14952

ICP Metals Narration

The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 498137 (CE14415)

CE14953, CE14955, CE14959

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 498307 (CE14737)

CE14953

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 498523 (CE16348)

CE14955, CE14959

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/26/19-1 Keith Aloisa, Chemist 09/26/19

CE14954 (1X), CE14962 (1X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0926_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

SVOA-Dioxane

CHEM22 09/27/19-1 Keith Aloisa, Chemist 09/27/19

CE14955 (5X), CE14957 (5X), CE14960 (5X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0927_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM22 10/01/19-1 Keith Aloisa, Chemist 10/01/19

CE14959 (5X)

Initial Calibration Evaluation (CHEM22/DIOX_1001):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/1001_03-DIOX_1001) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498505 (CE16346)

CE14954, CE14955, CE14957, CE14959, CE14960, CE14962

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

SVOASIM Narration

CHEM27 09/24/19-1 Wes Bryon, Chemist 09/24/19

CE14955 (1X), CE14959 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0911):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0924_07-27_BNSIM18_0911) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
95% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM27 09/25/19-2 Wes Bryon, Chemist 09/25/19

CE14962 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0925):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0925_19-27_SIM18_0925) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498161 (CE14707)

CE14955, CE14959, CE14962

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499265 (Samples: CE14952, CE14954, CE14955, CE14957, CE14958, CE14959): -----

The LCS/LCSD recovery is above the upper range for one or more analytes that were not reported in the sample(s). No significant bias is suspected. (Bromoform, Bromomethane)

Instrument:

CHEM02 09/27/19-1 Michael Hahn, Chemist 09/27/19

CE14952 (1X), CE14954 (100X), CE14955 (20X), CE14957 (20X), CE14958 (100X), CE14959 (100X)

Initial Calibration Evaluation (CHEM02/VT-P092319):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 25% (20%), Acetone 24% (20%), Bromomethane 32% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.076 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

Continuing Calibration Verification (CHEM02/0927_04-VT-P092319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.206 (0.3), 1,2-Dibromo-3-chloropropane 0.036 (0.05), 2-Hexanone 0.061 (0.1), 4-Methyl-2-pentanone 0.081 (0.1), Acetone 0.031 (0.1), Bromomethane 0.072 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.044 (0.05), Acetone 0.031 (0.05), Methyl ethyl ketone 0.042 (0.05), Tetrahydrofuran (THF) 0.025 (0.05)

CHEM02 09/28/19-1 Michael Hahn, Chemist 09/28/19

CE14954 (400X), CE14956 (5X)

Initial Calibration Evaluation (CHEM02/VT-P092819):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM02/0928_13-VT-P092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM02 09/29/19-1 Michael Hahn, Chemist 09/29/19

CE14957 (100X), CE14958 (500X), CE14959 (1000X), CE14960 (100X), CE14961 (100X), CE14962 (1000X)

Initial Calibration Evaluation (CHEM02/VT-P092819):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

VOA Narration

94% of target compounds met criteria.
The following compounds had %RSDs >20%: 2-Hexanone 25% (20%), Bromoform 23% (20%), Bromomethane 34% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.046 (0.05), 2-Hexanone 0.060 (0.1), 4-Methyl-2-pentanone 0.082 (0.1), Acetone 0.030 (0.1), Bromomethane 0.091 (0.1), Methyl ethyl ketone 0.044 (0.1), Tetrahydrofuran (THF) 0.027 (0.05)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.046 (0.05), Acetone 0.030 (0.05), Methyl ethyl ketone 0.044 (0.05), Tetrahydrofuran (THF) 0.027 (0.05)

Continuing Calibration Verification (CHEM02/0929_02-VT-P092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,1,2,2-Tetrachloroethane 0.239 (0.3), 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.062 (0.1), 4-Methyl-2-pentanone 0.075 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.027 (0.05)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.046 (0.05), Acetone 0.030 (0.05), Methyl ethyl ketone 0.044 (0.05), Tetrahydrofuran (THF) 0.027 (0.05)

CHEM15 09/30/19-1 Harry Mullin, Chemist 09/30/19

CE14953 (2X)

Initial Calibration Evaluation (CHEM15/VOA15wceve-092619):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM15/0930B03-VOA15wceve-092619) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
91% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM17 09/30/19-1 Michael Hahn, Chemist 09/30/19

CE14955 (5X), CE14960 (500X), CE14961 (500X), CE14962 (10000X)

Initial Calibration Evaluation (CHEM17/VT-S092819):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 30% (20%), Acetone 22% (20%), Bromoform 21% (20%), Methyl ethyl ketone 21% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.061 (0.1), Bromoform 0.059 (0.1), Methyl ethyl ketone 0.088 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.042 (0.05)

Continuing Calibration Verification (CHEM17/0930_04-VT-S092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

VOA Narration

The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), Acetone 0.052 (0.1), Bromoform 0.060 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.042 (0.05)

CHEM17 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE14953 (1X), CE14956 (2X)

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

Continuing Calibration Verification (CHEM17/1001_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), Acetone 0.055 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.083 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

QC (Batch Specific):

Batch 499265 (CE14374) CHEM02 9/27/2019-1

CE14952(1X), CE14954(100X), CE14955(20X), CE14957(20X), CE14958(100X), CE14959(100X)

All LCS recoveries were within 70 - 130 with the following exceptions: Bromoform(134%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Bromoform(135%), Bromomethane(171%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499312 (CE16181) CHEM02 9/28/2019-1

CE14954(400X), CE14956(5X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499331 (CE17362) CHEM02 9/29/2019-1

CE14957(100X), CE14958(500X), CE14959(1000X), CE14960(100X), CE14961(100X), CE14962(1000X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499453 (CE16343) CHEM15 9/30/2019-1

CE14953(2X)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499458 (CE17181) CHEM17 9/30/2019-1

CE14955(5X), CE14960(500X), CE14961(500X), CE14962(10000X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499703 (CE15186) CHEM17 10/1/2019-1

CE14953(1X), CE14956(2X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(132%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/23/19-1 Raman Makol, Chemist 09/23/19

CE14955 (1X)

PIDFID 09/24/19-2 Raman Makol, Chemist 09/24/19

CE14959 (1X)

PIDFID 09/26/19-2 Raman Makol, Chemist 09/26/19

CE14962 (1X, 100X)

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

PIDFID 09/30/19-1 Caleb Githinji, Chemist 09/30/19

CE14962 (100X)

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 498257 (CE14947)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 19, 2020

SDG I.D.: GCE14952

VPH Narration

CE14955(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

Batch 498859 (CE17313)

CE14962(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

Batch 499422 (CE17352)

CE14962(100X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE14952

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE14952

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp 2 °C Pg 1 of 1

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herbierich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/23/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 (FF)	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
14952	19A-TB01-092319-1	GW	9/23/19	0800	2				X									
14953	19A-AE26S-092319-1	GW	9/23/19	0950	3			2	X				X	X				
~~14954~~	~~19A-AE24R-092319-1~~	~~GW~~		(10)														
14954	19A-AE24-092319-1	GW	9/23/19	1035	3	2			X	X								
14955	19A-AE26R1-092319-1	GW	9/23/19	0920	5	5		4	X	X	X	X	X	X	X	X	X	
14956	19A-AE26R2-092319-1	GW	9/23/19	1255	3				X									
14957	19A-AE26R5-092319-1	GW	9/23/19	1200	3	2			X	X								
14958	19A-AE28R1-092319-1	GW	9/23/19	1350	3				X									
14959	19A-AE28R2-092319-1	GW	9/23/19	1040	5	5		4	X	X	X	X	X	X	X	X	X	
14960	19A-AE28R3-092319-1	GW	9/23/19	1330	3	2			X	X								
14961	19A-AE28R4-092319-1	GW	9/23/19	1005	3				X									
14962	19A-AE23R-092319-1	GW	9/23/19	1135	5	4			X	X	X	X						

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-23-19	13:50
[signature]	[signature]	092319	1552

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☒ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Rebecca Merz

From:	Olson, Scott (Chelmsford) <scott.olson@aecom.com>
Sent:	Monday, September 23, 2019 8:53 PM
To:	Client Services
Cc:	Rebecca Merz; Greg Lawrence; Herberich, Lori; Callahan, Nicole A.; Potter, Dylan (Chelmsford)
Subject:	RE: Phoenix Labs - GCE14952, LOCKHEED- WILMINGTON MA 60552044.13 - COC Acknowledgement
Attachments:	Ack_GCE14952_correction_9-23-2019.pdf

Attached please find a correction to this Acknowledgement.

One sample ID needs to be corrected.

Thank you.
Scott

From: Client Services <clientservices@phoenixlabs.com>
Sent: Monday, September 23, 2019 6:55 PM
To: Olson, Scott (Chelmsford) <scott.olson@aecom.com>
Subject: Phoenix Labs - GCE14952, LOCKHEED- WILMINGTON MA 60552044.13 - COC Acknowledgement

Scott,

Please email client services only if you have a Price Quote# for this SDG, a Quote# was not listed on the COC.

Purchase Order#:117370

GCE14952 Criteria:
GROUND WATER(11): MA CAM, MA GW1 (GW-1)

Please email client services only if you require criteria different than what is listed.

Delivery group GCE14952 (LOCKHEED- WILMINGTON MA 60552044.13) has been logged in for the following samples:

Phoenix Id	Client Id
CE14952	19A-TB01-092319-1
CE14953	19A-AE265-092319-1
CE14954	19A-AE24-092319-1
CE14955	19A-AE26R1-092319-1
CE14956	19A-AE26R2-092319-1
CE14957	19A-AE26R5-092319-1
CE14958	19A-AE28R1-092319-1
CE14959	19A-AE28R2-092319-1

CE14960	19A-AE28R3-092319-1
CE14961	19A-AE28R4-092319-1
CE14962	19A-AE23R-092319-1

The samples in this delivery group were received at 2.4°C. (Note acceptance criteria for relevant matrices is above freezing up to 6°C)

If there are any questions regarding this submittal, please call Phoenix Client Services at extension 200.

Phoenix Environmental Laboratories, Inc.
587 East Middle Turnpike
P.O. Box 370
Manchester, CT 06374
Tel. (860) 645-1102
Fax. (860) 645-0823
www.phoenixlabs.com

Please do not reply to this email.
cc'd:rebeccam@phoenixlabs.com;Nicole.Callahan@aecom.com;Lori.Herberich@aecom.com;Scott.Olson@aecom.com

Wednesday, March 18, 2020

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED - WILMINGTON MA 60552044.13**
SDG ID: **GCE16341**
Sample ID#s: CE16341 - CE16350

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

March 18, 2020

SDG I.D.: GCE16341

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Version 2:
Changes made to 1,4-Dioxane QC batch 498505.

Version 3:
VOC Batch 499706, QC Sample CE16348: cis-1,2-dichloroethene revised.
VOC Batch 500127, QC Sample CE16346: cis-1,2-dichloroethene revised.
EPH Target criteria revised.

Revision 4
This report has been revised to include the area of all peaks eluting within the retention time windows specified for the Unadjusted C5-C8 aliphatic range, excluding surrogates. The final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily PCE & TCE.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

March 18, 2020

SDG I.D.: GCE16341

Project ID: LOCKHEED - WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-AE29R6-092419-1	CE16341	GROUND WATER
19A-AE108R3-092419-1	CE16342	GROUND WATER
19A-AE108R5-092419-1	CE16343	GROUND WATER
19-TB01-092419-1	CE16344	GROUND WATER
19A-AE29R1-092419-1	CE16345	GROUND WATER
19A-AE102RR4-092419-1	CE16346	GROUND WATER
19A-AE102RR6-092419-1	CE16347	GROUND WATER
19A-AE108R1-092419-1	CE16348	GROUND WATER
19A-AE102RR2-092419-1	CE16349	GROUND WATER
19A-AE102RR5-092419-1	CE16350	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	10:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16341

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	1.28	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	0.974	0.001	mg/L	1	09/28/19	CPP	SW6010D
Iron	1.21	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.886	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	424	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 20:18	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/25/19 01:21	BS/EG	E300.0
Sulfate	46.3	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/26/19	EG	SM5310B-11
EPH Extraction	Completed				09/26/19	SB/JS/D/AI	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/24/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/24/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	56	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	13	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16341

Client ID: 19A-AE29R6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	320	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Tetrachloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C	
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
trans-1,2-Dichloroethene	19	5.0	ug/L	5	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C	
Trichloroethene	85	5.0	ug/L	5	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Vinyl chloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (5x)	100		%	5	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	95		%	5	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	100		%	5	10/01/19	MH	70 - 130 %	
% Toluene-d8 (5x)	96		%	5	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	500	ug/l	5	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	55		%	1	09/26/19	WB	40 - 140 %	
% Nitrobenzene-d5	47		%	1	09/26/19	WB	40 - 140 %	
% Terphenyl-d14	67		%	1	09/26/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	50	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16341
Client ID: 19A-AE29R6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,4-dioxane-d8	87		%	1	09/26/19	KCA	40 - 140 %
% 1,4-dioxane-d8 (5x)	88		%	5	09/27/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	78		%	1	09/27/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	94		%	1	09/27/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/27/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	09/27/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	190	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	190	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	09/26/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/26/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

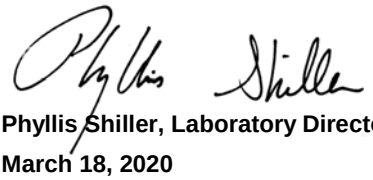
VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon, Nitrite Analysis comment:

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

Nitrite Analysis comment:
Due to interference from a large amount of chloride in the sample, a dilution was required causing the reporting level to be elevated.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	11:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16342

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16342
Client ID: 19A-AE108R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	7.6	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	35	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	92		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	101		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	111		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	11:45
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16343

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	24	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	54	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	95		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	100		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	117		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R5-092419-1

Phoenix I.D.: CE16343

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	8:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16344

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19-TB01-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	104		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	96		%	1	09/28/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	100	ug/l	1	09/28/19	MH	SW8260C	7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19-TB01-092419-1

Phoenix I.D.: CE16344

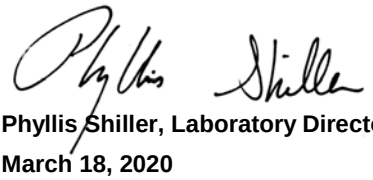
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16345

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R1-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Trichloroethene	2.4	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/30/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/30/19	MH	70 - 130 %
% Dibromofluoromethane	106		%	1	09/30/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/30/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	100	ug/l	1	09/30/19	MH	SW8260C	7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R1-092419-1

Phoenix I.D.: CE16345

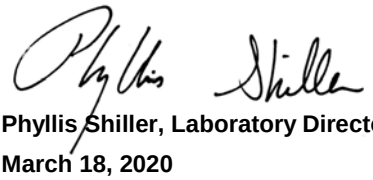
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16346

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR4-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloroethane	13	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/03/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/03/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/03/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/03/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16346
Client ID: 19A-AE102RR4-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/03/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/03/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/03/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
cis-1,2-Dichloroethene	83	5.0	ug/L	5	10/03/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/03/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Tetrachloroethene	340	20	ug/L	20	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/03/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Trichloroethene	550	20	ug/L	20	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	95		%	5	10/03/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	96		%	5	10/03/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	95		%	5	10/03/19	MH	70 - 130 %
% Toluene-d8 (5x)	117		%	5	10/03/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	102		%	20	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	97		%	20	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/03/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/03/19			
1,4-dioxane								
1,4-dioxane	6.0	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/26/19	KCA	40 - 140 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16347

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	0.005	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	0.645	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	0.636	0.001	mg/L	1	09/28/19	CPP	SW6010D
Iron	0.594	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.595	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	163	15.0	mg/L	5	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/25/19 01:32	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/25/19 01:32	BS/EG	E300.0
Sulfate	26.6	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/26/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/26/19	SB/JS/D/AI	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/24/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/24/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethane	80	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethene	23	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/01/19	MH	SW8260C
Benzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Tetrachloroethene	3200	100	ug/L	100	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/01/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Trichloroethene	4300	100	ug/L	100	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	108		%	20	10/01/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	103		%	100	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	99		%	100	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	106		%	100	09/28/19	MH	70 - 130 %
% Toluene-d8 (100x)	97		%	100	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	2000	ug/l	20	10/01/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	66		%	1	09/26/19	WB	40 - 140 %
% Nitrobenzene-d5	60		%	1	09/26/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	71		%	1	09/26/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	26	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	92		%	1	09/26/19	KCA	40 - 140 %
% 1,4-dioxane-d8 (5x)	84		%	5	09/27/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	45		%	1	10/01/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	90		%	1	09/27/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/27/19	AW	40 - 140 %
% o-terphenyl (aromatic)	70		%	1	09/27/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	2400	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	2400	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	111		%	1	09/26/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/26/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

VPH Analysis Comment:
8260 Identified compounds are included in the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

March 18, 2020

Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16348

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R1-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	5.30	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	2.45	0.011	mg/L	10	10/01/19	CPP	SW6010D
Iron	6.88	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	2.91	0.010	mg/L	10	09/26/19	EK	SW6010D
Chloride	1330	75.0	mg/L	25	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/25/19 01:42	BS/EG	E300.0
Nitrate as Nitrogen	0.06	0.05	mg/L	1	09/25/19 01:42	BS/EG	E300.0
Sulfate	11.2	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	4.6	1.0	mg/L	1	09/26/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R1-092419-1

Phoenix I.D.: CE16348

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	24	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	3.1	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	1.0	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	4.9	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	97		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	98		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/01/19			

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16349

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR2-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	11	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	130	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrachloroethene	130	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Trichloroethene	400	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Vinyl chloride	5.8	5.0	ug/L	5	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	98		%	5	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	97		%	5	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	107		%	5	10/01/19	MH	70 - 130 %
% Toluene-d8 (5x)	98		%	5	10/01/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	500	ug/l	5	10/01/19	MH	SW8260C

7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16349
Client ID: 19A-AE102RR2-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	6.0	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/26/19	KCA	40 - 140 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	

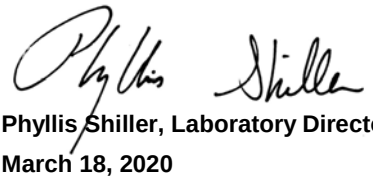
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

March 18, 2020

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	14:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16350

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethane	47	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethene	11	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/01/19	MH	SW8260C

Ver 4

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16350

Client ID: 19A-AE102RR5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	180	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Tetrachloroethene	1200	20	ug/L	20	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/01/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Trichloroethene	2100	100	ug/L	100	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	10/01/19	MH	70 - 130 %
% Toluene-d8 (20x)	98		%	20	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	102		%	100	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	98		%	100	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	108		%	100	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (100x)	96		%	100	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	20	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
March 18, 2020
Reviewed and Released by: Rebecca Merz, NE Sales Manager

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498523 (mg/L), QC Sample No: CE16348 (CE16341, CE16347, CE16348)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	98.1	97.1	1.0	96.4	104	7.6	80 - 120	20
Iron	BRL	0.010	6.88	6.89	0.10	103	101	2.0	NC	NC	NC	80 - 120	20
Manganese	BRL	0.001	2.91	2.91	0	101	99.9	1.1	116	107	8.1	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													
QA/QC Batch 498524 (mg/L), QC Sample No: CE16348 (CE16341, CE16347, CE16348)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	92.1	96.3	4.5	98.4	98.2	0.2	80 - 120	20
Iron	BRL	0.011	5.30	5.45	2.80	98.3	99.2	0.9	109	103	5.7	80 - 120	20
Manganese	BRL	0.001	2.45	2.46	0.40	101	100	1.0	99.4	94.6	4.9	80 - 120	20
Comment:													
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.													

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498423 (mg/L), QC Sample No: CE16348 (CE16341, CE16347, CE16348)														
Sulfide	BRL	0.05	<0.05	<0.05	NC	106			112			90 - 110	20	
QA/QC Batch 498679 (mg/L), QC Sample No: CE16348 (CE16341, CE16347, CE16348)														
Total Organic Carbon	BRL	1.0	4.6	4.7	NC	109			105			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 498517 (mg/L), QC Sample No: CE16348 (CE16348)														
Chloride	BRL	3.0	1330	1320	0.80	98.7			104			90 - 110	20	
Nitrate as Nitrogen	BRL	0.05	0.06	0.06	NC	105			102			90 - 110	20	
Nitrite as Nitrogen	BRL	0.01	<0.004	<0.01	NC	96.7			99.4			90 - 110	20	
Sulfate	BRL	3.0	11.2	12.8	NC	100			98.1			90 - 110	20	
QA/QC Batch 498488 (mg/L), QC Sample No: CE16713 (CE16341, CE16347, CE16348)														
Chloride	BRL	3.0	16.3	16.4	0.60	96.3			102			90 - 110	20	
Nitrate as Nitrogen	BRL	0.05	1.95	1.95	0	100			99.6			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	0.015	<0.004	NC	98.9			93.6			90 - 110	20	
Sulfate	BRL	3.0	7.8	7.7	NC	100			98.9			90 - 110	20	
QA/QC Batch 498736 (mg/L), QC Sample No: CE17053 (CE16347)														
Chloride	BRL	3.0	48.1	48.2	0.20	99.3			104			90 - 110	20	
Nitrate as Nitrogen	BRL	0.05	0.44	0.43	2.30	103			101			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	99.9			104			90 - 110	20	
Sulfate	BRL	3.0	8.8	8.3	NC	101			99.7			90 - 110	20	
QA/QC Batch 498737 (mg/L), QC Sample No: CE17057 (CE16341)														
Chloride	BRL	3.0	58.2	57.6	1.00	98.2			88.7			90 - 110	20	m
Nitrate as Nitrogen	BRL	0.05	0.41	0.41	0	97.6			106			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	97.5			103			90 - 110	20	
Sulfate	BRL	3.0	7.9	7.7	NC	99.9			92.9			90 - 110	20	

m = This parameter is outside laboratory MS/MSD specified recovery limits.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

March 18, 2020

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498637 (ug/L), QC Sample No: CE17181 (CE16341, CE16347)											
MAEPH - Ground Water											
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	52	57	9.2	65	60	8.0	40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	85	87	2.3	89	80	10.7	40 - 140	25	
C11-C22 Aromatic Hydrocarbons 1	ND	100	85	82	3.6	87	80	8.4	40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
Total TPH 1,2*	ND	100	71	74	4.1	79	71	10.7	40 - 140	25	
C9 - Nonane			27	30	10.5	39	36	8.0	40 - 140	25	l,m
C-10 Decane			35	39	10.8	51	47	8.2	40 - 140	25	l
C12 - Dodecane			40	47	16.1	60	55	8.7	40 - 140	25	
C14 - Tetradecane			53	62	15.7	71	65	8.8	40 - 140	25	
C16 - Hexadecane			74	78	5.3	82	75	8.9	40 - 140	25	
C18 - Octadecane			85	86	1.2	89	81	9.4	40 - 140	25	
C19 - Nonadecane			85	86	1.2	89	81	9.4	40 - 140	25	
C20 - Eicosane			87	88	1.1	91	83	9.2	40 - 140	25	
C22 - Docosane			87	88	1.1	92	84	9.1	40 - 140	25	
C24 - Tetracosane			87	88	1.1	92	84	9.1	40 - 140	25	
C26 - Hexacosane			87	89	2.3	93	84	10.2	40 - 140	25	
C28 - Octacosane			86	88	2.3	92	83	10.3	40 - 140	25	
C30 - Tricotane			84	87	3.5	90	81	10.5	40 - 140	25	
C36 - Hexatriacontane			76	79	3.9	72	59	19.8	40 - 140	25	
% 1-chlorooctadecane (aliphatic)	73	%	70	74	5.6	57	52	9.2	40 - 140	25	
% o-terphenyl (aromatic)	71	%	74	73	1.4	74	70	5.6	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	87	%	88	86	2.3	93	90	3.3	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	91	%	88	86	2.3	91	88	3.4	40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 498505 (ug/l), QC Sample No: CE16346 (CE16341, CE16346, CE16347, CE16349)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	97	99	2.0	93	92	1.7	40 - 140	30	
% 1,4-dioxane-d8	90	%	92	93	1.1	89	92	3.3	40 - 140	30	
QA/QC Batch 498338 (ug/L), QC Sample No: CE15887 (CE16341, CE16347)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	69	69	0.0				40 - 140	20	
Acenaphthene	ND	0.50	84	90	6.9				40 - 140	20	
Acenaphthylene	ND	0.10	77	83	7.5				40 - 140	20	
Anthracene	ND	0.10	89	90	1.1				40 - 140	20	
Benz(a)anthracene	ND	0.02	86	84	2.4				40 - 140	20	
Benzo(a)pyrene	ND	0.02	87	82	5.9				40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	94	91	3.2				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Benzo(ghi)perylene	ND	0.02	82	77	6.3				40 - 140	20	
Benzo(k)fluoranthene	ND	0.02	97	92	5.3				40 - 140	20	
Chrysene	ND	0.02	89	85	4.6				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	96	89	7.6				40 - 140	20	
Fluoranthene	ND	0.50	87	87	0.0				40 - 140	20	
Fluorene	ND	0.10	87	89	2.3				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	92	85	7.9				40 - 140	20	
Naphthalene	ND	0.50	58	62	6.7				40 - 140	20	
Phenanthrene	ND	0.06	82	84	2.4				40 - 140	20	
Pyrene	ND	0.07	91	91	0.0				40 - 140	20	
% 2-Fluorobiphenyl	66	%	66	72	8.7				40 - 140	20	
% Nitrobenzene-d5	61	%	56	65	14.9				40 - 140	20	
% Terphenyl-d14	72	%	71	70	1.4				40 - 140	20	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

QA/QC Batch 499326 (ug/L), QC Sample No: CE16032 (CE16344, CE16346 (20X) , CE16347 (100X) , CE16350 (100X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	107	94	12.9				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	101	88	13.8				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	113	99	13.2				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	106	95	10.9				70 - 130	30	
1,1-Dichloroethane	ND	1.0	103	89	14.6				70 - 130	30	
1,1-Dichloroethene	ND	1.0	105	90	15.4				70 - 130	30	
1,1-Dichloropropene	ND	1.0	105	93	12.1				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	134	121	10.2				70 - 130	30	I
1,2,3-Trichloropropane	ND	1.0	110	94	15.7				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	120	106	12.4				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	106	91	15.2				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	116	106	9.0				70 - 130	30	
1,2-Dibromoethane	ND	1.0	112	96	15.4				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	108	94	13.9				70 - 130	30	
1,2-Dichloroethane	ND	1.0	106	91	15.2				70 - 130	30	
1,2-Dichloropropane	ND	1.0	108	95	12.8				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	105	90	15.4				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	106	93	13.1				70 - 130	30	
1,3-Dichloropropane	ND	1.0	110	96	13.6				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	105	90	15.4				70 - 130	30	
1,4-dioxane	ND	100	106	173	48.0				40 - 160	30	I,r
2,2-Dichloropropane	ND	1.0	106	91	15.2				70 - 130	30	
2-Chlorotoluene	ND	1.0	104	90	14.4				70 - 130	30	
2-Hexanone	ND	5.0	125	113	10.1				40 - 160	30	
4-Chlorotoluene	ND	1.0	102	88	14.7				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	125	110	12.8				40 - 160	30	
Acetone	ND	5.0	117	110	6.2				40 - 160	30	
Benzene	ND	0.70	104	93	11.2				70 - 130	30	
Bromobenzene	ND	1.0	105	91	14.3				70 - 130	30	
Bromochloromethane	ND	1.0	106	95	10.9				70 - 130	30	
Bromodichloromethane	ND	0.50	107	91	16.2				70 - 130	30	
Bromoform	ND	1.0	114	98	15.1				70 - 130	30	
Bromomethane	ND	1.0	122	107	13.1				40 - 160	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Carbon Disulfide	ND	1.0	106	93	13.1				70 - 130	30
Carbon tetrachloride	ND	1.0	105	90	15.4				70 - 130	30
Chlorobenzene	ND	1.0	106	93	13.1				70 - 130	30
Chloroethane	ND	1.0	120	102	16.2				70 - 130	30
Chloroform	ND	1.0	103	89	14.6				70 - 130	30
Chloromethane	ND	1.0	121	105	14.2				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	106	92	14.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	106	94	12.0				70 - 130	30
Dibromochloromethane	ND	0.50	113	97	15.2				70 - 130	30
Dibromomethane	ND	1.0	106	93	13.1				70 - 130	30
Dichlorodifluoromethane	ND	1.0	138	119	14.8				40 - 160	30
Ethyl ether	ND	1.0	113	98	14.2				70 - 130	30
Ethylbenzene	ND	1.0	105	92	13.2				70 - 130	30
Hexachlorobutadiene	ND	0.40	114	100	13.1				70 - 130	30
Isopropylbenzene	ND	1.0	104	90	14.4				70 - 130	30
m&p-Xylene	ND	1.0	106	93	13.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	128	117	9.0				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	113	99	13.2				70 - 130	30
Methylene chloride	ND	1.0	100	86	15.1				70 - 130	30
Naphthalene	ND	1.0	132	119	10.4				70 - 130	30
n-Butylbenzene	ND	1.0	106	93	13.1				70 - 130	30
n-Propylbenzene	ND	1.0	103	88	15.7				70 - 130	30
o-Xylene	ND	1.0	107	93	14.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	107	93	14.0				70 - 130	30
sec-Butylbenzene	ND	1.0	112	98	13.3				70 - 130	30
Styrene	ND	1.0	105	93	12.1				70 - 130	30
tert-Butylbenzene	ND	1.0	105	90	15.4				70 - 130	30
Tetrachloroethene	ND	1.0	104	91	13.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	104	96	8.0				70 - 130	30
Toluene	ND	1.0	103	91	12.4				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	100	86	15.1				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	106	93	13.1				70 - 130	30
Trichloroethene	ND	1.0	103	90	13.5				70 - 130	30
Trichlorofluoromethane	ND	1.0	114	99	14.1				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	111	95	15.5				70 - 130	30
Vinyl chloride	ND	1.0	114	100	13.1				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	102	100	2.0				70 - 130	30
% Bromofluorobenzene	97	%	102	100	2.0				70 - 130	30
% Dibromofluoromethane	103	%	102	101	1.0				70 - 130	30
% Toluene-d8	96	%	99	98	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499453 (ug/L), QC Sample No: CE16343 (CE16342, CE16343)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	95	95	0.0	95	96	1.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	86	89	3.4	83	83	0.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	107	103	3.8	98	100	2.0	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	115	112	2.6	109	110	0.9	70 - 130	30
1,1-Dichloroethane	ND	1.0	90	90	0.0	87	89	2.3	70 - 130	30
1,1-Dichloroethene	ND	1.0	89	88	1.1	83	85	2.4	70 - 130	30
1,1-Dichloropropene	ND	1.0	104	104	0.0	98	102	4.0	70 - 130	30

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,3-Trichlorobenzene	ND	1.0	107	108	0.9	99	98	1.0	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	105	101	3.9	97	99	2.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	99	99	0.0	92	94	2.2	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	95	96	1.0	93	94	1.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	114	109	4.5	100	101	1.0	70 - 130	30
1,2-Dibromoethane	ND	1.0	101	99	2.0	98	98	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	97	95	2.1	93	94	1.1	70 - 130	30
1,2-Dichloroethane	ND	1.0	108	107	0.9	105	107	1.9	70 - 130	30
1,2-Dichloropropane	ND	1.0	111	111	0.0	108	111	2.7	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	95	1.1	91	94	3.2	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	93	95	2.1	90	92	2.2	70 - 130	30
1,3-Dichloropropane	ND	1.0	102	99	3.0	98	99	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	94	94	0.0	90	91	1.1	70 - 130	30
1,4-dioxane	ND	100	100	99	1.0	100	99	1.0	40 - 160	30
2,2-Dichloropropane	ND	1.0	88	89	1.1	72	78	8.0	70 - 130	30
2-Chlorotoluene	ND	1.0	92	93	1.1	88	92	4.4	70 - 130	30
2-Hexanone	ND	5.0	120	116	3.4	107	107	0.0	40 - 160	30
4-Chlorotoluene	ND	1.0	91	89	2.2	88	91	3.4	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	143	139	2.8	126	130	3.1	40 - 160	30
Acetone	ND	5.0	106	98	7.8	97	100	3.0	40 - 160	30
Benzene	ND	0.70	106	106	0.0	105	107	1.9	70 - 130	30
Bromobenzene	ND	1.0	93	93	0.0	93	94	1.1	70 - 130	30
Bromochloromethane	ND	1.0	91	91	0.0	90	94	4.3	70 - 130	30
Bromodichloromethane	ND	0.50	114	116	1.7	112	113	0.9	70 - 130	30
Bromoform	ND	1.0	105	103	1.9	98	101	3.0	70 - 130	30
Bromomethane	ND	1.0	78	82	5.0	73	77	5.3	40 - 160	30
Carbon Disulfide	ND	1.0	95	95	0.0	86	91	5.6	70 - 130	30
Carbon tetrachloride	ND	1.0	89	89	0.0	82	84	2.4	70 - 130	30
Chlorobenzene	ND	1.0	93	93	0.0	93	94	1.1	70 - 130	30
Chloroethane	ND	1.0	89	93	4.4	93	91	2.2	70 - 130	30
Chloroform	ND	1.0	88	88	0.0	84	86	2.4	70 - 130	30
Chloromethane	ND	1.0	94	95	1.1	93	94	1.1	40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	89	90	1.1	89	90	1.1	70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	116	115	0.9	110	111	0.9	70 - 130	30
Dibromochloromethane	ND	0.50	106	104	1.9	102	103	1.0	70 - 130	30
Dibromomethane	ND	1.0	116	113	2.6	110	112	1.8	70 - 130	30
Dichlorodifluoromethane	ND	1.0	127	127	0.0	104	106	1.9	40 - 160	30
Ethyl ether	ND	1.0	92	89	3.3	90	88	2.2	70 - 130	30
Ethylbenzene	ND	1.0	94	94	0.0	91	92	1.1	70 - 130	30
Hexachlorobutadiene	ND	0.40	98	98	0.0	91	89	2.2	70 - 130	30
Isopropylbenzene	ND	1.0	92	94	2.2	89	93	4.4	70 - 130	30
m&p-Xylene	ND	1.0	94	95	1.1	92	94	2.2	70 - 130	30
Methyl ethyl ketone	ND	5.0	114	107	6.3	97	103	6.0	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	105	101	3.9	96	99	3.1	70 - 130	30
Methylene chloride	ND	1.0	85	84	1.2	83	85	2.4	70 - 130	30
Naphthalene	ND	1.0	118	114	3.4	99	105	5.9	70 - 130	30
n-Butylbenzene	ND	1.0	99	99	0.0	89	93	4.4	70 - 130	30
n-Propylbenzene	ND	1.0	93	94	1.1	89	91	2.2	70 - 130	30
o-Xylene	ND	1.0	98	100	2.0	96	100	4.1	70 - 130	30
p-Isopropyltoluene	ND	1.0	98	98	0.0	92	94	2.2	70 - 130	30
sec-Butylbenzene	ND	1.0	101	102	1.0	96	98	2.1	70 - 130	30
Styrene	ND	1.0	98	99	1.0	95	99	4.1	70 - 130	30
tert-Butylbenzene	ND	1.0	96	96	0.0	91	93	2.2	70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Tetrachloroethene	ND	1.0	108	109	0.9	100	104	3.9	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	101	96	5.1	88	90	2.2	70 - 130	30	
Toluene	ND	1.0	109	110	0.9	108	110	1.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	89	91	2.2	86	91	5.6	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	119	118	0.8	111	112	0.9	70 - 130	30	
Trichloroethene	ND	1.0	93	94	1.1	90	92	2.2	70 - 130	30	
Trichlorofluoromethane	ND	1.0	95	96	1.0	88	89	1.1	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	95	92	3.2	81	80	1.2	70 - 130	30	
Vinyl chloride	ND	1.0	90	91	1.1	82	84	2.4	70 - 130	30	
% 1,2-dichlorobenzene-d4	102	%	102	101	1.0	100	101	1.0	70 - 130	30	
% Bromofluorobenzene	94	%	96	99	3.1	98	101	3.0	70 - 130	30	
% Dibromofluoromethane	98	%	95	95	0.0	99	95	4.1	70 - 130	30	
% Toluene-d8	106	%	116	116	0.0	116	117	0.9	70 - 130	30	

Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 500127 (ug/L), QC Sample No: CE16346 (CE16346 (5X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	98	99	1.0	104	105	1.0	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	96	95	1.0	116	119	2.6	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	102	104	1.9	101	106	4.8	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	96	96	0.0	112	113	0.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0	109	108	0.9	99	100	1.0	70 - 130	30	
1,1-Dichloroethene	ND	1.0	106	103	2.9	86	87	1.2	70 - 130	30	
1,1-Dichloropropene	ND	1.0	86	81	6.0	126	129	2.4	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	111	111	0.0	91	110	18.9	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	101	100	1.0	98	101	3.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	102	97	5.0	92	104	12.2	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	90	89	1.1	94	98	4.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	110	107	2.8	109	109	0.0	70 - 130	30	
1,2-Dibromoethane	ND	1.0	94	97	3.1	100	97	3.0	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	92	93	1.1	93	101	8.2	70 - 130	30	
1,2-Dichloroethane	ND	1.0	98	98	0.0	119	120	0.8	70 - 130	30	
1,2-Dichloropropane	ND	1.0	101	101	0.0	120	120	0.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	90	88	2.2	95	99	4.1	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	92	90	2.2	93	99	6.3	70 - 130	30	
1,3-Dichloropropane	ND	1.0	98	98	0.0	97	98	1.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	90	91	1.1	91	100	9.4	70 - 130	30	
1,4-dioxane	ND	100	99	93	6.3	81	98	19.0	40 - 160	30	
2,2-Dichloropropane	ND	1.0	106	105	0.9	95	96	1.0	70 - 130	30	
2-Chlorotoluene	ND	1.0	90	89	1.1	96	100	4.1	70 - 130	30	
2-Hexanone	ND	5.0	87	86	1.2	81	85	4.8	40 - 160	30	
4-Chlorotoluene	ND	1.0	89	88	1.1	96	98	2.1	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	95	94	1.1	83	86	3.6	40 - 160	30	
Acetone	ND	5.0	74	86	15.0	75	97	25.6	40 - 160	30	
Benzene	ND	0.70	96	94	2.1	119	121	1.7	70 - 130	30	
Bromobenzene	ND	1.0	90	88	2.2	95	100	5.1	70 - 130	30	
Bromochloromethane	ND	1.0	100	100	0.0	91	93	2.2	70 - 130	30	
Bromodichloromethane	ND	0.50	104	103	1.0	128	132	3.1	70 - 130	30	m
Bromoform	ND	1.0	110	108	1.8	108	110	1.8	70 - 130	30	
Bromomethane	ND	1.0	111	111	0.0	53	75	34.4	40 - 160	30	r
Carbon Disulfide	ND	1.0	106	105	0.9	98	105	6.9	70 - 130	30	

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Carbon tetrachloride	ND	1.0	95	96	1.0	105	110	4.7	70 - 130	30	
Chlorobenzene	ND	1.0	93	94	1.1	99	100	1.0	70 - 130	30	
Chloroethane	ND	1.0	109	104	4.7	108	111	2.7	70 - 130	30	
Chloroform	ND	1.0	110	100	9.5	106	108	1.9	70 - 130	30	
Chloromethane	ND	1.0	101	101	0.0	69	75	8.3	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	107	109	1.9	82	80	2.5	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	104	102	1.9	120	121	0.8	70 - 130	30	
Dibromochloromethane	ND	0.50	101	104	2.9	106	107	0.9	70 - 130	30	
Dibromomethane	ND	1.0	100	98	2.0	119	120	0.8	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	122	121	0.8	129	132	2.3	40 - 160	30	
Ethyl ether	ND	1.0	109	108	0.9	94	93	1.1	70 - 130	30	
Ethylbenzene	ND	1.0	92	91	1.1	100	99	1.0	70 - 130	30	
Hexachlorobutadiene	ND	0.40	96	90	6.5	95	102	7.1	70 - 130	30	
Isopropylbenzene	ND	1.0	87	87	0.0	98	102	4.0	70 - 130	30	
m&p-Xylene	ND	1.0	89	91	2.2	96	96	0.0	70 - 130	30	
Methyl ethyl ketone	ND	5.0	105	100	4.9	102	102	0.0	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	112	109	2.7	107	107	0.0	70 - 130	30	
Methylene chloride	ND	1.0	100	99	1.0	90	90	0.0	70 - 130	30	
Naphthalene	ND	1.0	104	106	1.9	96	108	11.8	70 - 130	30	
n-Butylbenzene	ND	1.0	96	95	1.0	97	102	5.0	70 - 130	30	
n-Propylbenzene	ND	1.0	89	89	0.0	97	100	3.0	70 - 130	30	
o-Xylene	ND	1.0	94	93	1.1	100	101	1.0	70 - 130	30	
p-Isopropyltoluene	ND	1.0	90	90	0.0	95	100	5.1	70 - 130	30	
sec-Butylbenzene	ND	1.0	95	94	1.1	104	106	1.9	70 - 130	30	
Styrene	ND	1.0	94	94	0.0	95	98	3.1	70 - 130	30	
tert-Butylbenzene	ND	1.0	89	88	1.1	99	99	0.0	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	99	99	0.0	94	97	3.1	70 - 130	30	
Toluene	ND	1.0	95	95	0.0	122	124	1.6	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	105	103	1.9	102	103	1.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	106	107	0.9	102	105	2.9	70 - 130	30	
Trichlorofluoromethane	ND	1.0	93	97	4.2	107	109	1.9	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	94	92	2.2	99	100	1.0	70 - 130	30	
Vinyl chloride	ND	1.0	105	101	3.9	97	100	3.0	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	104	102	1.9	102	101	1.0	70 - 130	30	
% Bromofluorobenzene	99	%	103	102	1.0	102	100	2.0	70 - 130	30	
% Dibromofluoromethane	112	%	102	98	4.0	118	116	1.7	70 - 130	30	
% Toluene-d8	94	%	105	103	1.9	121	123	1.6	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499706 (ug/L), QC Sample No: CE16348 (CE16348)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	101	100	1.0	90	111	20.9	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	90	88	2.2	92	107	15.1	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	108	105	2.8	89	110	21.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	98	96	2.1	85	106	22.0	70 - 130	30	
1,1-Dichloroethane	ND	1.0	94	94	0.0	77	91	16.7	70 - 130	30	
1,1-Dichloroethene	ND	1.0	89	89	0.0	84	102	19.4	70 - 130	30	
1,1-Dichloropropene	ND	1.0	82	78	5.0	83	105	23.4	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	132	135	2.2	100	135	29.8	70 - 130	30	l,m
1,2,3-Trichloropropane	ND	1.0	98	96	2.1	80	99	21.2	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	114	110	3.6	76	109	35.7	70 - 130	30	r
1,2,4-Trimethylbenzene	ND	1.0	92	91	1.1	68	90	27.8	70 - 130	30	m

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
1,2-Dibromo-3-chloropropane	ND	1.0	118	117	0.9	95	126	28.1	70 - 130	30	
1,2-Dibromoethane	ND	1.0	101	96	5.1	84	103	20.3	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	99	98	1.0	75	98	26.6	70 - 130	30	
1,2-Dichloroethane	ND	1.0	97	97	0.0	85	104	20.1	70 - 130	30	
1,2-Dichloropropane	ND	1.0	98	96	2.1	87	105	18.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	91	1.1	67	89	28.2	70 - 130	30	m
1,3-Dichlorobenzene	ND	1.0	95	95	0.0	71	94	27.9	70 - 130	30	
1,3-Dichloropropane	ND	1.0	101	98	3.0	86	102	17.0	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	95	96	1.0	69	94	30.7	70 - 130	30	m,r
1,4-dioxane	ND	100	93	92	1.1	87	116	28.6	40 - 160	30	
2,2-Dichloropropane	ND	1.0	95	93	2.1	85	98	14.2	70 - 130	30	
2-Chlorotoluene	ND	1.0	95	92	3.2	73	93	24.1	70 - 130	30	
2-Hexanone	ND	5.0	98	97	1.0	86	111	25.4	40 - 160	30	
4-Chlorotoluene	ND	1.0	93	92	1.1	69	92	28.6	70 - 130	30	m
4-Methyl-2-pentanone	ND	5.0	102	99	3.0	91	113	21.6	40 - 160	30	
Acetone	ND	5.0	93	100	7.3	84	109	25.9	40 - 160	30	
Benzene	ND	0.70	93	92	1.1	83	101	19.6	70 - 130	30	
Bromobenzene	ND	1.0	96	95	1.0	80	100	22.2	70 - 130	30	
Bromochloromethane	ND	1.0	98	93	5.2	77	95	20.9	70 - 130	30	
Bromodichloromethane	ND	0.50	101	100	1.0	91	113	21.6	70 - 130	30	
Bromoform	ND	1.0	112	112	0.0	93	116	22.0	70 - 130	30	
Bromomethane	ND	1.0	115	113	1.8	66	76	14.1	40 - 160	30	
Carbon Disulfide	ND	1.0	85	83	2.4	74	88	17.3	70 - 130	30	
Carbon tetrachloride	ND	1.0	87	90	3.4	91	109	18.0	70 - 130	30	
Chlorobenzene	ND	1.0	96	95	1.0	81	100	21.0	70 - 130	30	
Chloroethane	ND	1.0	93	94	1.1	94	106	12.0	70 - 130	30	
Chloroform	ND	1.0	100	100	0.0	79	94	17.3	70 - 130	30	
Chloromethane	ND	1.0	97	97	0.0	78	88	12.0	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	97	96	1.0	75	95	23.5	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	103	100	3.0	85	106	22.0	70 - 130	30	
Dibromochloromethane	ND	0.50	106	105	0.9	93	117	22.9	70 - 130	30	
Dibromomethane	ND	1.0	100	100	0.0	87	110	23.4	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	98	98	0.0	74	99	28.9	40 - 160	30	
Ethyl ether	ND	1.0	98	97	1.0	75	94	22.5	70 - 130	30	
Ethylbenzene	ND	1.0	94	93	1.1	78	98	22.7	70 - 130	30	
Hexachlorobutadiene	ND	0.40	97	101	4.0	74	104	33.7	70 - 130	30	r
Isopropylbenzene	ND	1.0	91	91	0.0	71	91	24.7	70 - 130	30	
m&p-Xylene	ND	1.0	92	92	0.0	75	95	23.5	70 - 130	30	
Methyl ethyl ketone	ND	5.0	107	106	0.9	105	108	2.8	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	109	104	4.7	89	110	21.1	70 - 130	30	
Methylene chloride	ND	1.0	89	86	3.4	71	84	16.8	70 - 130	30	
Naphthalene	ND	1.0	120	126	4.9	102	131	24.9	70 - 130	30	m
n-Butylbenzene	ND	1.0	95	95	0.0	58	86	38.9	70 - 130	30	m,r
n-Propylbenzene	ND	1.0	92	91	1.1	65	88	30.1	70 - 130	30	m
o-Xylene	ND	1.0	96	96	0.0	82	101	20.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	93	92	1.1	64	88	31.6	70 - 130	30	m,r
sec-Butylbenzene	ND	1.0	98	97	1.0	70	92	27.2	70 - 130	30	
Styrene	ND	1.0	97	96	1.0	80	100	22.2	70 - 130	30	
tert-Butylbenzene	ND	1.0	93	91	2.2	72	90	22.2	70 - 130	30	
Tetrachloroethene	ND	1.0	93	90	3.3	72	99	31.6	70 - 130	30	r
Tetrahydrofuran (THF)	ND	2.5	95	95	0.0	63	85	29.7	70 - 130	30	m
Toluene	ND	1.0	95	93	2.1	85	105	21.1	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	93	91	2.2	81	96	16.9	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
trans-1,3-Dichloropropene	ND	0.40	106	104	1.9	85	107	22.9	70 - 130	30	
Trichloroethene	ND	1.0	93	90	3.3	63	84	28.6	70 - 130	30	m
Trichlorofluoromethane	ND	1.0	90	88	2.2	85	105	21.1	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	82	84	2.4	67	94	33.5	70 - 130	30	m,r
Vinyl chloride	ND	1.0	89	89	0.0	76	87	13.5	70 - 130	30	
% 1,2-dichlorobenzene-d4	97	%	103	103	0.0	103	104	1.0	70 - 130	30	
% Bromofluorobenzene	100	%	103	100	3.0	101	103	2.0	70 - 130	30	
% Dibromofluoromethane	105	%	102	105	2.9	99	96	3.1	70 - 130	30	
% Toluene-d8	91	%	101	98	3.0	100	101	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499708 (ug/L), QC Sample No: CE17217 (CE16341 (5X) , CE16347 (20X) , CE16349 (5X) , CE16350 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	95	92	3.2				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	87	90	3.4				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	98	97	1.0				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	93	91	2.2				70 - 130	30	
1,1-Dichloroethane	ND	1.0	92	92	0.0				70 - 130	30	
1,1-Dichloroethene	ND	1.0	92	91	1.1				70 - 130	30	
1,1-Dichloropropene	ND	1.0	89	88	1.1				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	94	89	5.5				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	95	93	2.1				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	95	92	3.2				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	92	95	3.2				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	104	97	7.0				70 - 130	30	
1,2-Dibromoethane	ND	1.0	97	90	7.5				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	90	91	1.1				70 - 130	30	
1,2-Dichloroethane	ND	1.0	95	92	3.2				70 - 130	30	
1,2-Dichloropropane	ND	1.0	94	93	1.1				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	92	94	2.2				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	91	92	1.1				70 - 130	30	
1,3-Dichloropropane	ND	1.0	100	93	7.3				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	91	92	1.1				70 - 130	30	
1,4-dioxane	ND	100	94	83	12.4				40 - 160	30	
2,2-Dichloropropane	ND	1.0	90	96	6.5				70 - 130	30	
2-Chlorotoluene	ND	1.0	92	92	0.0				70 - 130	30	
2-Hexanone	ND	5.0	106	97	8.9				40 - 160	30	
4-Chlorotoluene	ND	1.0	91	92	1.1				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	106	98	7.8				40 - 160	30	
Acetone	ND	5.0	95	101	6.1				40 - 160	30	
Benzene	ND	0.70	93	91	2.2				70 - 130	30	
Bromobenzene	ND	1.0	90	91	1.1				70 - 130	30	
Bromochloromethane	ND	1.0	90	91	1.1				70 - 130	30	
Bromodichloromethane	ND	0.50	93	92	1.1				70 - 130	30	
Bromoform	ND	1.0	100	91	9.4				70 - 130	30	
Bromomethane	ND	1.0	102	99	3.0				40 - 160	30	
Carbon Disulfide	ND	1.0	91	90	1.1				70 - 130	30	
Carbon tetrachloride	ND	1.0	88	92	4.4				70 - 130	30	
Chlorobenzene	ND	1.0	94	92	2.2				70 - 130	30	
Chloroethane	ND	1.0	97	96	1.0				70 - 130	30	
Chloroform	ND	1.0	91	92	1.1				70 - 130	30	
Chloromethane	ND	1.0	100	96	4.1				40 - 160	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
cis-1,2-Dichloroethene	ND	1.0	92	94	2.2				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	93	92	1.1				70 - 130	30
Dibromochloromethane	ND	0.50	100	96	4.1				70 - 130	30
Dibromomethane	ND	1.0	93	88	5.5				70 - 130	30
Dichlorodifluoromethane	ND	1.0	112	116	3.5				40 - 160	30
Ethyl ether	ND	1.0	102	96	6.1				70 - 130	30
Ethylbenzene	ND	1.0	91	90	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	94	94	0.0				70 - 130	30
Isopropylbenzene	ND	1.0	90	91	1.1				70 - 130	30
m&p-Xylene	ND	1.0	95	93	2.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	117	108	8.0				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	98	97	1.0				70 - 130	30
Methylene chloride	ND	1.0	92	90	2.2				70 - 130	30
Naphthalene	ND	1.0	98	92	6.3				70 - 130	30
n-Butylbenzene	ND	1.0	93	96	3.2				70 - 130	30
n-Propylbenzene	ND	1.0	90	92	2.2				70 - 130	30
o-Xylene	ND	1.0	94	92	2.2				70 - 130	30
p-Isopropyltoluene	ND	1.0	92	96	4.3				70 - 130	30
sec-Butylbenzene	ND	1.0	97	101	4.0				70 - 130	30
Styrene	ND	1.0	98	94	4.2				70 - 130	30
tert-Butylbenzene	ND	1.0	92	93	1.1				70 - 130	30
Tetrachloroethene	ND	1.0	87	89	2.3				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	91	92	1.1				70 - 130	30
Toluene	ND	1.0	92	91	1.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	89	89	0.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	95	93	2.1				70 - 130	30
Trichloroethene	ND	1.0	87	88	1.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	102	107	4.8				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	96	98	2.1				70 - 130	30
Vinyl chloride	ND	1.0	93	93	0.0				70 - 130	30
% 1,2-dichlorobenzene-d4	98	%	98	100	2.0				70 - 130	30
% Bromofluorobenzene	98	%	102	100	2.0				70 - 130	30
% Dibromofluoromethane	109	%	101	103	2.0				70 - 130	30
% Toluene-d8	96	%	99	99	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499477 (ug/L), QC Sample No: CE19292 (CE16345)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	90	92	2.2				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	81	82	1.2				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	101	102	1.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	94	94	0.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	89	91	2.2				70 - 130	30
1,1-Dichloroethene	ND	1.0	91	93	2.2				70 - 130	30
1,1-Dichloropropene	ND	1.0	87	86	1.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	95	93	2.1				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	99	89	10.6				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	96	94	2.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	93	95	2.1				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	100	97	3.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	94	95	1.1				70 - 130	30

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2-Dichlorobenzene	ND	1.0	93	94	1.1				70 - 130	30
1,2-Dichloroethane	ND	1.0	85	85	0.0				70 - 130	30
1,2-Dichloropropane	ND	1.0	99	98	1.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	95	1.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	94	95	1.1				70 - 130	30
1,3-Dichloropropane	ND	1.0	94	96	2.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	93	95	2.1				70 - 130	30
1,4-dioxane	ND	100	96	94	2.1				40 - 160	30
2,2-Dichloropropane	ND	1.0	85	87	2.3				70 - 130	30
2-Chlorotoluene	ND	1.0	95	97	2.1				70 - 130	30
2-Hexanone	ND	5.0	99	99	0.0				40 - 160	30
4-Chlorotoluene	ND	1.0	94	96	2.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	104	100	3.9				40 - 160	30
Acetone	ND	5.0	91	89	2.2				40 - 160	30
Benzene	ND	0.70	94	94	0.0				70 - 130	30
Bromobenzene	ND	1.0	96	97	1.0				70 - 130	30
Bromochloromethane	ND	1.0	94	95	1.1				70 - 130	30
Bromodichloromethane	ND	0.50	89	87	2.3				70 - 130	30
Bromoform	ND	1.0	94	91	3.2				70 - 130	30
Bromomethane	ND	1.0	107	110	2.8				40 - 160	30
Carbon Disulfide	ND	1.0	91	92	1.1				70 - 130	30
Carbon tetrachloride	ND	1.0	80	82	2.5				70 - 130	30
Chlorobenzene	ND	1.0	94	95	1.1				70 - 130	30
Chloroethane	ND	1.0	96	98	2.1				70 - 130	30
Chloroform	ND	1.0	87	88	1.1				70 - 130	30
Chloromethane	ND	1.0	102	103	1.0				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	95	97	2.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	94	94	0.0				70 - 130	30
Dibromochloromethane	ND	0.50	94	93	1.1				70 - 130	30
Dibromomethane	ND	1.0	91	88	3.4				70 - 130	30
Dichlorodifluoromethane	ND	1.0	115	116	0.9				40 - 160	30
Ethyl ether	ND	1.0	93	95	2.1				70 - 130	30
Ethylbenzene	ND	1.0	92	93	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	92	93	1.1				70 - 130	30
Isopropylbenzene	ND	1.0	93	97	4.2				70 - 130	30
m&p-Xylene	ND	1.0	94	96	2.1				70 - 130	30
Methyl ethyl ketone	ND	5.0	110	103	6.6				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	93	93	0.0				70 - 130	30
Methylene chloride	ND	1.0	91	93	2.2				70 - 130	30
Naphthalene	ND	1.0	97	95	2.1				70 - 130	30
n-Butylbenzene	ND	1.0	93	94	1.1				70 - 130	30
n-Propylbenzene	ND	1.0	94	96	2.1				70 - 130	30
o-Xylene	ND	1.0	93	95	2.1				70 - 130	30
p-Isopropyltoluene	ND	1.0	94	96	2.1				70 - 130	30
sec-Butylbenzene	ND	1.0	99	101	2.0				70 - 130	30
Styrene	ND	1.0	97	99	2.0				70 - 130	30
tert-Butylbenzene	ND	1.0	93	95	2.1				70 - 130	30
Tetrachloroethene	ND	1.0	94	91	3.2				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	89	95	6.5				70 - 130	30
Toluene	ND	1.0	94	94	0.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	88	91	3.4				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	93	91	2.2				70 - 130	30
Trichloroethene	ND	1.0	89	91	2.2				70 - 130	30

QA/QC Data

SDG I.D.: GCE16341

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Trichlorofluoromethane	ND	1.0	90	91	1.1				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	94	93	1.1				70 - 130	30
Vinyl chloride	ND	1.0	94	97	3.1				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	99	0.0				70 - 130	30
% Bromofluorobenzene	94	%	95	95	0.0				70 - 130	30
% Dibromofluoromethane	105	%	102	103	1.0				70 - 130	30
% Toluene-d8	96	%	99	99	0.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 498859 (ug/L), QC Sample No: CE17313 (CE16341, CE16347)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	81	86	6.0	83	89	7.0	70 - 130	20
Unadjusted C9-C12 Aliphatics (*1)	ND	100	87	95	8.8	89	96	7.6	70 - 130	20
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	81	86	6.0	83	89	7.0	70 - 130	20
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	87	95	8.8	85	92	7.9	70 - 130	20
C9-C10 Aromatic Hydrocarbons *1	ND	100	90	96	6.5	88	97	9.7	70 - 130	20
Benzene	ND	1.0	84	89	5.8	83	91	9.2	70 - 130	20
Ethyl Benzene	ND	1.0	84	91	8.0	84	92	9.1	70 - 130	20
MTBE	ND	1.0	90	93	3.3	88	97	9.7	70 - 130	20
Naphthalene	ND	5.0	92	98	6.3	92	100	8.3	70 - 130	20
Toluene	ND	1.0	83	89	7.0	83	91	9.2	70 - 130	20
m,p-Xylenes	ND	2.0	85	91	6.8	85	93	9.0	70 - 130	20
o-Xylene	ND	1.0	84	90	6.9	84	92	9.1	70 - 130	20
% 2,5-Dibromotoluene (PID)	108	%	102	100	2.0	100	101	1.0	70 - 130	20

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
March 18, 2020

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16341	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	85	5.0	5	5	ug/L
CE16341	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16341	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	320	5.0	20	20	ug/L
CE16341	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16341	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE16341	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE16341	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00033	0.00033	ug/L
CE16341	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00075	0.00075	ug/L
CE16341	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	85	5.0	5	5	ug/L
CE16341	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE16341	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16341	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16341	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	320	5.0	20	20	ug/L
CE16341	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	13	5.0	7	7	ug/L
CE16341	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE16341	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE16341	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	85	5.0	5	5	ug/L
CE16341	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	13	5.0	7	7	ug/L
CE16341	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE16341	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	320	5.0	70	70	ug/L
CE16341	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16341	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16341	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	50	1.0	0.3	0.3	ug/l
CE16341	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	50	1.0	3	3	ug/l
CE16341	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	50	1.0	0.3	0.3	ug/l
CE16341	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	500	0.3	0.3	ug/l
CE16341	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	500	0.3	0.3	ug/l
CE16341	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	0.974	0.001	0.43	0.43	mg/L
CE16341	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	0.886	0.001	0.43	0.43	mg/L
CE16342	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE16342	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	23	1.0	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16342	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	35	1.0	5	5	ug/L
CE16342	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE16342	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE16342	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	35	1.0	5	5	ug/L
CE16342	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	5	5	ug/L
CE16342	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE16342	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE16342	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	35	1.0	5	5	ug/L
CE16342	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	23	1.0	5	5	ug/L
CE16342	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.3	0.3	ug/l
CE16342	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/l
CE16342	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.3	0.3	ug/l
CE16343	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	24	1.0	5	5	ug/L
CE16343	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE16343	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE16343	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE16343	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	54	1.0	5	5	ug/L
CE16343	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	23	1.0	20	20	ug/L
CE16343	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	54	1.0	5	5	ug/L
CE16343	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	24	1.0	5	5	ug/L
CE16343	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE16343	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	20	20	ug/L
CE16343	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE16343	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	24	1.0	5	5	ug/L
CE16343	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	54	1.0	5	5	ug/L
CE16343	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.3	0.3	ug/l
CE16343	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/l
CE16343	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.3	0.3	ug/l
CE16344	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE16344	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE16344	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE16344	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE16344	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE16344	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	0.3	0.3	ug/l
CE16344	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	100	3	3	ug/l
CE16344	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	100	0.3	0.3	ug/l
CE16345	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE16345	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE16345	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE16345	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16345	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE16345	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	0.3	0.3	ug/l
CE16345	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	100	3	3	ug/l
CE16345	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	100	0.3	0.3	ug/l
CE16346	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	340	20	5	5	ug/L
CE16346	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16346	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16346	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	83	5.0	20	20	ug/L
CE16346	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	550	20	5	5	ug/L
CE16346	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE16346	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE16346	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00033	0.00033	ug/L
CE16346	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00075	0.00075	ug/L
CE16346	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16346	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	340	20	5	5	ug/L
CE16346	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE16346	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	550	20	5	5	ug/L
CE16346	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16346	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE16346	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	83	5.0	20	20	ug/L
CE16346	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE16346	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16346	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	83	5.0	70	70	ug/L
CE16346	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	340	20	5	5	ug/L
CE16346	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE16346	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	550	20	5	5	ug/L
CE16346	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	6.0	0.20	0.3	0.3	ug/l
CE16346	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	6.0	0.20	3	3	ug/l
CE16346	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	6.0	0.20	0.3	0.3	ug/l
CE16346	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	200	0.3	0.3	ug/l

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16347	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	8.3	8.3	ug/L
CE16347	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	3	3	ug/L
CE16347	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	3200	100	5	5	ug/L
CE16347	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	38	38	ug/L
CE16347	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.6	0.6	ug/L
CE16347	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.47	0.47	ug/L
CE16347	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	3	3	ug/L
CE16347	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.47	0.47	ug/L
CE16347	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	4	4	ug/L
CE16347	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	240	20	20	20	ug/L
CE16347	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	7	7	ug/L
CE16347	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	38	38	ug/L
CE16347	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	80	20	70	70	ug/L
CE16347	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	4300	100	5	5	ug/L
CE16347	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE16347	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	0.00033	0.00033	ug/L
CE16347	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	0.00075	0.00075	ug/L
CE16347	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	7	7	ug/L
CE16347	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE16347	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE16347	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	20	7	7	ug/L
CE16347	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE16347	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE16347	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	80	20	70	70	ug/L
CE16347	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	3200	100	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16347	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	4300	100	5	5	ug/L
CE16347	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE16347	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE16347	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE16347	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE16347	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	240	20	20	20	ug/L
CE16347	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	23	20	7	7	ug/L
CE16347	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	80	20	70	70	ug/L
CE16347	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	4300	100	5	5	ug/L
CE16347	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE16347	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE16347	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE16347	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	3200	100	5	5	ug/L
CE16347	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	240	20	70	70	ug/L
CE16347	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16347	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE16347	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16347	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	26	1.0	0.3	0.3	ug/l
CE16347	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	26	1.0	3	3	ug/l
CE16347	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	26	1.0	0.3	0.3	ug/l
CE16347	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2000	0.3	0.3	ug/l
CE16347	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	2000	0.3	0.3	ug/l
CE16347	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	2400	100	300	300	ug/L
CE16347	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / CMR 310.40.1600 / GW-1 (mg/l)	2400	100	300	300	ug/L
CE16347	$VPHRANGE-	C5-C8 Aliphatic Hydrocarbons *1,2	MA / GROUNDWATER STANDARDS / GW-1	2400	100	300	300	ug/L
CE16347	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	0.636	0.001	0.43	0.43	mg/L
CE16347	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	0.595	0.001	0.43	0.43	mg/L
CE16348	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00075	0.00075	ug/L
CE16348	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	1.0	0.00033	0.00033	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16348	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE16348	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	24	1.0	20	20	ug/L
CE16348	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	24	1.0	20	20	ug/L
CE16348	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE16348	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE16348	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	40	0.3	0.3	ug/l
CE16348	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE16348	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE16348	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	2.45	0.011	0.43	0.43	mg/L
CE16348	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	2.91	0.010	0.43	0.43	mg/L
CE16349	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	130	5.0	5	5	ug/L
CE16349	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16349	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.47	0.47	ug/L
CE16349	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	130	5.0	20	20	ug/L
CE16349	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	400	5.0	5	5	ug/L
CE16349	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.0075	0.0075	ug/L
CE16349	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00033	0.00033	ug/L
CE16349	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	5.0	0.00075	0.00075	ug/L
CE16349	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	5.8	5.0	2	2	ug/L
CE16349	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2.5	0.6	0.6	ug/L
CE16349	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.8	5.0	2	2	ug/L
CE16349	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	400	5.0	5	5	ug/L
CE16349	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16349	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	5.0	5	5	ug/L
CE16349	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE16349	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.8	5.0	2	2	ug/L
CE16349	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE16349	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	130	5.0	20	20	ug/L
CE16349	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE16349	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE16349	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	5.8	5.0	2	2	ug/L
CE16349	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE16349	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	5.0	5	5	ug/L
CE16349	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	130	5.0	70	70	ug/L
CE16349	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE16349	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16349	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	400	5.0	5	5	ug/L
CE16349	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE16349	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	6.0	0.20	0.3	0.3	ug/l
CE16349	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	6.0	0.20	3	3	ug/l
CE16349	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	6.0	0.20	0.3	0.3	ug/l
CE16349	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	500	0.3	0.3	ug/l
CE16350	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.47	0.47	ug/L
CE16350	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	3	3	ug/L
CE16350	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	4	4	ug/L
CE16350	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	7	7	ug/L
CE16350	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	180	20	20	20	ug/L
CE16350	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	8.3	8.3	ug/L
CE16350	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.6	0.6	ug/L
CE16350	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	38	38	ug/L
CE16350	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	1200	20	5	5	ug/L
CE16350	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	3	3	ug/L
CE16350	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	2100	100	5	5	ug/L
CE16350	$8260GWR-WI	2-Hexanone	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	100	38	38	ug/L
CE16350	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.47	0.47	ug/L
CE16350	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	0.00033	0.00033	ug/L
CE16350	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	7	7	ug/L
CE16350	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	20	0.00075	0.00075	ug/L
CE16350	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE16350	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2100	100	5	5	ug/L

Wednesday, March 18, 2020

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE16341 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE16350	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE16350	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	180	20	20	20	ug/L
CE16350	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE16350	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1200	20	5	5	ug/L
CE16350	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE16350	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	11	10	7	7	ug/L
CE16350	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE16350	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE16350	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE16350	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE16350	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE16350	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	1200	20	5	5	ug/L
CE16350	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE16350	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	2100	100	5	5	ug/L
CE16350	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE16350	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE16350	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE16350	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE16350	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	11	10	7	7	ug/L
CE16350	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	180	20	70	70	ug/L
CE16350	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE16350	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	2000	0.3	0.3	ug/l
CE16350	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2000	3	3	ug/l
CE16350	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	2000	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED - WILLMINGTON MA 60552 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE16341, CE16342, CE16343, CE16344, CE16345, CE16346, CE16347, CE16348, CE16349, CE16350

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

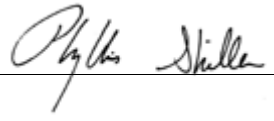
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: VOA Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Wednesday, March 18, 2020

Printed Name: Phyllis Shiller

Position: Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

SDG Comments

Metals Analysis: CE16341, CE16347, CE16348
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GW-1. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

Version 3:
VOC Batch 499706, QC Sample CE16348: cis-1,2-dichloroethene revised.
VOC Batch 500127, QC Sample CE16346: cis-1,2-dichloroethene revised.
EPH Target criteria revised.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID3 09/27/19-1 Adam Werner, Chemist 09/27/19

CE16341 (1X), CE16347 (1X)

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/27/19-1 Adam Werner, Chemist 09/27/19

CE16341 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 09/30/19-1 Adam Werner, Chemist 09/30/19

CE16347 (1X)

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 498637 (CE17181)

CE16341, CE16347

All LCS recoveries were within 40 - 140 with the following exceptions: C-10 Decane(35%), C9 - Nonane(27%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C-10 Decane(39%), C9 - Nonane(30%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

EPH Narration

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/25/19-1 Greg Danielewski, Chemist 09/25/19

CE16341 , CE16347 , CE16348

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Site Specific):

Batch 498423 (CE16348)

CE16341, CE16347, CE16348

All LCS recoveries were within 85 - 115 with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 498679 (CE16348)

CE16341, CE16347, CE16348

All LCS recoveries were within 85 - 115 with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/24/19-1 Brian Sheriden, Eric Geyer, Chemist 09/24/19

CE16341 , CE16347 , CE16348

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/25/19-2 Brian Sheriden, Eric Geyer, Chemist 09/25/19

CE16341 , CE16347

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498488 (CE16713)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

IC

CE16341, CE16347, CE16348

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 498736 (CE17053)

CE16347

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 498737 (CE17057)

CE16341

All LCS recoveries were within 90 - 110 with the following exceptions: None.

QC (Site Specific):

Batch 498517 (CE16348)

CE16348

All LCS recoveries were within 90 - 110 with the following exceptions: None.
All MS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 09/25/19 10:00 Cindy Pearce, Emily Kolominskaya, Chemist 09/25/19

CE16341, CE16347, CE16348

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/26/19 09:40 Cindy Pearce, Emily Kolominskaya, Chemist 09/26/19

CE16348

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

March 18, 2020

SDG I.D.: GCE16341

ICP Metals Narration

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 09/28/19 08:49 Cindy Pearce, Emily Kolominskaya, Chemist 09/28/19

CE16341, CE16347, CE16348

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/01/19 08:32 Cindy Pearce, Emily Kolominskaya, Chemist 10/01/19

CE16341, CE16347, CE16348

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Site Specific):

Batch 498523 (CE16348)

CE16341, CE16347, CE16348

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
All MSD recoveries were within 75 - 125 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

Batch 498524 (CE16348)

CE16341, CE16347, CE16348

All LCS recoveries were within 80 - 120 with the following exceptions: None.
All LCSD recoveries were within 80 - 120 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 75 - 125 with the following exceptions: None.
All MSD recoveries were within 75 - 125 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.
Additional: LCS acceptance range is 80-120% MS acceptance range 75-125%.

SVOA-Dioxane

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/26/19-1 Keith Aloisa, Chemist 09/26/19

CE16341 (1X), CE16346 (1X), CE16347 (1X), CE16349 (1X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0926_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM22 09/27/19-1 Keith Aloisa, Chemist 09/27/19

CE16341 (5X), CE16347 (5X)

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0927_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Site Specific):

Batch 498505 (CE16346)

CE16341, CE16346, CE16347, CE16349

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 30 - 140 with the following exceptions: None.
All MSD recoveries were within 30 - 140 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 09/25/19-2 Wes Bryon, Chemist 09/25/19

CE16341 (1X), CE16347 (1X)

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_SIM18_0925):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0925_19-27_SIM18_0925) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498338 (CE15887)

CE16341, CE16347

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499326 (Samples: CE16344, CE16346, CE16347, CE16350): -----

The LCS recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (1,2,3-Trichlorobenzene)

The LCS or the LCSD recovery is above the upper range, therefore a slight high bias is possible. (1,4-dioxane, Naphthalene)

The LCS/LCSD RPD exceeds the method criteria for one analyte, therefore there may be variability in the reported result. (1,4-dioxane)

QC Batch 499706 (Samples: CE16348): -----

The LCS/LCSD recovery is acceptable. One or more analytes in the site specific matrix spike recovery is below the lower range but within the method criteria. A slight low bias is possible. (1,2,4-Trimethylbenzene, 1,3,5-Trimethylbenzene, 1,4-Dichlorobenzene, 4-Chlorotoluene, n-Butylbenzene, n-Propylbenzene, p-Isopropyltoluene, Tetrahydrofuran (THF), Trichloroethene, Trichlorotrifluoroethane)

The MSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Naphthalene)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (1,2,4-Trichlorobenzene, 1,4-Dichlorobenzene, Hexachlorobutadiene, n-Butylbenzene, p-Isopropyltoluene, Tetrachloroethene, Trichlorotrifluoroethane)

The QC recovery for one analyte are above the upper range but was not reported in the sample(s). No significant bias is suspected. (1,2,3-Trichlorobenzene)

QC Batch 500127 (Samples: CE16346): -----

The MSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Bromodichloromethane)

The MS/MSD RPD exceeds the method criteria for one analyte, therefore there may be variability in the reported result. (Bromomethane)

Instrument:

CHEM15 09/30/19-1 Harry Mullin, Chemist 09/30/19

CE16342 (1X), CE16343 (1X)

Initial Calibration Evaluation (CHEM15/VOA15wceve-092619):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: Chloroethane 29% (20%), Methyl ethyl ketone 21% (20%), Methylene chloride 26% (20%), Tetrahydrofuran (THF) 24% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VOA Narration

Continuing Calibration Verification (CHEM15/0930B03-VOA15wceve-092619) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
91% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM17 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE16348

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

Continuing Calibration Verification (CHEM17/1001_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), Acetone 0.055 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.083 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

CHEM17 10/01/19-3 Michael Hahn, Chemist 10/01/19

CE16348 (1X)

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

Continuing Calibration Verification (CHEM17/1001_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.037 (0.05), Acetone 0.055 (0.1), Bromoform 0.058 (0.1), Methyl ethyl ketone 0.083 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

CHEM17 10/03/19-1 Michael Hahn, Chemist 10/03/19

CE16346 (1X, 5X)

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VOA Narration

The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet the minimum response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

Continuing Calibration Verification (CHEM17/1003_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), 2-Hexanone 0.089 (0.1), Acetone 0.058 (0.1), Bromoform 0.050 (0.1), Methyl ethyl ketone 0.094 (0.1)
The following compounds did not meet the minimum MCP response factor of 0.05: 1,2-Dibromo-3-chloropropane 0.036 (0.05)

CHEM23 09/28/19-1 Michael Hahn, Chemist 09/28/19

CE16344 (1X), CE16346 (20X), CE16347 (100X), CE16350 (100X)

Initial Calibration Evaluation (CHEM23/VOA23_092619):
97% of target compounds met criteria.
The following compounds had %RSDs >20%: Methylene chloride 23% (20%), Tetrahydrofuran (THF) 28% (20%), trans-1,2-Dichloroethene 22% (20%)
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM23/0928_04-VOA23_092619) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
98% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM23 09/30/19-2 Michael Hahn, Chemist 09/30/19

CE16345 (1X)

Initial Calibration Evaluation (CHEM23/VOA23_093019):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM23/0930_17-VOA23_093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

CHEM23 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE16341 (5X), CE16347 (20X), CE16349 (5X), CE16350 (20X)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VOA Narration

Initial Calibration Evaluation (CHEM23/VOA23_093019):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum response factor of 0.05: None.

Continuing Calibration Verification (CHEM23/1001_03-VOA23_093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet Table 4 recommended minimum response factors: None.
The following compounds did not meet the minimum MCP response factor of 0.05: None.

QC (Batch Specific):

Batch 499326 (CE16032) CHEM23 9/28/2019-1

CE16344(1X), CE16346(20X), CE16347(100X), CE16350(100X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(134%), Naphthalene(132%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,4-dioxane(173%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: 1,4-dioxane(48.0%)
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499453 (CE16343) CHEM15 9/30/2019-1

CE16342(1X), CE16343(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499477 (CE19292) CHEM23 9/30/2019-2

CE16345(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499708 (CE17217) CHEM23 10/1/2019-1

CE16341(5X), CE16347(20X), CE16349(5X), CE16350(20X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QC (Site Specific):

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VOA Narration

Batch 499706 (CE16348) CHEM17 10/1/2019-3

CE16348(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(132%)
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: 1,2,4-Trimethylbenzene(68%), 1,3,5-Trimethylbenzene(67%), 1,4-Dichlorobenzene(69%), 4-Chlorotoluene(69%), n-Butylbenzene(58%), n-Propylbenzene(65%), p-Isopropyltoluene(64%), Tetrahydrofuran (THF)(63%), Trichloroethene(63%), Trichlorotrifluoroethane(67%)
All MSD recoveries were within 70 - 130 with the following exceptions: 1,2,3-Trichlorobenzene(135%), Naphthalene(131%)
All MS/MSD RPDs were less than 30% with the following exceptions: 1,2,4-Trichlorobenzene(35.7%), 1,4-Dichlorobenzene(30.7%), Hexachlorobutadiene(33.7%), n-Butylbenzene(38.9%), p-Isopropyltoluene(31.6%), Tetrachloroethene(31.6%), Trichlorotrifluoroethane(33.5%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 500127 (CE16346) CHEM17 10/3/2019-1

CE16346(5X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: Bromodichloromethane(132%)
All MS/MSD RPDs were less than 30% with the following exceptions: Bromomethane(34.4%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 09/26/19-2 Raman Makol, Chemist 09/26/19

CE16341 (1X), CE16347 (1X)

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 498859 (CE17313)

CE16341(1X), CE16347(1X)

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

March 18, 2020

SDG I.D.: GCE16341

VPH Narration

A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE16341

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE16341

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Temp .1.0°C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/24/19

Client Sample - Information - Identification

Matrix Code: DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
16341	MA-AE29R6-092419-1	GW	9/24/19	1000	5	5		4	X	X	X	X	X	X	X	X	X	
16342	MA-AE108R3-092419-1	GW	9/24/19	1150	3				X									
16343	MA-AE108R5-092419-1	GW	9/24/19	1145	3				X									
16344	MA-TB01-092419-1	GW	9/24/19	0800	2				X									
16345	MA-AE29R1-092419-1	GW	9/24/19	1335	3				X									
16346	MA-AE102RR4-092419-1	GW	9/24/19	1330	9	6			X	X								MS/MSD
16347	MA-AE102RR6-092419-1	GW	9/24/19	1320	5	5		4	X	X	X	X	X	X	X	X	X	
16348	MA-AE108R1-092419-1	GW	9/24/19	1330	9	3		12	X				X	X	X	X	X	MS/MSD
16349	MA-AE102RR2-092419-1	GW	9/24/19	1355	3	2			X	X								
16350	MA-AE102RR5-092419-1	GW	9/24/19	1400	3				X									

Relinquished by: [signature] Date: 9-24-19 Time: 14:00

Accepted by: [signature] 9.24.19 10:20

Comments, Special Requirements or Regulations:
Diss. Metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp °C Pg of

Data Delivery/Contact Options:
lori herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/24/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
16341	MA-AE29RG-092419-1	GW	9/24/19	1000	5	5		4	X	X	X	X	X	X	X	X	X	
16342	MA-AE108R3-092419-1	GW	9/24/19	1150	3				X									
16343	MA-AE108R5-092419-1	GW	9/24/19	1145	3				X									
16344	MA-TB01-092419-1	GW	9/24/19	0800	2				X									
16345	MA-AE29R1-092419-1	GW	9/24/19	1335	3				X									
16346	MA-AE102RR4-092419-1	GW	9/24/19	1330	9	6			X	X								MS/MSD
16347	MA-AE102RR6-092419-1	GW	9/24/19	1320	5	5		4	X	X	X	X	X	X	X	X	X	
16348	MA-AE108R1-092419-1	GW	9/24/19	1330	9	3		12	X				X	X	X	X	X	MS/MSD
16349	MA-AE102RR2-092419-1	GW	9/24/19	1355	3	2			X	X								
16350	MA-AE102RR5-092419-1	GW	9/24/19	1400	3				X									

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-24-19	14:00

Comments, Special Requirements or Regulations:
Diss. Metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☒ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

PHOENIX
Environmental Laboratories, Inc.

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
SDG ID: GCE17362
Sample ID#s: CE17362 - CE17372

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE17362

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH target analytes acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE17362

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB02-092419-1	CE17362	GROUND WATER
19A-AE29R3-092419-1	CE17363	GROUND WATER
19A-AE29R5-092419-1	CE17364	GROUND WATER
19A-AE102M-092519-1	CE17365	GROUND WATER
19A-AE102M-092519-2	CE17366	GROUND WATER
19A-AE102D-092519-1	CE17367	GROUND WATER
19A-AE101R1-092519-1	CE17368	GROUND WATER
19A-AE101R1-092519-2	CE17369	GROUND WATER
19A-AE101R2-092519-1	CE17370	GROUND WATER
19A-AE101R3-092519-1	CE17371	GROUND WATER
19A-EB01-092519-1	CE17372	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	12:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17362

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-TB02-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/29/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/29/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-TB02-092419-1

Phoenix I.D.: CE17362

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/29/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/29/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/29/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/29/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/29/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/29/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/29/19	MH	70 - 130 %
% Bromofluorobenzene	91		%	1	09/29/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/29/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/29/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/29/19	MH	SW8260C	7

Ver 2

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-TB02-092419-1

Phoenix I.D.: CE17362

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/29/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/29/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/29/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/29/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	14:20
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17363

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE29R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	6.3	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	1.7	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	36	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	21	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	89		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	101		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	113		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	15:10
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17364

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE29R5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	34	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	7.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	190	20	ug/L	20	09/29/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	5.8	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	41	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	91		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	96		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	114		%	1	09/30/19	HM	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/29/19	HM	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	HM	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	09/29/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	96		%	20	09/29/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:20
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17365

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102M-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.009	0.004	mg/L	1	10/01/19	CPP	SW6010D
Arsenic (Dissolved)	0.008	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	1.81	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	10.8	0.011	mg/L	10	10/01/19	CPP	SW6010D
Iron	1.87	0.010	mg/L	1	09/28/19	CPP	SW6010D
Manganese	11.1	0.010	mg/L	10	10/01/19	CPP	SW6010D
Chloride	530	30.0	mg/L	10	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/26/19 20:27	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/26/19 02:29	BS/EG	E300.0
Sulfate	7.6	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/26/19	GD	SM4500S-D-11
Total Organic Carbon	1.6	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.4	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17365

Client ID: 19A-AE102M-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	43	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	2.8	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	8.8	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	1.2	1.0	ug/L	1	09/30/19	HM	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C	
Trichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C	
Vinyl chloride	14	1.0	ug/L	1	09/30/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	99		%	1	09/30/19	HM	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/30/19	HM	70 - 130 %	
% Dibromofluoromethane	95		%	1	09/30/19	HM	70 - 130 %	
% Toluene-d8	110		%	1	09/30/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.76	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	81		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17366

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102M-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chloride	532	30.0	mg/L	10	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/26/19 20:37	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/26/19 02:39	BS/EG	E300.0
Sulfate	7.5	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/26/19	GD	SM4500S-D-11
Total Organic Carbon	1.6	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	45	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	3.0	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	10	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	24	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	15	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/30/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Bromofluorobenzene	96		%	1	09/30/19	HM	70 - 130 %	
% Dibromofluoromethane	99		%	1	09/30/19	HM	70 - 130 %	
% Toluene-d8	114		%	1	09/30/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.78	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	12:55
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17367

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102D-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	6.0	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17367
Client ID: 19A-AE102D-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	4.6	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	1.9	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	2.7	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	93		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	106		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C 7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	5.4	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17368

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	1.7	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17368

Client ID: 19A-AE101R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	30	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	160	20	ug/L	20	09/29/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	50	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	6.4	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	94		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	115		%	1	09/30/19	HM	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/29/19	HM	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	HM	70 - 130 %
% Dibromofluoromethane (20x)	100		%	20	09/29/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/29/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:30
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17369

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R1-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloroethene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	10/02/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	10/02/19	MH	SW8260C
Acetone	ND	50	ug/L	2	10/02/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17369

Client ID: 19A-AE101R1-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	10/02/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	10/02/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
cis-1,2-Dichloroethene	27	2.0	ug/L	2	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	10/02/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Tetrachloroethene	170	20	ug/L	20	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	10/02/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Trichloroethene	39	2.0	ug/L	2	10/02/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Vinyl chloride	5.5	2.0	ug/L	2	10/02/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	103		%	2	10/02/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	101		%	2	10/02/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	99		%	2	10/02/19	MH	70 - 130 %
% Toluene-d8 (2x)	98		%	2	10/02/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	10/02/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17370

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R2-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	5.8	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17370

Client ID: 19A-AE101R2-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	34	20	ug/L	20	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	19	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	44	20	ug/L	20	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	5.8	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	98		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	101		%	1	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	93		%	20	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	93		%	20	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	5.2	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	87		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	10:55
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17371

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	4.0	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17371

Client ID: 19A-AE101R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	6.9	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	18	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	4.9	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	97		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C

7

Ver 2

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17371
Client ID: 19A-AE101R3-092519-1

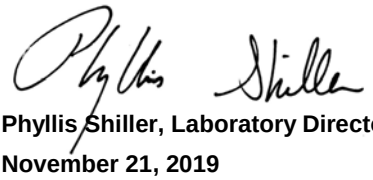
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Client MS/MSD	Completed				10/01/19		
1,4-dioxane							
1,4-dioxane	3.5	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	87		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	10:45
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17372

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-EB01-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	< 0.001	0.001	mg/L	1	09/28/19	CPP	SW6010D
Iron	0.152	0.010	mg/L	1	09/28/19	CPP	SW6010D
Manganese	0.003	0.001	mg/L	1	09/28/19	CPP	SW6010D
Chloride	< 3.0	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/26/19 02:49	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/26/19 02:49	BS/EG	E300.0
Sulfate	< 3.0	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/26/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/28/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/26/19	SB/JS/D/AI	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/25/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/25/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/30/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Ver 2

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-EB01-092519-1

Phoenix I.D.: CE17372

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	103		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	101		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.49	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.49	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.49	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.49	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.49	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	56		%	1	09/26/19	WB	40 - 140 %	
% Nitrobenzene-d5	54		%	1	09/26/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/26/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17372
Client ID: 19A-EB01-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,4-dioxane-d8	86		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/26/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/26/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/26/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/26/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	09/26/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	89		%	1	09/26/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	71		%	1	09/26/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	89		%	1	09/26/19	AW	40 - 140 %
% o-terphenyl (aromatic)	88		%	1	09/26/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/30/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/30/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 498524 (mg/L), QC Sample No: CE16348 (CE17365, CE17372)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	92.1	96.3	4.5	98.4	98.2	0.2	75 - 125	20
Iron	BRL	0.011	5.30	5.45	2.80	98.3	99.2	0.9	109	103	5.7	75 - 125	20
Manganese	BRL	0.001	2.45	2.46	0.40	101	100	1.0	99.4	94.6	4.9	75 - 125	20
QA/QC Batch 499001 (mg/L), QC Sample No: CE17537 (CE17365, CE17372)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	97.5	104	6.5	99.6			75 - 125	20
Iron	BRL	0.010	0.076	0.076	0	109	102	6.6	109			75 - 125	20
Manganese	BRL	0.001	0.014	0.015	6.90	109	103	5.7	110			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 499091 (mg/L), QC Sample No: CE16636 (CE17365, CE17366, CE17372)														
Total Organic Carbon	BRL	1.0	1.1	1.0	NC	97.0			91.0			85 - 115	20	
Comment:														
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.														
QA/QC Batch 498680 (mg/L), QC Sample No: CE17372 (CE17365, CE17366, CE17372)														
Sulfide	BRL	0.05	<0.05	<0.05	NC	91.0			85.8			90 - 110	20	
QA/QC Batch 498736 (mg/L), QC Sample No: CE17053 (CE17365, CE17366, CE17372)														
Chloride	BRL	3.0	48.1	48.2	0.20	99.3			104			90 - 110	20	
Nitrate as Nitrogen	BRL	0.05	0.44	0.43	2.30	103			101			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	99.9			104			90 - 110	20	
Sulfate	BRL	3.0	8.8	8.3	NC	101			99.7			90 - 110	20	
QA/QC Batch 498968 (mg/L), QC Sample No: CE18476 (CE17365, CE17366)														
Chloride	BRL	3.0	5.7	5.6	NC	97.1			89.1			90 - 110	20	m
Nitrate as Nitrogen	BRL	0.05	0.01	<0.05	NC	103			95.9			90 - 110	20	
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	94.2			95.8			90 - 110	20	
Sulfate	BRL	3.0	5.9	5.7	NC	99.5			92.5			90 - 110	20	

m = This parameter is outside laboratory MS/MSD specified recovery limits.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 498637 (ug/L), QC Sample No: CE17181 (CE17372)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	85	82	3.6	87	80	8.4	40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	85	87	2.3	89	80	10.7	40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	52	57	9.2	65	60	8.0	40 - 140	25	
Total TPH 1,2*	ND	100	71	74	4.1	79	71	10.7	40 - 140	25	
% 1-chlorooctadecane (aliphatic)	73	%	70	74	5.6	57	52	9.2	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	91	%	88	86	2.3	91	88	3.4	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	87	%	88	86	2.3	93	90	3.3	40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	71	%	74	73	1.4	74	70	5.6	40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 498753 (ug/l), QC Sample No: CE17371 (CE17365, CE17366, CE17367, CE17370, CE17371, CE17372)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	90	87	3.4	104	84	21.3	30 - 130	20	r
% 1,4-dioxane-d8	83	%	82	77	6.3	93	87	6.7	30 - 130	20	
QA/QC Batch 498510 (ug/L), QC Sample No: CE16645 (CE17372)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	57	56	1.8				40 - 140	20	
Acenaphthene	ND	0.50	78	70	10.8				40 - 140	20	
Acenaphthylene	ND	0.10	74	67	9.9				40 - 140	20	
Anthracene	ND	0.10	86	86	0.0				40 - 140	20	
Benz(a)anthracene	ND	0.02	82	81	1.2				40 - 140	20	
Benzo(a)pyrene	ND	0.02	76	77	1.3				40 - 140	20	
Benzo(b)fluoranthene	ND	0.02	84	82	2.4				40 - 140	20	
Benzo(ghi)perylene	ND	0.02	49	59	18.5				40 - 140	20	
Benzo(k)fluoranthene	ND	0.02	86	90	4.5				40 - 140	20	
Chrysene	ND	0.02	82	81	1.2				40 - 140	20	
Dibenz(a,h)anthracene	ND	0.02	61	70	13.7				40 - 140	20	
Fluoranthene	ND	0.50	77	76	1.3				40 - 140	20	
Fluorene	ND	0.10	80	75	6.5				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	58	66	12.9				40 - 140	20	
Naphthalene	ND	0.50	50	51	2.0				40 - 140	20	
Phenanthrene	ND	0.06	78	75	3.9				40 - 140	20	
Pyrene	ND	0.07	80	79	1.3				40 - 140	20	
% 2-Fluorobiphenyl	59	%	61	55	10.3				40 - 140	20	
% Nitrobenzene-d5	59	%	54	57	5.4				40 - 140	20	
% Terphenyl-d14	62	%	63	61	3.2				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Comment:										
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)										
QA/QC Batch 499453 (ug/L), QC Sample No: CE16343 (CE17363, CE17364, CE17365, CE17366, CE17367, CE17368)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	1.0	95	95	0.0	95	96	1.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	86	89	3.4	83	83	0.0	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	107	103	3.8	98	100	2.0	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	115	112	2.6	109	110	0.9	70 - 130	30
1,1-Dichloroethane	ND	1.0	90	90	0.0	87	89	2.3	70 - 130	30
1,1-Dichloroethene	ND	1.0	89	88	1.1	83	85	2.4	70 - 130	30
1,1-Dichloropropene	ND	1.0	104	104	0.0	98	102	4.0	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	107	108	0.9	99	98	1.0	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	105	101	3.9	97	99	2.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	99	99	0.0	92	94	2.2	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	95	96	1.0	93	94	1.1	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	114	109	4.5	100	101	1.0	70 - 130	30
1,2-Dibromoethane	ND	1.0	101	99	2.0	98	98	0.0	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	97	95	2.1	93	94	1.1	70 - 130	30
1,2-Dichloroethane	ND	1.0	108	107	0.9	105	107	1.9	70 - 130	30
1,2-Dichloropropane	ND	1.0	111	111	0.0	108	111	2.7	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	95	1.1	91	94	3.2	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	93	95	2.1	90	92	2.2	70 - 130	30
1,3-Dichloropropane	ND	1.0	102	99	3.0	98	99	1.0	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	94	94	0.0	90	91	1.1	70 - 130	30
1,4-dioxane	ND	100	100	99	1.0	100	99	1.0	40 - 160	30
2,2-Dichloropropane	ND	1.0	88	89	1.1	72	78	8.0	70 - 130	30
2-Chlorotoluene	ND	1.0	92	93	1.1	88	92	4.4	70 - 130	30
2-Hexanone	ND	5.0	120	116	3.4	107	107	0.0	40 - 160	30
4-Chlorotoluene	ND	1.0	91	89	2.2	88	91	3.4	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	143	139	2.8	126	130	3.1	40 - 160	30
Acetone	ND	5.0	106	98	7.8	97	100	3.0	40 - 160	30
Benzene	ND	0.70	106	106	0.0	105	107	1.9	70 - 130	30
Bromobenzene	ND	1.0	93	93	0.0	93	94	1.1	70 - 130	30
Bromochloromethane	ND	1.0	91	91	0.0	90	94	4.3	70 - 130	30
Bromodichloromethane	ND	0.50	114	116	1.7	112	113	0.9	70 - 130	30
Bromoform	ND	1.0	105	103	1.9	98	101	3.0	70 - 130	30
Bromomethane	ND	1.0	78	82	5.0	73	77	5.3	40 - 160	30
Carbon Disulfide	ND	1.0	95	95	0.0	86	91	5.6	70 - 130	30
Carbon tetrachloride	ND	1.0	89	89	0.0	82	84	2.4	70 - 130	30
Chlorobenzene	ND	1.0	93	93	0.0	93	94	1.1	70 - 130	30
Chloroethane	ND	1.0	89	93	4.4	93	91	2.2	70 - 130	30
Chloroform	ND	1.0	88	88	0.0	84	86	2.4	70 - 130	30
Chloromethane	ND	1.0	94	95	1.1	93	94	1.1	40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	89	90	1.1	89	90	1.1	70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	116	115	0.9	110	111	0.9	70 - 130	30
Dibromochloromethane	ND	0.50	106	104	1.9	102	103	1.0	70 - 130	30
Dibromomethane	ND	1.0	116	113	2.6	110	112	1.8	70 - 130	30
Dichlorodifluoromethane	ND	1.0	127	127	0.0	104	106	1.9	40 - 160	30
Ethyl ether	ND	1.0	92	89	3.3	90	88	2.2	70 - 130	30
Ethylbenzene	ND	1.0	94	94	0.0	91	92	1.1	70 - 130	30
Hexachlorobutadiene	ND	0.40	98	98	0.0	91	89	2.2	70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Isopropylbenzene	ND	1.0	92	94	2.2	89	93	4.4	70 - 130	30
m&p-Xylene	ND	1.0	94	95	1.1	92	94	2.2	70 - 130	30
Methyl ethyl ketone	ND	5.0	114	107	6.3	97	103	6.0	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	105	101	3.9	96	99	3.1	70 - 130	30
Methylene chloride	ND	1.0	85	84	1.2	83	85	2.4	70 - 130	30
Naphthalene	ND	1.0	118	114	3.4	99	105	5.9	70 - 130	30
n-Butylbenzene	ND	1.0	99	99	0.0	89	93	4.4	70 - 130	30
n-Propylbenzene	ND	1.0	93	94	1.1	89	91	2.2	70 - 130	30
o-Xylene	ND	1.0	98	100	2.0	96	100	4.1	70 - 130	30
p-Isopropyltoluene	ND	1.0	98	98	0.0	92	94	2.2	70 - 130	30
sec-Butylbenzene	ND	1.0	101	102	1.0	96	98	2.1	70 - 130	30
Styrene	ND	1.0	98	99	1.0	95	99	4.1	70 - 130	30
tert-Butylbenzene	ND	1.0	96	96	0.0	91	93	2.2	70 - 130	30
Tetrachloroethene	ND	1.0	108	109	0.9	100	104	3.9	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	101	96	5.1	88	90	2.2	70 - 130	30
Toluene	ND	1.0	109	110	0.9	108	110	1.8	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	89	91	2.2	86	91	5.6	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	119	118	0.8	111	112	0.9	70 - 130	30
Trichloroethene	ND	1.0	93	94	1.1	90	92	2.2	70 - 130	30
Trichlorofluoromethane	ND	1.0	95	96	1.0	88	89	1.1	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	95	92	3.2	81	80	1.2	70 - 130	30
Vinyl chloride	ND	1.0	90	91	1.1	82	84	2.4	70 - 130	30
% 1,2-dichlorobenzene-d4	102	%	102	101	1.0	100	101	1.0	70 - 130	30
% Bromofluorobenzene	94	%	96	99	3.1	98	101	3.0	70 - 130	30
% Dibromofluoromethane	98	%	95	95	0.0	99	95	4.1	70 - 130	30
% Toluene-d8	106	%	116	116	0.0	116	117	0.9	70 - 130	30

Comment:

A blank MS/MSD was analyzed with this batch.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499331 (ug/L), QC Sample No: CE17362 (CE17362, CE17364 (20X) , CE17368 (20X) , CE17369 (20X) , CE17370 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	89	86	3.4				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	84	79	6.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	102	94	8.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	88	89	1.1				70 - 130	30
1,1-Dichloroethane	ND	1.0	94	93	1.1				70 - 130	30
1,1-Dichloroethene	ND	1.0	96	92	4.3				70 - 130	30
1,1-Dichloropropene	ND	1.0	97	93	4.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	85	84	1.2				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	91	88	3.4				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	91	93	2.2				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	98	93	5.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	94	94	0.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	93	90	3.3				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	93	92	1.1				70 - 130	30
1,2-Dichloroethane	ND	1.0	76	74	2.7				70 - 130	30
1,2-Dichloropropane	ND	1.0	103	99	4.0				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	98	94	4.2				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	96	95	1.0				70 - 130	30
1,3-Dichloropropane	ND	1.0	91	90	1.1				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	91	89	2.2				70 - 130	30

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,4-dioxane	ND	100	91	84	8.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	92	88	4.4				70 - 130	30
2-Chlorotoluene	ND	1.0	105	99	5.9				70 - 130	30
2-Hexanone	ND	5.0	103	92	11.3				40 - 160	30
4-Chlorotoluene	ND	1.0	98	96	2.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	88	96	8.7				40 - 160	30
Acetone	ND	5.0	81	83	2.4				40 - 160	30
Benzene	ND	0.70	102	97	5.0				70 - 130	30
Bromobenzene	ND	1.0	98	92	6.3				70 - 130	30
Bromochloromethane	ND	1.0	92	95	3.2				70 - 130	30
Bromodichloromethane	ND	0.50	82	82	0.0				70 - 130	30
Bromoform	ND	1.0	88	87	1.1				70 - 130	30
Bromomethane	ND	1.0	149	149	0.0				40 - 160	30
Carbon Disulfide	ND	1.0	98	94	4.2				70 - 130	30
Carbon tetrachloride	ND	1.0	81	80	1.2				70 - 130	30
Chlorobenzene	ND	1.0	98	95	3.1				70 - 130	30
Chloroethane	ND	1.0	95	92	3.2				70 - 130	30
Chloroform	ND	1.0	84	82	2.4				70 - 130	30
Chloromethane	ND	1.0	99	102	3.0				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	97	98	1.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	95	89	6.5				70 - 130	30
Dibromochloromethane	ND	0.50	91	92	1.1				70 - 130	30
Dibromomethane	ND	1.0	83	82	1.2				70 - 130	30
Dichlorodifluoromethane	ND	1.0	87	86	1.2				40 - 160	30
Ethyl ether	ND	1.0	90	89	1.1				70 - 130	30
Ethylbenzene	ND	1.0	104	101	2.9				70 - 130	30
Hexachlorobutadiene	ND	0.40	94	93	1.1				70 - 130	30
Isopropylbenzene	ND	1.0	108	104	3.8				70 - 130	30
m&p-Xylene	ND	1.0	97	98	1.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	95	89	6.5				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	92	90	2.2				70 - 130	30
Methylene chloride	ND	1.0	86	82	4.8				70 - 130	30
Naphthalene	ND	1.0	97	94	3.1				70 - 130	30
n-Butylbenzene	ND	1.0	100	95	5.1				70 - 130	30
n-Propylbenzene	ND	1.0	103	98	5.0				70 - 130	30
o-Xylene	ND	1.0	99	98	1.0				70 - 130	30
p-Isopropyltoluene	ND	1.0	99	95	4.1				70 - 130	30
sec-Butylbenzene	ND	1.0	109	104	4.7				70 - 130	30
Styrene	ND	1.0	98	95	3.1				70 - 130	30
tert-Butylbenzene	ND	1.0	100	95	5.1				70 - 130	30
Tetrachloroethene	ND	1.0	94	93	1.1				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	93	87	6.7				70 - 130	30
Toluene	ND	1.0	96	94	2.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	102	103	1.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	85	82	3.6				70 - 130	30
Trichloroethene	ND	1.0	96	93	3.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	86	84	2.4				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	91	93	2.2				70 - 130	30
Vinyl chloride	ND	1.0	105	100	4.9				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	97	1.0				70 - 130	30
% Bromofluorobenzene	89	%	92	93	1.1				70 - 130	30
% Dibromofluoromethane	96	%	95	99	4.1				70 - 130	30
% Toluene-d8	101	%	100	99	1.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Comment:											
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.											
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.											
QA/QC Batch 499710 (ug/L), QC Sample No: CE17371 (CE17370, CE17371, CE17372)											
Volatiles - Ground Water											
1,1,1,2-Tetrachloroethane	ND	1.0	105	100	4.9	101	110	8.5	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	99	93	6.3	104	115	10.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	104	94	10.1	95	101	6.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	97	92	5.3	91	102	11.4	70 - 130	30	
1,1-Dichloroethane	ND	1.0	103	94	9.1	100	111	10.4	70 - 130	30	
1,1-Dichloroethene	ND	1.0	100	89	11.6	100	115	14.0	70 - 130	30	
1,1-Dichloropropene	ND	1.0	99	92	7.3	104	111	6.5	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	102	99	3.0	92	108	16.0	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	102	94	8.2	86	101	16.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	102	97	5.0	94	103	9.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	103	96	7.0	96	102	6.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	91	97	6.4	93	107	14.0	70 - 130	30	
1,2-Dibromoethane	ND	1.0	107	97	9.8	100	109	8.6	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	103	96	7.0	94	99	5.2	70 - 130	30	
1,2-Dichloroethane	ND	1.0	104	98	5.9	104	112	7.4	70 - 130	30	
1,2-Dichloropropane	ND	1.0	102	97	5.0	100	104	3.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	103	96	7.0	96	104	8.0	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	104	96	8.0	93	102	9.2	70 - 130	30	
1,3-Dichloropropane	ND	1.0	102	93	9.2	97	105	7.9	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	100	91	9.4	92	100	8.3	70 - 130	30	
1,4-dioxane	ND	100	140	99	34.3	81	98	19.0	40 - 160	30	r
2,2-Dichloropropane	ND	1.0	110	99	10.5	100	111	10.4	70 - 130	30	
2-Chlorotoluene	ND	1.0	104	97	7.0	92	100	8.3	70 - 130	30	
2-Hexanone	ND	5.0	111	108	2.7	103	114	10.1	40 - 160	30	
4-Chlorotoluene	ND	1.0	104	96	8.0	91	101	10.4	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	124	117	5.8	113	124	9.3	40 - 160	30	
Acetone	ND	5.0	93	102	9.2	108	118	8.8	40 - 160	30	
Benzene	ND	0.70	100	93	7.3	95	103	8.1	70 - 130	30	
Bromobenzene	ND	1.0	103	95	8.1	92	100	8.3	70 - 130	30	
Bromochloromethane	ND	1.0	102	87	15.9	93	98	5.2	70 - 130	30	
Bromodichloromethane	ND	0.50	107	104	2.8	99	110	10.5	70 - 130	30	
Bromoform	ND	1.0	108	98	9.7	100	109	8.6	70 - 130	30	
Bromomethane	ND	1.0	147	134	9.3	76	103	30.2	40 - 160	30	
Carbon Disulfide	ND	1.0	96	89	7.6	92	106	14.1	70 - 130	30	
Carbon tetrachloride	ND	1.0	101	94	7.2	107	120	11.5	70 - 130	30	
Chlorobenzene	ND	1.0	103	96	7.0	98	105	6.9	70 - 130	30	
Chloroethane	ND	1.0	108	97	10.7	104	117	11.8	70 - 130	30	
Chloroform	ND	1.0	101	92	9.3	100	107	6.8	70 - 130	30	
Chloromethane	ND	1.0	110	99	10.5	98	119	19.4	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	99	92	7.3	NC	NC	NC	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	104	96	8.0	97	104	7.0	70 - 130	30	
Dibromochloromethane	ND	0.50	107	103	3.8	102	115	12.0	70 - 130	30	
Dibromomethane	ND	1.0	102	91	11.4	95	105	10.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	120	110	8.7	143	159	10.6	40 - 160	30	
Ethyl ether	ND	1.0	94	90	4.3	86	100	15.1	70 - 130	30	
Ethylbenzene	ND	1.0	104	94	10.1	100	106	5.8	70 - 130	30	
Hexachlorobutadiene	ND	0.40	108	100	7.7	102	115	12.0	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Isopropylbenzene	ND	1.0	99	94	5.2	94	102	8.2	70 - 130	30	
m&p-Xylene	ND	1.0	102	94	8.2	97	105	7.9	70 - 130	30	
Methyl ethyl ketone	ND	5.0	102	99	3.0	103	129	22.4	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	105	96	9.0	98	111	12.4	70 - 130	30	
Methylene chloride	ND	1.0	92	88	4.4	85	91	6.8	70 - 130	30	
Naphthalene	ND	1.0	103	96	7.0	92	107	15.1	70 - 130	30	
n-Butylbenzene	ND	1.0	105	96	9.0	98	106	7.8	70 - 130	30	
n-Propylbenzene	ND	1.0	102	92	10.3	97	104	7.0	70 - 130	30	
o-Xylene	ND	1.0	108	98	9.7	98	108	9.7	70 - 130	30	
p-Isopropyltoluene	ND	1.0	104	94	10.1	97	105	7.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	109	100	8.6	104	116	10.9	70 - 130	30	
Styrene	ND	1.0	106	99	6.8	99	108	8.7	70 - 130	30	
tert-Butylbenzene	ND	1.0	102	94	8.2	99	107	7.8	70 - 130	30	
Tetrachloroethene	ND	1.0	100	96	4.1	97	118	19.5	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	107	97	9.8	92	98	6.3	70 - 130	30	
Toluene	ND	1.0	99	94	5.2	99	102	3.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	101	93	8.2	96	104	8.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	108	98	9.7	99	107	7.8	70 - 130	30	
Trichloroethene	ND	1.0	98	90	8.5	NC	NC	NC	70 - 130	30	
Trichlorofluoromethane	ND	1.0	105	100	4.9	120	134	11.0	70 - 130	30	m
Trichlorotrifluoroethane	ND	1.0	96	90	6.5	106	116	9.0	70 - 130	30	
Vinyl chloride	ND	1.0	101	90	11.5	99	117	16.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	101	98	3.0	98	102	4.0	70 - 130	30	
% Bromofluorobenzene	99	%	104	103	1.0	107	104	2.8	70 - 130	30	
% Dibromofluoromethane	98	%	99	103	4.0	98	99	1.0	70 - 130	30	
% Toluene-d8	101	%	100	101	1.0	100	98	2.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499919 (ug/L), QC Sample No: CE19767 (CE17369 (2X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	91	84	8.0				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	82	79	3.7				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	86	80	7.2				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	86	82	4.8				70 - 130	30	
1,1-Dichloroethane	ND	1.0	78	80	2.5				70 - 130	30	
1,1-Dichloroethene	ND	1.0	75	76	1.3				70 - 130	30	
1,1-Dichloropropene	ND	1.0	79	75	5.2				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	88	86	2.3				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	86	82	4.8				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	87	81	7.1				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	82	81	1.2				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	99	82	18.8				70 - 130	30	
1,2-Dibromoethane	ND	1.0	94	89	5.5				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	84	81	3.6				70 - 130	30	
1,2-Dichloroethane	ND	1.0	94	88	6.6				70 - 130	30	
1,2-Dichloropropane	ND	1.0	85	79	7.3				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	81	79	2.5				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	84	81	3.6				70 - 130	30	
1,3-Dichloropropane	ND	1.0	89	84	5.8				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	80	78	2.5				70 - 130	30	
1,4-dioxane	ND	100	71	83	15.6				40 - 160	30	
2,2-Dichloropropane	ND	1.0	86	83	3.6				70 - 130	30	

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
2-Chlorotoluene	ND	1.0	81	77	5.1				70 - 130	30	
2-Hexanone	ND	5.0	91	81	11.6				40 - 160	30	
4-Chlorotoluene	ND	1.0	81	79	2.5				70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	101	87	14.9				40 - 160	30	
Acetone	ND	5.0	88	91	3.4				40 - 160	30	
Benzene	ND	0.70	78	77	1.3				70 - 130	30	
Bromobenzene	ND	1.0	81	77	5.1				70 - 130	30	
Bromochloromethane	ND	1.0	76	75	1.3				70 - 130	30	
Bromodichloromethane	ND	0.50	88	83	5.8				70 - 130	30	
Bromoform	ND	1.0	91	88	3.4				70 - 130	30	
Bromomethane	ND	1.0	70	73	4.2				40 - 160	30	
Carbon Disulfide	ND	1.0	69	70	1.4				70 - 130	30	I
Carbon tetrachloride	ND	1.0	81	78	3.8				70 - 130	30	
Chlorobenzene	ND	1.0	83	82	1.2				70 - 130	30	
Chloroethane	ND	1.0	78	79	1.3				70 - 130	30	
Chloroform	ND	1.0	81	79	2.5				70 - 130	30	
Chloromethane	ND	1.0	78	80	2.5				40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	78	76	2.6				70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	84	79	6.1				70 - 130	30	
Dibromochloromethane	ND	0.50	90	90	0.0				70 - 130	30	
Dibromomethane	ND	1.0	88	80	9.5				70 - 130	30	
Dichlorodifluoromethane	ND	1.0	92	92	0.0				40 - 160	30	
Ethyl ether	ND	1.0	84	79	6.1				70 - 130	30	
Ethylbenzene	ND	1.0	81	79	2.5				70 - 130	30	
Hexachlorobutadiene	ND	0.40	85	85	0.0				70 - 130	30	
Isopropylbenzene	ND	1.0	78	77	1.3				70 - 130	30	
m&p-Xylene	ND	1.0	81	82	1.2				70 - 130	30	
Methyl ethyl ketone	ND	5.0	95	86	9.9				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	91	84	8.0				70 - 130	30	
Methylene chloride	ND	1.0	69	73	5.6				70 - 130	30	I
Naphthalene	ND	1.0	89	83	7.0				70 - 130	30	
n-Butylbenzene	ND	1.0	81	78	3.8				70 - 130	30	
n-Propylbenzene	ND	1.0	79	77	2.6				70 - 130	30	
o-Xylene	ND	1.0	83	86	3.6				70 - 130	30	
p-Isopropyltoluene	ND	1.0	81	79	2.5				70 - 130	30	
sec-Butylbenzene	ND	1.0	84	82	2.4				70 - 130	30	
Styrene	ND	1.0	84	82	2.4				70 - 130	30	
tert-Butylbenzene	ND	1.0	80	78	2.5				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	80	76	5.1				70 - 130	30	
Toluene	ND	1.0	79	78	1.3				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	75	82	8.9				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	89	85	4.6				70 - 130	30	
Trichloroethene	ND	1.0	77	75	2.6				70 - 130	30	
Trichlorofluoromethane	ND	1.0	80	77	3.8				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	72	72	0.0				70 - 130	30	
Vinyl chloride	ND	1.0	69	66	4.4				70 - 130	30	I
% 1,2-dichlorobenzene-d4	104	%	99	98	1.0				70 - 130	30	
% Bromofluorobenzene	103	%	107	105	1.9				70 - 130	30	
% Dibromofluoromethane	97	%	98	100	2.0				70 - 130	30	
% Toluene-d8	98	%	100	98	2.0				70 - 130	30	

QA/QC Data

SDG I.D.: GCE17362

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Comment:											
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.											
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.											
QA/QC Batch 499422 (ug/L), QC Sample No: CE17352 (CE17372)											
Volatile Petroleum Hydrocarbons - Ground Water											
Unadjusted C5-C8 Aliphatics (*1)	ND	100	83	85	2.4	85	82	3.6	70 - 130	20	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	82	85	3.6	84	82	2.4	70 - 130	20	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	83	85	2.4	85	82	3.6	70 - 130	20	
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	82	85	3.6	84	82	2.4	70 - 130	20	
C9-C10 Aromatic Hydrocarbons *1	ND	100	93	96	3.2	95	92	3.2	70 - 130	20	
Benzene	ND	1.0	87	89	2.3	89	86	3.4	70 - 130	20	
Ethyl Benzene	ND	1.0	88	91	3.4	91	87	4.5	70 - 130	20	
MTBE	ND	1.0	91	100	9.4	94	94	0.0	70 - 130	20	
Naphthalene	ND	5.0	94	126	29.1	98	99	1.0	70 - 130	20	r
Toluene	ND	1.0	86	89	3.4	89	85	4.6	70 - 130	20	
m,p-Xylenes	ND	2.0	88	91	3.4	91	88	3.4	70 - 130	20	
o-Xylene	ND	1.0	87	90	3.4	90	86	4.5	70 - 130	20	
% 2,5-Dibromotoluene (PID)	104	%	106	134	23.3	104	110	5.6	70 - 130	20	l,r
Comment:											
A blank MS/MSD was analyzed with this batch.											

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE17362 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE17362	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17362	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17362	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17362	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17362	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17362	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	40	0.3	0.3	ug/l
CE17362	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE17362	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE17363	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	36	1.0	20	20	ug/L
CE17363	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17363	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17363	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17363	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	21	1.0	5	5	ug/L
CE17363	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	21	1.0	5	5	ug/L
CE17363	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	36	1.0	20	20	ug/L
CE17363	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17363	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	21	1.0	5	5	ug/L
CE17363	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17363	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17363	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/l
CE17363	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.3	0.3	ug/l
CE17364	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17364	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	41	1.0	5	5	ug/L
CE17364	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	190	20	20	20	ug/L
CE17364	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17364	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17364	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17364	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	190	20	20	20	ug/L
CE17364	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	7.5	1.0	7	7	ug/L
CE17364	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	41	1.0	5	5	ug/L
CE17364	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17364	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	7.5	1.0	7	7	ug/L
CE17364	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	190	20	70	70	ug/L
CE17364	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	41	1.0	5	5	ug/L
CE17364	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17364	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/l
CE17364	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.3	0.3	ug/l
CE17365	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	23	1.0	5	5	ug/L
CE17365	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17365	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE17362 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE17365	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	43	1.0	20	20	ug/L
CE17365	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	14	1.0	2	2	ug/L
CE17365	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	8.8	1.0	5	5	ug/L
CE17365	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17365	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	1.0	2	2	ug/L
CE17365	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	1.0	2	2	ug/L
CE17365	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	5	5	ug/L
CE17365	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	43	1.0	20	20	ug/L
CE17365	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17365	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	8.8	1.0	5	5	ug/L
CE17365	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	8.8	1.0	5	5	ug/L
CE17365	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	23	1.0	5	5	ug/L
CE17365	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17365	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	14	1.0	2	2	ug/L
CE17365	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	0.76	0.20	0.3	0.3	ug/l
CE17365	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.76	0.20	0.3	0.3	ug/l
CE17365	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17365	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	10.8	0.011	0.43	0.43	mg/L
CE17365	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	11.1	0.010	0.43	0.43	mg/L
CE17366	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	24	1.0	5	5	ug/L
CE17366	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17366	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17366	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	15	1.0	2	2	ug/L
CE17366	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	45	1.0	20	20	ug/L
CE17366	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	10	1.0	5	5	ug/L
CE17366	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17366	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	15	1.0	2	2	ug/L
CE17366	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	15	1.0	2	2	ug/L
CE17366	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	24	1.0	5	5	ug/L
CE17366	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	45	1.0	20	20	ug/L
CE17366	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17366	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	10	1.0	5	5	ug/L
CE17366	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	24	1.0	5	5	ug/L
CE17366	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17366	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	15	1.0	2	2	ug/L
CE17366	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	10	1.0	5	5	ug/L
CE17366	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	0.78	0.20	0.3	0.3	ug/l
CE17366	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.78	0.20	0.3	0.3	ug/l
CE17366	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17367	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE17362 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE17367	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	2.7	1.0	2	2	ug/L
CE17367	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17367	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17367	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17367	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.7	1.0	2	2	ug/L
CE17367	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.7	1.0	2	2	ug/L
CE17367	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17367	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	2.7	1.0	2	2	ug/L
CE17367	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	5.4	0.20	0.3	0.3	ug/l
CE17367	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.4	0.20	3	3	ug/l
CE17367	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	5.4	0.20	0.3	0.3	ug/l
CE17367	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17368	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	160	20	5	5	ug/L
CE17368	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17368	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17368	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	30	1.0	20	20	ug/L
CE17368	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	6.4	1.0	2	2	ug/L
CE17368	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	50	1.0	5	5	ug/L
CE17368	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17368	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	6.4	1.0	2	2	ug/L
CE17368	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	6.4	1.0	2	2	ug/L
CE17368	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	50	1.0	5	5	ug/L
CE17368	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	160	20	5	5	ug/L
CE17368	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	30	1.0	20	20	ug/L
CE17368	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17368	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	6.4	1.0	2	2	ug/L
CE17368	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	50	1.0	5	5	ug/L
CE17368	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17368	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	160	20	5	5	ug/L
CE17368	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	10	0.3	0.3	ug/l
CE17368	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/l
CE17368	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.3	0.3	ug/l
CE17369	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.0075	0.0075	ug/L
CE17369	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	170	20	5	5	ug/L
CE17369	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	39	2.0	5	5	ug/L
CE17369	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.6	0.6	ug/L
CE17369	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE17369	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	27	2.0	20	20	ug/L
CE17369	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.00033	0.00033	ug/L
CE17369	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.00075	0.00075	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE17362 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE17369	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	1.0	0.47	0.47	ug/L
CE17369	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	5.5	2.0	2	2	ug/L
CE17369	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.5	2.0	2	2	ug/L
CE17369	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.5	2.0	2	2	ug/L
CE17369	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	39	2.0	5	5	ug/L
CE17369	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE17369	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	170	20	5	5	ug/L
CE17369	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.6	0.6	ug/L
CE17369	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.5	0.5	ug/L
CE17369	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	27	2.0	20	20	ug/L
CE17369	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	1.0	0.02	0.02	ug/L
CE17369	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	170	20	5	5	ug/L
CE17369	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.6	0.6	ug/L
CE17369	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	39	2.0	5	5	ug/L
CE17369	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	5.5	2.0	2	2	ug/L
CE17369	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	1.0	0.02	0.02	ug/L
CE17369	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	80	0.3	0.3	ug/l
CE17369	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	80	3	3	ug/l
CE17369	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	80	0.3	0.3	ug/l
CE17370	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	5.8	1.0	2	2	ug/L
CE17370	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17370	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17370	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17370	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	34	20	20	20	ug/L
CE17370	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	19	1.0	5	5	ug/L
CE17370	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	44	20	5	5	ug/L
CE17370	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.8	1.0	2	2	ug/L
CE17370	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.8	1.0	2	2	ug/L
CE17370	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	44	20	5	5	ug/L
CE17370	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	19	1.0	5	5	ug/L
CE17370	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	34	20	20	20	ug/L
CE17370	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17370	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	19	1.0	5	5	ug/L
CE17370	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17370	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	5.8	1.0	2	2	ug/L
CE17370	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	44	20	5	5	ug/L
CE17370	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	5.2	0.20	0.3	0.3	ug/l
CE17370	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	5.2	0.20	3	3	ug/l
CE17370	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	5.2	0.20	0.3	0.3	ug/l
CE17370	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	40	0.3	0.3	ug/l

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE17362 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE17371	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17371	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	6.9	1.0	5	5	ug/L
CE17371	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	18	1.0	5	5	ug/L
CE17371	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	4.9	1.0	2	2	ug/L
CE17371	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17371	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17371	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.9	1.0	2	2	ug/L
CE17371	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17371	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	6.9	1.0	5	5	ug/L
CE17371	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	18	1.0	5	5	ug/L
CE17371	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	4.9	1.0	2	2	ug/L
CE17371	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	4.9	1.0	2	2	ug/L
CE17371	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17371	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	18	1.0	5	5	ug/L
CE17371	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	6.9	1.0	5	5	ug/L
CE17371	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	3.5	0.20	0.3	0.3	ug/l
CE17371	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	3.5	0.20	3	3	ug/l
CE17371	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	3.5	0.20	0.3	0.3	ug/l
CE17371	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	40	0.3	0.3	ug/l
CE17372	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE17372	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE17372	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE17372	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE17372	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE17372	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEAD-WILMINGTO	ND	40	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEAD-WILMINGTON MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE17362, CE17363, CE17364, CE17365, CE17366, CE17367, CE17368, CE17369, CE17370, CE17371, CE17372

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: SVOA-Dioxane, VOA, VPH Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

SDG Comments

Metals Analysis: CE17365, CE17372
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria. 1,4-Dioxane does not meet the GW-1 criteria. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

AU-FID4 09/25/19-1 Adam Werner, Chemist 09/25/19

CE17372

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 498637 (CE17181)

CE17372

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 09/26/19-1 Greg Danielewski, Chemist 09/26/19

CE17365, CE17366, CE17372

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498680 (CE17372)

CE17365, CE17366, CE17372

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 499091 (CE16636)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

Wet Chemistry Analysis

CE17365, CE17366, CE17372

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/25/19-2 Brian Sheriden, Eric Geyer, Chemist 09/25/19

CE17365, CE17366, CE17372

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/26/19-2 Brian Sheriden, Eric Geyer, Chemist 09/26/19

CE17365, CE17366

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498736 (CE17053)

CE17365, CE17366, CE17372

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 498968 (CE18476)

CE17365, CE17366

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 09/28/19 08:49 Cindy Pearce, Chemist 09/28/19

CE17365, CE17372

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE17362

ICP Metals Narration

The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/01/19 08:32 Cindy Pearce, Chemist 10/01/19

CE17365, CE17372

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 498524 (CE16348)

CE17365, CE17372

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 499001 (CE17537)

CE17365, CE17372

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498753 (Samples: CE17365, CE17366, CE17367, CE17370, CE17371, CE17372): -----

The MS/MSD RPD exceeds the method criteria, therefore there may be variability in the reported result. (1,4-dioxane)

Instrument:

CHEM22 09/27/19-1 Keith Aloisa, Chemist 09/27/19

CE17365, CE17366, CE17367, CE17370, CE17371, CE17372

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

SVOA-Dioxane

Continuing Calibration Verification (CHEM22/0927_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Site Specific):

Batch 498753 (CE17371)

CE17365, CE17366, CE17367, CE17370, CE17371, CE17372

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 30 - 130 with the following exceptions: None.
All MSD recoveries were within 30 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: 1,4-dioxane(21.3%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM27 09/26/19-2 Wes Bryon, Chemist 09/26/19

CE17372

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0925):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0926_20-27_BNSIM18_0925) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
90% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498510 (CE16645)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

SVOASIM Narration

CE17372

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499710 (Samples: CE17370, CE17371, CE17372): -----

The LCS/LCSD RPD exceeds the method criteria. The site specific MS/MSD RPD is acceptable. No significant bias is suspected. (1,4-dioxane)

The MSD recovery is above the upper range for one analyte that was not reported in the sample(s), therefore no significant bias is suspected. (Trichlorofluoromethane)

QC Batch 499919 (Samples: CE17369): -----

The LCS/LCSD recovery is below the lower range, but within the method criteria. A slight low bias is possible. (Vinyl chloride)

The LCS recovery is below the lower range but within the method criteria. The LCSD is acceptable. No significant bias is suspected. (Carbon Disulfide, Methylene chloride)

Instrument:

CHEM02 09/29/19-1 Michael Hahn, Chemist 09/29/19

CE17362, CE17364, CE17368, CE17369, CE17370

Initial Calibration Evaluation (CHEM02/VT-P092819):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 2-Hexanone 25% (20%), Bromoform 23% (20%), Bromomethane 34% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.046 (0.05), 2-Hexanone 0.060 (0.1), 4-Methyl-2-pentanone 0.082 (0.1), Acetone 0.030 (0.1), Bromomethane 0.091 (0.1), Methyl ethyl ketone 0.044 (0.1), Tetrahydrofuran (THF) 0.027 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0929_02-VT-P092819) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.239 (0.3), 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.062 (0.1), 4-Methyl-2-pentanone 0.075 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.027 (0.05)

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

VOA Narration

The following compounds did not meet minimum response factors: None.

CHEM02 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE17370, CE17371, CE17372

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1001_02-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.212 (0.3), 1,2-Dibromo-3-chloropropane 0.040 (0.05), 2-Hexanone 0.058 (0.1), 4-Methyl-2-pentanone 0.075 (0.1), Acetone 0.028 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.023 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/02/19-1 Michael Hahn, Chemist 10/02/19

CE17369

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1002_02-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.181 (0.3), 1,2-Dibromo-3-chloropropane 0.033 (0.05), 2-Hexanone 0.050 (0.1), 4-Methyl-2-pentanone 0.070 (0.1), Acetone 0.023 (0.1), Bromoform 0.096 (0.1), Bromomethane 0.077 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.022 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM15 09/30/19-1 Harry Mullin, Chemist 09/30/19

CE17363, CE17364, CE17365, CE17366, CE17367, CE17368

Initial Calibration Evaluation (CHEM15/VOA15wceve-092619):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: Chloroethane 29% (20%), Methyl ethyl ketone 21% (20%), Methylene chloride 26% (20%), Tetrahydrofuran (THF) 24% (20%)
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

VOA Narration

Continuing Calibration Verification (CHEM15/0930B03-VOA15wceve-092619) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
91% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 499331 (CE17362)

CE17362, CE17364, CE17368, CE17369, CE17370

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499453 (CE16343)

CE17363, CE17364, CE17365, CE17366, CE17367, CE17368

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A blank MS/MSD was analyzed with this batch.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499919 (CE19767)

CE17369

All LCS recoveries were within 70 - 130 with the following exceptions: Carbon Disulfide(69%), Methylene chloride(69%), Vinyl chloride(69%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Vinyl chloride(66%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QC (Site Specific):

Batch 499710 (CE17371)

CE17370, CE17371, CE17372

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: 1,4-dioxane(34.3%)
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: Trichlorofluoromethane(134%)
All MS/MSD RPDs were less than 30% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE17362

VOA Narration

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499422 (Samples: CE17372): -----

The LCSD recovery is above the upper range. All of the target analytes are acceptable. No significant bias is suspected. (% 2,5-Dibromotoluene (PID))

The LCS/LCSD RPD exceeds the method criteria for one analyte and the surrogate. This analyte was not reported in the sample. A slight variability is possible. (Naphthalene, % 2,5-Dibromotoluene (PID))

Instrument:

PIDFID 09/30/19-1 Caleb Githinji, Chemist 09/30/19

CE17372

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 499422 (CE17352)

CE17372

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: % 2,5-Dibromotoluene (PID)(134%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2,5-Dibromotoluene (PID)(23.3%), Naphthalene(29.1%)
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE17362

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE17362

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☑ No ☐
Coolant: IPK ☑ ICE ☐ No ☐
Temp 4 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/24/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
173662	19A-TB02-092419-1	GW	9/24/19	12:00	2				X									
173663	19A-AE29R3-092419-1	GW	9/24/19	1420	3				X									
173664	19A-AE29R5-092419-1	GW	9/24/19	1510	3				X									
173665	19A-AE102M-092519-1	GW	9/25/19	0920	3	3		4	X	X			X	X	X	X	X	
173666	19A-AE102M-092519-2	GW	9/25/19	0925	3	3		2	X	X					X	X	X	
173667	19A-AE102D-092519-1	GW	9/25/19	1055	3	2			X	X								
173668	19A-AE101R1-092519-1	GW	9/25/19	0925	3				X									
173669	19A-AE101R1-092519-2	GW	9/25/19	0930	3				X									
173670	19A-AE101R2-092519-1	GW	9/25/19	1005	3	2			X	X								
173671	19A-AE101R3-092519-1	GW	9/25/19	1055	9	6			X	X								MS/MSD
173672	19A-EB01-092519-1	GW	9/25/19	1045	5	5		4	X	X	X	X	X	X	X	X	X	

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	9-25-19	14:20
[signature]	[signature]	9.25.19	16:05

Comments, Special Requirements or Regulations:

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED - WILLMINGTON MA 60552044.13**
SDG ID: **GCE18817**
Sample ID#s: **CE18817 - CE18831**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE18817

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH target analytes acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE18817

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-092519-1	CE18817	GROUND WATER
19A-AE101R5-092519-1	CE18818	GROUND WATER
19A-AE111R1-092519-1	CE18819	GROUND WATER
19A-AE111R3-092519-1	CE18820	GROUND WATER
19A-AE111R5-092519-1	CE18821	GROUND WATER
19A-AE111R6-092519-1	CE18822	GROUND WATER
19A-TRC201R-092519-1	CE18823	GROUND WATER
19A-EB02-092519-1	CE18824	GROUND WATER
19A-GZA12-092619-1	CE18825	GROUND WATER
19A-STM8R1-092619-1	CE18826	GROUND WATER
19A-GZA101R-092619-1	CE18827	GROUND WATER
19A-STM3D-092619-1	CE18828	GROUND WATER
19A-STM8R-092619-1	CE18829	GROUND WATER
19A-STM8D-092619-1	CE18830	GROUND WATER
19A-GZA10-092619-1	CE18831	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18817

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TB01-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	09/30/19	MH	70 - 130 %
% Bromofluorobenzene	98		%	1	09/30/19	MH	70 - 130 %
% Dibromofluoromethane	106		%	1	09/30/19	MH	70 - 130 %
% Toluene-d8	99		%	1	09/30/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/30/19	MH	SW8260C

7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TB01-092519-1

Phoenix I.D.: CE18817

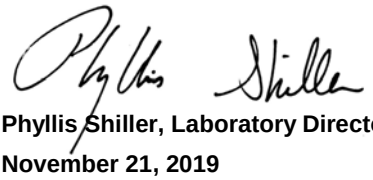
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18818

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE101R5-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethane	51	20	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethene	14	10	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/30/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/30/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	1200	200	ug/L	200	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/30/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/30/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/30/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/30/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Tetrachloroethene	730	200	ug/L	200	10/02/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/30/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Trichloroethene	2800	200	ug/L	200	10/02/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Vinyl chloride	14	10	ug/L	20	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/30/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	09/30/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	101		%	200	10/02/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	101		%	200	10/02/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	100		%	200	10/02/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	97		%	200	10/02/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/30/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	16	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	79		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18819

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18820

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	8.6	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18821

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R5-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	3.4	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	101		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18822

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R6-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R6-092519-1

Phoenix I.D.: CE18822

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	1.5	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18823

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TRC201R-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	77	20	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethene	20	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TRC201R-092519-1

Phoenix I.D.: CE18823

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	170	20	ug/L	20	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	28	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	50	20	ug/L	20	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	2.1	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	102		%	20	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	105		%	20	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	55	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	15:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18824

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-EB02-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-EB02-092519-1

Phoenix I.D.: CE18824

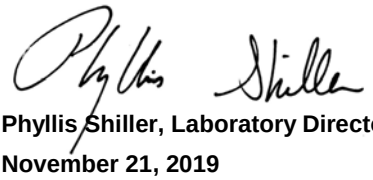
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18825

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA12-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	10/02/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/27/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/27/19	CPP	SW6010D
Manganese (Dissolved)	1.34	0.001	mg/L	1	09/27/19	CPP	SW6010D
Iron	0.056	0.010	mg/L	1	10/02/19	EK	SW6010D
Manganese	1.32	0.001	mg/L	1	10/02/19	EK	SW6010D
Chloride	1140	75.0	mg/L	25	09/28/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/28/19 01:58	BS/EG	E300.0
Nitrate as Nitrogen	9.29	0.25	mg/L	5	09/28/19 01:58	BS/EG	E300.0
Sulfate	36.8	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Total Organic Carbon	1.4	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA12-092619-1

Phoenix I.D.: CE18825

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	104		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	9:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18826

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R1-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.017	0.004	mg/L	1	10/02/19	EK	SW6010D
Arsenic (Dissolved)	0.014	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	0.012	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	0.140	0.001	mg/L	1	09/27/19	TH	SW6010D
Iron	0.069	0.010	mg/L	1	10/02/19	EK	SW6010D
Manganese	0.156	0.001	mg/L	1	10/02/19	EK	SW6010D
Chloride	78.6	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/27/19 09:11	BS/EG	E300.0
Nitrate as Nitrogen	0.18	0.05	mg/L	1	09/27/19 09:11	BS/EG	E300.0
Sulfate	40.6	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/28/19	EG	SM5310B-11
EPH Extraction	Completed				10/01/19	JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/26/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/26/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/30/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R1-092619-1

Phoenix I.D.: CE18826

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	1.9	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	98		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/29/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	49		%	1	09/29/19	WB	40 - 140 %	
% Nitrobenzene-d5	45		%	1	09/29/19	WB	40 - 140 %	
% Terphenyl-d14	48		%	1	09/29/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	0.28	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	67		%	1	10/01/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	78		%	1	10/01/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	80		%	1	10/01/19	AW	40 - 140 %
% o-terphenyl (aromatic)	68		%	1	10/01/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	117		%	1	09/30/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	115		%	1	09/30/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

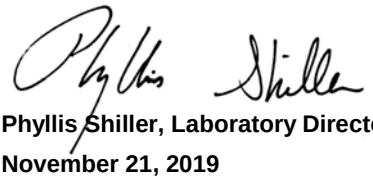
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	11:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18827

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA101R-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	10/03/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	17.2	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	8.20	0.011	mg/L	10	10/02/19	TH	SW6010D
Iron	19.6	0.010	mg/L	1	10/03/19	EK	SW6010D
Manganese	8.02	0.010	mg/L	10	10/04/19	EK	SW6010D
Chloride	1370	75.0	mg/L	25	09/28/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.100	0.100	mg/L	25	09/28/19 02:18	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/27/19 09:21	BS/EG	E300.0
Sulfate	52.8	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA101R-092619-1

Phoenix I.D.: CE18827

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/02/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/02/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/02/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/02/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	10/02/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/02/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/02/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/02/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Tetrachloroethene	300	20	ug/L	20	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/02/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C	
Trichloroethene	120	5.0	ug/L	5	10/02/19	MH	SW8260C	
Trichlorofluoromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C	
Vinyl chloride	ND	2.5	ug/L	5	10/02/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (5x)	99		%	5	10/02/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	101		%	5	10/02/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	101		%	5	10/02/19	MH	70 - 130 %	
% Toluene-d8 (5x)	100		%	5	10/02/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	99		%	20	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	101		%	20	09/30/19	MH	70 - 130 %	
% Toluene-d8 (20x)	98		%	20	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/02/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	12:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18828

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Phoenix I.D.: CE18828

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Ver 2

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Phoenix I.D.: CE18828

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18829

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R-092619-1

Phoenix I.D.: CE18829

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	80		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	13:10
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18830

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8D-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	10	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.9	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8D-092619-1

Phoenix I.D.: CE18830

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	0.44	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	78		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/21/19	14:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18831

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA10-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.130	0.004	mg/L	1	10/03/19	EK	SW6010D
Arsenic (Dissolved)	0.138	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	6.82	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	1.17	0.001	mg/L	1	09/27/19	TH	SW6010D
Iron	7.00	0.010	mg/L	1	10/03/19	EK	SW6010D
Manganese	1.13	0.001	mg/L	1	10/03/19	EK	SW6010D
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 499002 (mg/L), QC Sample No: CE18521 (CE18825, CE18826)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	<0.004	<0.004	NC	99.2	102	2.8	99.2			75 - 125	20
Iron	BRL	0.010	0.075	0.073	2.70	101	102	1.0	97.5			75 - 125	20
Manganese	BRL	0.001	0.017	0.016	6.10	98.3	101	2.7	97.7			75 - 125	20
QA/QC Batch 498746 (mg/L), QC Sample No: CE18825 (CE18825, CE18826, CE18827, CE18831)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	89.1	91.0	2.1	97.7			75 - 125	20
Iron	BRL	0.011	<0.011	<0.011	NC	93.7	94.6	1.0	92.7			75 - 125	20
Manganese	BRL	0.001	1.34	1.29	3.80	91.8	93.5	1.8	91.9			75 - 125	20
QA/QC Batch 499003 (mg/L), QC Sample No: CE18831 (CE18827, CE18831)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	0.130	0.127	2.30	97.7	96.4	1.3	97.9			75 - 125	20
Iron	BRL	0.010	7.00	6.88	1.70	106	106	0.0	NC			75 - 125	20
Manganese	BRL	0.001	1.13	1.10	2.70	105	104	1.0	106			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 499481 (mg/L), QC Sample No: CE18282 (CE18825, CE18826, CE18827)													
Sulfide	BRL	0.05	<0.05	<0.05	NC	92.5			84.8			90 - 110	20
QA/QC Batch 499202 (mg/L), QC Sample No: CE18825 (CE18825, CE18826)													
Total Organic Carbon	BRL	1.0	1.4	1.4	NC	109			91.0			85 - 115	20
Comment:													
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.													
QA/QC Batch 498967 (mg/L), QC Sample No: CE18039 (CE18825, CE18826, CE18827)													
Chloride	BRL	3.0	4.5	4.4	NC	98.4			89.9			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.46	0.46	0	99.2			92.3			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	101			100			90 - 110	20
Sulfate	BRL	3.0	6.2	6.3	NC	99.8			93.9			90 - 110	20
QA/QC Batch 499479 (mg/L), QC Sample No: CE19031 (CE18825, CE18827)													
Chloride	BRL	3.0	33.7	33.9	0.60	98.4			104			90 - 110	20
Nitrate as Nitrogen	BRL	0.05	0.02	<0.05	NC	103			98.5			90 - 110	20
Nitrite as Nitrogen	BRL	0.004	<0.004	<0.004	NC	99.7			101			90 - 110	20
Sulfate	BRL	3.0	17.2	16.9	1.80	103			102			90 - 110	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 499412 (ug/L), QC Sample No: CE18826 (CE18826)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	63	72	13.3				40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	77	82	6.3				40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	34	38	11.1				40 - 140	25	l
Total TPH 1,2*	ND	100	59	63	6.6				40 - 140	25	
% 1-chlorooctadecane (aliphatic)	69	%	67	76	12.6				40 - 140	25	
% 2-Bromonaphthalene (Fractionati	68	%	76	85	11.2				40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	71	%	75	82	8.9				40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	65	%	61	69	12.3				40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 498753 (ug/l), QC Sample No: CE17371 (CE18818, CE18825, CE18826, CE18829, CE18830)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	90	87	3.4	104	84	21.3	30 - 130	20	r
% 1,4-dioxane-d8	83	%	82	77	6.3	93	87	6.7	30 - 130	20	
QA/QC Batch 498733 (ug/L), QC Sample No: CE17846 (CE18826)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	65	50	26.1				40 - 140	20	r
Acenaphthene	ND	0.50	73	71	2.8				40 - 140	20	
Acenaphthylene	ND	0.10	62	67	7.8				40 - 140	20	
Anthracene	ND	0.10	77	74	4.0				40 - 140	20	
Benz(a)anthracene	ND	0.05	71	63	11.9				40 - 140	20	
Benzo(a)pyrene	ND	0.20	59	50	16.5				40 - 140	20	
Benzo(b)fluoranthene	ND	0.07	75	55	30.8				40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	67	44	41.4				40 - 140	20	r
Benzo(k)fluoranthene	ND	0.10	79	57	32.4				40 - 140	20	r
Chrysene	ND	0.05	74	60	20.9				40 - 140	20	r
Dibenz(a,h)anthracene	ND	0.02	79	49	46.9				40 - 140	20	r
Fluoranthene	ND	0.50	75	70	6.9				40 - 140	20	
Fluorene	ND	0.10	77	74	4.0				40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.10	75	49	41.9				40 - 140	20	r
Naphthalene	ND	0.50	64	46	32.7				40 - 140	20	r
Phenanthrene	ND	0.06	70	67	4.4				40 - 140	20	
Pyrene	ND	0.07	75	73	2.7				40 - 140	20	
% 2-Fluorobiphenyl	56	%	59	56	5.2				40 - 140	20	
% Nitrobenzene-d5	56	%	64	54	16.9				40 - 140	20	
% Terphenyl-d14	61	%	61	51	17.9				40 - 140	20	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Comment:											
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)											
QA/QC Batch 499710 (ug/L), QC Sample No: CE17371 (CE18819, CE18820, CE18821, CE18822, CE18823, CE18824, CE18825, CE18826, CE18828, CE18829, CE18830)											
Volatiles - Ground Water											
1,1,1,2-Tetrachloroethane	ND	1.0	105	100	4.9	101	110	8.5	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	99	93	6.3	104	115	10.0	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	104	94	10.1	95	101	6.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	97	92	5.3	91	102	11.4	70 - 130	30	
1,1-Dichloroethane	ND	1.0	103	94	9.1	100	111	10.4	70 - 130	30	
1,1-Dichloroethene	ND	1.0	100	89	11.6	100	115	14.0	70 - 130	30	
1,1-Dichloropropene	ND	1.0	99	92	7.3	104	111	6.5	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	102	99	3.0	92	108	16.0	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	102	94	8.2	86	101	16.0	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	102	97	5.0	94	103	9.1	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	103	96	7.0	96	102	6.1	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	91	97	6.4	93	107	14.0	70 - 130	30	
1,2-Dibromoethane	ND	1.0	107	97	9.8	100	109	8.6	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	103	96	7.0	94	99	5.2	70 - 130	30	
1,2-Dichloroethane	ND	1.0	104	98	5.9	104	112	7.4	70 - 130	30	
1,2-Dichloropropane	ND	1.0	102	97	5.0	100	104	3.9	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	103	96	7.0	96	104	8.0	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	104	96	8.0	93	102	9.2	70 - 130	30	
1,3-Dichloropropane	ND	1.0	102	93	9.2	97	105	7.9	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	100	91	9.4	92	100	8.3	70 - 130	30	
1,4-dioxane	ND	100	140	99	34.3	81	98	19.0	40 - 160	30	r
2,2-Dichloropropane	ND	1.0	110	99	10.5	100	111	10.4	70 - 130	30	
2-Chlorotoluene	ND	1.0	104	97	7.0	92	100	8.3	70 - 130	30	
2-Hexanone	ND	5.0	111	108	2.7	103	114	10.1	40 - 160	30	
4-Chlorotoluene	ND	1.0	104	96	8.0	91	101	10.4	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	124	117	5.8	113	124	9.3	40 - 160	30	
Acetone	ND	5.0	93	102	9.2	108	118	8.8	40 - 160	30	
Benzene	ND	0.70	100	93	7.3	95	103	8.1	70 - 130	30	
Bromobenzene	ND	1.0	103	95	8.1	92	100	8.3	70 - 130	30	
Bromochloromethane	ND	1.0	102	87	15.9	93	98	5.2	70 - 130	30	
Bromodichloromethane	ND	0.50	107	104	2.8	99	110	10.5	70 - 130	30	
Bromoform	ND	1.0	108	98	9.7	100	109	8.6	70 - 130	30	
Bromomethane	ND	1.0	147	134	9.3	76	103	30.2	40 - 160	30	
Carbon Disulfide	ND	1.0	96	89	7.6	92	106	14.1	70 - 130	30	
Carbon tetrachloride	ND	1.0	101	94	7.2	107	120	11.5	70 - 130	30	
Chlorobenzene	ND	1.0	103	96	7.0	98	105	6.9	70 - 130	30	
Chloroethane	ND	1.0	108	97	10.7	104	117	11.8	70 - 130	30	
Chloroform	ND	1.0	101	92	9.3	100	107	6.8	70 - 130	30	
Chloromethane	ND	1.0	110	99	10.5	98	119	19.4	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	99	92	7.3	NC	NC	NC	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	104	96	8.0	97	104	7.0	70 - 130	30	
Dibromochloromethane	ND	0.50	107	103	3.8	102	115	12.0	70 - 130	30	
Dibromomethane	ND	1.0	102	91	11.4	95	105	10.0	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	120	110	8.7	143	159	10.6	40 - 160	30	
Ethyl ether	ND	1.0	94	90	4.3	86	100	15.1	70 - 130	30	
Ethylbenzene	ND	1.0	104	94	10.1	100	106	5.8	70 - 130	30	

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Hexachlorobutadiene	ND	0.40	108	100	7.7	102	115	12.0	70 - 130	30	
Isopropylbenzene	ND	1.0	99	94	5.2	94	102	8.2	70 - 130	30	
m&p-Xylene	ND	1.0	102	94	8.2	97	105	7.9	70 - 130	30	
Methyl ethyl ketone	ND	5.0	102	99	3.0	103	129	22.4	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	105	96	9.0	98	111	12.4	70 - 130	30	
Methylene chloride	ND	1.0	92	88	4.4	85	91	6.8	70 - 130	30	
Naphthalene	ND	1.0	103	96	7.0	92	107	15.1	70 - 130	30	
n-Butylbenzene	ND	1.0	105	96	9.0	98	106	7.8	70 - 130	30	
n-Propylbenzene	ND	1.0	102	92	10.3	97	104	7.0	70 - 130	30	
o-Xylene	ND	1.0	108	98	9.7	98	108	9.7	70 - 130	30	
p-Isopropyltoluene	ND	1.0	104	94	10.1	97	105	7.9	70 - 130	30	
sec-Butylbenzene	ND	1.0	109	100	8.6	104	116	10.9	70 - 130	30	
Styrene	ND	1.0	106	99	6.8	99	108	8.7	70 - 130	30	
tert-Butylbenzene	ND	1.0	102	94	8.2	99	107	7.8	70 - 130	30	
Tetrachloroethene	ND	1.0	100	96	4.1	97	118	19.5	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	107	97	9.8	92	98	6.3	70 - 130	30	
Toluene	ND	1.0	99	94	5.2	99	102	3.0	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	101	93	8.2	96	104	8.0	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	108	98	9.7	99	107	7.8	70 - 130	30	
Trichloroethene	ND	1.0	98	90	8.5	NC	NC	NC	70 - 130	30	
Trichlorofluoromethane	ND	1.0	105	100	4.9	120	134	11.0	70 - 130	30	m
Trichlorotrifluoroethane	ND	1.0	96	90	6.5	106	116	9.0	70 - 130	30	
Vinyl chloride	ND	1.0	101	90	11.5	99	117	16.7	70 - 130	30	
% 1,2-dichlorobenzene-d4	100	%	101	98	3.0	98	102	4.0	70 - 130	30	
% Bromofluorobenzene	99	%	104	103	1.0	107	104	2.8	70 - 130	30	
% Dibromofluoromethane	98	%	99	103	4.0	98	99	1.0	70 - 130	30	
% Toluene-d8	101	%	100	101	1.0	100	98	2.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499482 (ug/L), QC Sample No: CE18817 (CE18817, CE18823 (20X) , CE18827 (20X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	103	98	5.0				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	94	94	0.0				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	107	106	0.9				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	99	98	1.0				70 - 130	30	
1,1-Dichloroethane	ND	1.0	102	101	1.0				70 - 130	30	
1,1-Dichloroethene	ND	1.0	99	98	1.0				70 - 130	30	
1,1-Dichloropropene	ND	1.0	94	94	0.0				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	108	103	4.7				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	105	95	10.0				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	105	102	2.9				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	100	97	3.0				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	114	99	14.1				70 - 130	30	
1,2-Dibromoethane	ND	1.0	112	104	7.4				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	101	99	2.0				70 - 130	30	
1,2-Dichloroethane	ND	1.0	102	99	3.0				70 - 130	30	
1,2-Dichloropropane	ND	1.0	105	104	1.0				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	100	97	3.0				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	99	99	0.0				70 - 130	30	
1,3-Dichloropropane	ND	1.0	105	101	3.9				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	98	96	2.1				70 - 130	30	
1,4-dioxane	ND	100	85	110	25.6				40 - 160	30	

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
2,2-Dichloropropane	ND	1.0	89	89	0.0				70 - 130	30
2-Chlorotoluene	ND	1.0	100	98	2.0				70 - 130	30
2-Hexanone	ND	5.0	109	105	3.7				40 - 160	30
4-Chlorotoluene	ND	1.0	101	96	5.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	120	120	0.0				40 - 160	30
Acetone	ND	5.0	105	110	4.7				40 - 160	30
Benzene	ND	0.70	100	98	2.0				70 - 130	30
Bromobenzene	ND	1.0	101	96	5.1				70 - 130	30
Bromochloromethane	ND	1.0	100	98	2.0				70 - 130	30
Bromodichloromethane	ND	0.50	99	99	0.0				70 - 130	30
Bromoform	ND	1.0	111	105	5.6				70 - 130	30
Bromomethane	ND	1.0	128	132	3.1				40 - 160	30
Carbon Disulfide	ND	1.0	97	95	2.1				70 - 130	30
Carbon tetrachloride	ND	1.0	96	94	2.1				70 - 130	30
Chlorobenzene	ND	1.0	102	98	4.0				70 - 130	30
Chloroethane	ND	1.0	108	107	0.9				70 - 130	30
Chloroform	ND	1.0	96	94	2.1				70 - 130	30
Chloromethane	ND	1.0	115	114	0.9				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	102	100	2.0				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	100	99	1.0				70 - 130	30
Dibromochloromethane	ND	0.50	110	106	3.7				70 - 130	30
Dibromomethane	ND	1.0	102	101	1.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	130	129	0.8				40 - 160	30
Ethyl ether	ND	1.0	101	103	2.0				70 - 130	30
Ethylbenzene	ND	1.0	99	95	4.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	105	100	4.9				70 - 130	30
Isopropylbenzene	ND	1.0	98	95	3.1				70 - 130	30
m&p-Xylene	ND	1.0	100	98	2.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	119	117	1.7				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	109	105	3.7				70 - 130	30
Methylene chloride	ND	1.0	97	93	4.2				70 - 130	30
Naphthalene	ND	1.0	109	109	0.0				70 - 130	30
n-Butylbenzene	ND	1.0	99	96	3.1				70 - 130	30
n-Propylbenzene	ND	1.0	98	98	0.0				70 - 130	30
o-Xylene	ND	1.0	104	101	2.9				70 - 130	30
p-Isopropyltoluene	ND	1.0	100	96	4.1				70 - 130	30
sec-Butylbenzene	ND	1.0	105	103	1.9				70 - 130	30
Styrene	ND	1.0	103	102	1.0				70 - 130	30
tert-Butylbenzene	ND	1.0	99	96	3.1				70 - 130	30
Tetrachloroethene	ND	1.0	99	95	4.1				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	105	110	4.7				70 - 130	30
Toluene	ND	1.0	98	95	3.1				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	104	97	7.0				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	103	97	6.0				70 - 130	30
Trichloroethene	ND	1.0	97	94	3.1				70 - 130	30
Trichlorofluoromethane	ND	1.0	101	100	1.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	91	93	2.2				70 - 130	30
Vinyl chloride	ND	1.0	106	100	5.8				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	100	100	0.0				70 - 130	30
% Bromofluorobenzene	99	%	101	100	1.0				70 - 130	30
% Dibromofluoromethane	102	%	104	108	3.8				70 - 130	30
% Toluene-d8	98	%	100	99	1.0				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499919 (ug/L), QC Sample No: CE19767 (CE18818 (200X) , CE18827 (5X))

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	91	84	8.0				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	82	79	3.7				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	86	80	7.2				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	86	82	4.8				70 - 130	30
1,1-Dichloroethane	ND	1.0	78	80	2.5				70 - 130	30
1,1-Dichloroethene	ND	1.0	75	76	1.3				70 - 130	30
1,1-Dichloropropene	ND	1.0	79	75	5.2				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	88	86	2.3				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	86	82	4.8				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	87	81	7.1				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	82	81	1.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	99	82	18.8				70 - 130	30
1,2-Dibromoethane	ND	1.0	94	89	5.5				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	84	81	3.6				70 - 130	30
1,2-Dichloroethane	ND	1.0	94	88	6.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	85	79	7.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	81	79	2.5				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	84	81	3.6				70 - 130	30
1,3-Dichloropropane	ND	1.0	89	84	5.8				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	80	78	2.5				70 - 130	30
1,4-dioxane	ND	100	71	83	15.6				40 - 160	30
2,2-Dichloropropane	ND	1.0	86	83	3.6				70 - 130	30
2-Chlorotoluene	ND	1.0	81	77	5.1				70 - 130	30
2-Hexanone	ND	5.0	91	81	11.6				40 - 160	30
4-Chlorotoluene	ND	1.0	81	79	2.5				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	101	87	14.9				40 - 160	30
Acetone	ND	5.0	88	91	3.4				40 - 160	30
Benzene	ND	0.70	78	77	1.3				70 - 130	30
Bromobenzene	ND	1.0	81	77	5.1				70 - 130	30
Bromochloromethane	ND	1.0	76	75	1.3				70 - 130	30
Bromodichloromethane	ND	0.50	88	83	5.8				70 - 130	30
Bromoform	ND	1.0	91	88	3.4				70 - 130	30
Bromomethane	ND	1.0	70	73	4.2				40 - 160	30
Carbon Disulfide	ND	1.0	69	70	1.4				70 - 130	30
Carbon tetrachloride	ND	1.0	81	78	3.8				70 - 130	30
Chlorobenzene	ND	1.0	83	82	1.2				70 - 130	30
Chloroethane	ND	1.0	78	79	1.3				70 - 130	30
Chloroform	ND	1.0	81	79	2.5				70 - 130	30
Chloromethane	ND	1.0	78	80	2.5				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	78	76	2.6				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	84	79	6.1				70 - 130	30
Dibromochloromethane	ND	0.50	90	90	0.0				70 - 130	30
Dibromomethane	ND	1.0	88	80	9.5				70 - 130	30
Dichlorodifluoromethane	ND	1.0	92	92	0.0				40 - 160	30
Ethyl ether	ND	1.0	84	79	6.1				70 - 130	30
Ethylbenzene	ND	1.0	81	79	2.5				70 - 130	30
Hexachlorobutadiene	ND	0.40	85	85	0.0				70 - 130	30

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Isopropylbenzene	ND	1.0	78	77	1.3				70 - 130	30	
m&p-Xylene	ND	1.0	81	82	1.2				70 - 130	30	
Methyl ethyl ketone	ND	5.0	95	86	9.9				40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	91	84	8.0				70 - 130	30	
Methylene chloride	ND	1.0	69	73	5.6				70 - 130	30	l
Naphthalene	ND	1.0	89	83	7.0				70 - 130	30	
n-Butylbenzene	ND	1.0	81	78	3.8				70 - 130	30	
n-Propylbenzene	ND	1.0	79	77	2.6				70 - 130	30	
o-Xylene	ND	1.0	83	86	3.6				70 - 130	30	
p-Isopropyltoluene	ND	1.0	81	79	2.5				70 - 130	30	
sec-Butylbenzene	ND	1.0	84	82	2.4				70 - 130	30	
Styrene	ND	1.0	84	82	2.4				70 - 130	30	
tert-Butylbenzene	ND	1.0	80	78	2.5				70 - 130	30	
Tetrachloroethene	ND	1.0	80	77	3.8				70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	80	76	5.1				70 - 130	30	
Toluene	ND	1.0	79	78	1.3				70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	75	82	8.9				70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	89	85	4.6				70 - 130	30	
Trichloroethene	ND	1.0	77	75	2.6				70 - 130	30	
Trichlorofluoromethane	ND	1.0	80	77	3.8				70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	72	72	0.0				70 - 130	30	
Vinyl chloride	ND	1.0	69	66	4.4				70 - 130	30	l
% 1,2-dichlorobenzene-d4	104	%	99	98	1.0				70 - 130	30	
% Bromofluorobenzene	103	%	107	105	1.9				70 - 130	30	
% Dibromofluoromethane	97	%	98	100	2.0				70 - 130	30	
% Toluene-d8	98	%	100	98	2.0				70 - 130	30	

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499422 (ug/L), QC Sample No: CE17352 (CE18826)

Volatile Petroleum Hydrocarbons - Ground Water

Unadjusted C5-C8 Aliphatics (*1)	ND	100	83	85	2.4	85	82	3.6	70 - 130	20	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	82	85	3.6	84	82	2.4	70 - 130	20	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	83	85	2.4	85	82	3.6	70 - 130	20	
C9-C12 Aliphatic Hydrocarbons *1,	ND	100	82	85	3.6	84	82	2.4	70 - 130	20	
C9-C10 Aromatic Hydrocarbons *1	ND	100	93	96	3.2	95	92	3.2	70 - 130	20	
Benzene	ND	1.0	87	89	2.3	89	86	3.4	70 - 130	20	
Ethyl Benzene	ND	1.0	88	91	3.4	91	87	4.5	70 - 130	20	
MTBE	ND	1.0	91	100	9.4	94	94	0.0	70 - 130	20	
Naphthalene	ND	5.0	94	126	29.1	98	99	1.0	70 - 130	20	r
Toluene	ND	1.0	86	89	3.4	89	85	4.6	70 - 130	20	
m,p-Xylenes	ND	2.0	88	91	3.4	91	88	3.4	70 - 130	20	
o-Xylene	ND	1.0	87	90	3.4	90	86	4.5	70 - 130	20	
% 2,5-Dibromotoluene (PID)	104	%	106	134	23.3	104	110	5.6	70 - 130	20	l,r

Comment:

A blank MS/MSD was analyzed with this batch.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

QA/QC Data

SDG I.D.: GCE18817

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE18817 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE18817	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18817	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18817	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18817	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18818	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE18818	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE18818	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE18818	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE18818	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE18818	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1200	200	20	20	ug/L
CE18818	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE18818	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE18818	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	730	200	5	5	ug/L
CE18818	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE18818	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2800	200	5	5	ug/L
CE18818	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	10	2	2	ug/L
CE18818	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	10	2	2	ug/L
CE18818	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE18818	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE18818	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE18818	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	14	10	7	7	ug/L
CE18818	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	730	200	5	5	ug/L
CE18818	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	2800	200	5	5	ug/L
CE18818	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	14	10	2	2	ug/L
CE18818	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1200	200	70	70	ug/L
CE18818	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	14	10	7	7	ug/L
CE18818	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE18818	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE18818	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE18818	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE18817 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE18818	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE18818	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE18818	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE18818	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE18818	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	16	0.20	3	3	ug/l
CE18818	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	16	0.20	0.3	0.3	ug/l
CE18819	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18819	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18819	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18819	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18820	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18820	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18820	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18820	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18821	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18821	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18821	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18821	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18822	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18822	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18822	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18822	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18823	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	50	20	5	5	ug/L
CE18823	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	77	20	70	70	ug/L
CE18823	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	20	1.0	7	7	ug/L
CE18823	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.1	1.0	2	2	ug/L
CE18823	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18823	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.1	1.0	2	2	ug/L
CE18823	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	170	20	20	20	ug/L
CE18823	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	2.1	1.0	2	2	ug/L
CE18823	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	170	20	70	70	ug/L
CE18823	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18823	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	20	1.0	7	7	ug/L
CE18823	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	77	20	70	70	ug/L
CE18823	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	50	20	5	5	ug/L
CE18823	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	55	40	3	3	ug/l
CE18823	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	55	40	0.3	0.3	ug/l

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE18817 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE18824	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18824	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18824	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18824	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18825	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18825	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18826	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18826	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18826	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.017	0.004	0.01	0.01	mg/L
CE18826	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.017	0.004	0.01	0.01	mg/L
CE18826	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.014	0.004	0.01	0.01	mg/L
CE18826	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.014	0.004	0.01	0.01	mg/L
CE18827	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	120	5.0	5	5	ug/L
CE18827	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	300	20	5	5	ug/L
CE18827	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.6	0.6	ug/L
CE18827	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE18827	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.02	0.02	ug/L
CE18827	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	2.5	0.5	0.5	ug/L
CE18827	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	120	5.0	5	5	ug/L
CE18827	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.6	0.6	ug/L
CE18827	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	2	2	ug/L
CE18827	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	2.5	0.02	0.02	ug/L
CE18827	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	300	20	5	5	ug/L
CE18827	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	200	3	3	ug/l
CE18827	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	200	0.3	0.3	ug/l
CE18828	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18828	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18828	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE18828	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE18829	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE18817 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE18829	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18830	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE18830	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE18830	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	0.44	0.20	0.3	0.3	ug/l
CE18831	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.130	0.004	0.01	0.01	mg/L
CE18831	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.130	0.004	0.01	0.01	mg/L
CE18831	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.138	0.004	0.01	0.01	mg/L
CE18831	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.138	0.004	0.01	0.01	mg/L

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED - WILLMINGTON MA 60552 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE18817, CE18818, CE18819, CE18820, CE18821, CE18822, CE18823, CE18824, CE18825, CE18826, CE18827, CE18828, CE18829, CE18830, CE18831

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: EPH, SVOASIM, VOA, VPH Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

SDG Comments

Metals Analysis: CE18825, CE18826, CE18827, CE18831
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GWP. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Lab ID CE18818, CE18827
Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499412 (Samples: CE18826): -----

The LCS/LCSD recovery is below the method criteria. A low bias for these analytes is possible. (C9-C18 Aliphatic Hydrocarbons 1*)

Instrument:

AU-FID4 10/01/19-1 Adam Werner, Chemist 10/01/19

CE18826

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Batch Specific):

Batch 499412 (CE18826)

CE18826

All LCS recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(34%)
All LCSD recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(38%)
All LCS/LCSD RPDs were less than 25% with the following exceptions: None.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Wet Chemistry Analysis

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

BECKMAN DU720 10/01/19-2 Greg Danielewski, Chemist 10/01/19

CE18825, CE18826, CE18827

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

Wet Chemistry Analysis

QC (Batch Specific):

Batch 499202 (CE18825)

CE18825, CE18826

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

Batch 499481 (CE18282)

CE18825, CE18826, CE18827

All LCS recoveries were within 85 - 115 with the following exceptions: None.
Additional: LCS acceptance range is 85-115% MS acceptance range 75-125%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

IC

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

IC 09/26/19-2 Brian Sheriden, Eric Geyer, Chemist 09/26/19

CE18825, CE18826, CE18827

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

IC 09/27/19-2 Tara Banning, Chemist 09/27/19

CE18825, CE18827

The initial calibration met all criteria including a standard run at the reporting level.
All method verification standards and blanks met criteria.

QC (Batch Specific):

Batch 498967 (CE18039)

CE18825, CE18826, CE18827

All LCS recoveries were within 90 - 110 with the following exceptions: None.

Batch 499479 (CE19031)

CE18825, CE18827

All LCS recoveries were within 90 - 110 with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

ICP Metals Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE18817

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

BLUE 09/27/19 13:51 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 09/27/

CE18825, CE18826, CE18827, CE18831

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/01/19 08:32 Cindy Pearce, Emily Kolominskaya, Tina Hall, Chemist 10/01/

CE18825, CE18826

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/02/19 11:00 Emily Kolominskaya, Tina Hall, Chemist 10/02/19

CE18827, CE18831

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/03/19 09:03 Emily Kolominskaya, Tina Hall, Chemist 10/03/19

CE18827

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

November 21, 2019

SDG I.D.: GCE18817

ICP Metals Narration

The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 498746 (CE18825)

CE18825, CE18826, CE18827, CE18831

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 499002 (CE18521)

CE18825, CE18826

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 499003 (CE18831)

CE18827, CE18831

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 09/27/19-1 Keith Aloisa, Chemist 09/27/19

CE18818, CE18825, CE18826, CE18829, CE18830

Initial Calibration Evaluation (CHEM22/DIOX_061319):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/0927_03-DIOX_061319) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498753 (CE17371)

CE18818, CE18825, CE18826, CE18829, CE18830

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

SVOA-Dioxane

All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 498733 (Samples: CE18826): -----

The LCS/LCSD RPD exceeds the method criteria for one or more analytes, but these analytes were not reported in the sample(s) so no variability is suspected. (2-Methylnaphthalene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, Naphthalene)

Instrument:

CHEM27 09/29/19-1 Wes Bryon, Chemist 09/29/19

CE18826

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0925):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/0929_03-27_BNSIM18_0925) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 498733 (CE17846)

CE18826

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: 2-Methylnaphthalene(26.1%), Benzo(b)fluoranthene(30.8%), Benzo(ghi)perylene(41.4%), Benzo(k)fluoranthene(32.4%), Chrysene(20.9%), Dibenz(a,h)anthracene(46.9%), Indeno(1,2,3-cd)pyrene(41.9%), Naphthalene(32.7%)
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

SVOASIM Narration

obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499710 (Samples: CE18819, CE18820, CE18821, CE18822, CE18823, CE18824, CE18825, CE18826, CE18828, CE18829, CE18830): -----

The LCS/LCSD RPD exceeds the method criteria for one analyte, therefore there may be variability in the reported result. (1,4-dioxane)

QC Batch 499919 (Samples: CE18818, CE18827): -----

The LCS/LCSD recovery is below the lower range but within the method criteria. A slight low bias for this analyte is possible. (Vinyl chloride)

The LCS recovery is below the lower range but within the method criteria. The LCSD is acceptable. No significant bias is suspected. (Carbon Disulfide, Methylene chloride)

Instrument:

CHEM02 09/30/19-2 Michael Hahn, Chemist 09/30/19

CE18817, CE18818, CE18823, CE18827

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/0930_15-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.233 (0.3), 1,2-Dibromo-3-chloropropane 0.044 (0.05), 2-Hexanone 0.058 (0.1), 4-Methyl-2-pentanone 0.074 (0.1), Acetone 0.024 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/01/19-1 Michael Hahn, Chemist 10/01/19

CE18819, CE18820, CE18821, CE18822, CE18823, CE18824, CE18825, CE18826, CE18828, CE18829, CE18830

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

VOA Narration

Continuing Calibration Verification (CHEM02/1001_02-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.212 (0.3), 1,2-Dibromo-3-chloropropane 0.040 (0.05), 2-Hexanone 0.058 (0.1), 4-Methyl-2-pentanone 0.075 (0.1), Acetone 0.028 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.023 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/02/19-1 Michael Hahn, Chemist 10/02/19

CE18818, CE18827

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1002_02-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
94% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.181 (0.3), 1,2-Dibromo-3-chloropropane 0.033 (0.05), 2-Hexanone 0.050 (0.1), 4-Methyl-2-pentanone 0.070 (0.1), Acetone 0.023 (0.1), Bromoform 0.096 (0.1), Bromomethane 0.077 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.022 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 499482 (CE18817)

CE18817, CE18823, CE18827

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499710 (CE17371)

CE18819, CE18820, CE18821, CE18822, CE18823, CE18824, CE18825, CE18826, CE18828, CE18829, CE18830

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: 1,4-dioxane(34.3%)
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499919 (CE19767)

CE18818, CE18827

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE18817

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: Carbon Disulfide(69%), Methylene chloride(69%), Vinyl chloride(69%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Vinyl chloride(66%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499422 (Samples: CE18826): -----

The LCSD recovery is above the upper range for the surrogate. The LCS/LCSD recovery of all target analytes is acceptable. No significant bias is suspected. (% 2,5-Dibromotoluene (PID))

The LCS/LCSD RPD exceeds the method criteria for one analyte and the surrogate. This analyte was not reported in the sample(s). No significant variability is suspected. (Naphthalene, % 2,5-Dibromotoluene (PID))

Instrument:

PIDFID 09/30/19-1 Caleb Githinji, Chemist 09/30/19

CE18826

Initial Calibration Evaluation (PIDFID/VPH_090719_T):
The following compounds exceeded %RSD criteria: None.

QC (Batch Specific):

Batch 499422 (CE17352)

CE18826

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: % 2,5-Dibromotoluene (PID)(134%)
All LCS/LCSD RPDs were less than 20% with the following exceptions: % 2,5-Dibromotoluene (PID)(23.3%), Naphthalene(29.1%)
A blank MS/MSD was analyzed with this batch.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE18817

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE18817

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 2.0 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature
Client Sample - Information - Identification
Date: 9/25/19

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP-VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP-EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
188817	FA-TB01-092519-1	GW	9/25/19	0900	2							X									
188818	19A-AE101R5-092519-1	GW	9/25/19	1440	3	2						X	X								
188819	19A-AE111R1-092519-1	GW	9/25/19	1415	3							X									
188820	19A-AE111R3-092519-1	GW	9/25/19	1420	3							X									
188821	19A-AE111R5-092519-1	GW	9/25/19	1425	3							X									
188822	19A-AE111R6-092519-1	GW	9/25/19	1430	3							X									
188823	FA-TRC20IR-092519-1	GW	9/25/19	1435	3							X									
188824	19A-EB02-092519-1	GW	9/25/19	1540	3							X									
188825	19A-GZA12-092619-1	GW	9/26/19	0925	3	3		4				X	X			X	X	X	X	X	
188826	19A-STM8R1-092619-1	GW	9/26/19	0935	5	5		4				X	X	X	X	X	X	X	X	X	
188827	FA-GZA101R-092619-1	GW	9/26/19	1130	3			4				X				X	X	X	X		
188828	19A-STM3D-092619-1	GW	9/26/19	1215	3							X									

Relinquished by:	Accepted by:	Date:	Time:
		9/26/19	15:05
	Marshal Hall	9/26/19	18:10

Comments, Special Requirements or Regulations:

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☑ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

State where samples were collected: MA

* SURCHARGE APPLIES

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☑ No ☐
Temp 2.8 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herbierich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature
Client Sample - Information - Identification Date: 9/25/19

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic	VOCs (8260) - HCl + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCl (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCl (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
18829	MA-STMBR-092619-1	GW	9/26/19	1230	3	2			X	X								
★ 18830	MA-STMBD-092619-1 @	GW	9/26/19	1310	3	2			X	X								
⊛ 18831	MA-GZA10-092619-1	GW	9/26/19	1405				2					X	X				

Relinquished by:	Accepted by:	Date:	Time:
		9-26-19	15:05
	Krystal Dale	9/26/19	18:10

Comments, Special Requirements or Regulations:
★ do not run dissolved + total metals
⊛ run dissolved + total metals (MA)

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

GCE 18829

Kayla Tomkiel

From: Grossman, Adam <Adam.Grossman@aecom.com>
Sent: Thursday, September 26, 2019 5:23 PM
To: Kayla Tomkiel
Cc: Potter, Dylan (Chelmsford); Olson, Scott (Chelmsford); Rebecca Merz
Subject: Fwd: Incoming samples COC Correction Lockheed, Wilmington, MA 9-26-2019

Hi Kayla,
As requested, see email below.

Thanks,
Adam

GCE18829

Sent from my Verizon, Samsung Galaxy smartphone

From: Grossman, Adam
Sent: Thursday, September 26, 2019 5:00:00 PM
To: Rebecca Merz <Rebeccam@phoenixlabs.com>
Cc: Potter, Dylan (Chelmsford) <Dylan.Potter2@aecom.com>; Olson, Scott (Chelmsford) <scott.olson@aecom.com>
Subject: Incoming samples COC Correction Lockheed, Wilmington, MA 9-26-2019

Hi Rebecca,
For the incoming samples from Wilmington, there is a slight error on the chain:

19A-STM-8D-092619-1 should NOT be analyzed for total and dissolved As, Fe, and Mn.

19A-GZA10-092619-1 SHOULD be analysed for total and dissolved As, Fe, and Mn.

Sorry for the confusion.

Thanks,
Adam

Sent from my Verizon, Samsung Galaxy smartphone

PHOENIX
Environmental Laboratories, Inc.

Monday, November 11, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED - WILMINGTON MA 60552044.13**
SDG ID: **GCE19865**
Sample ID#s: **CE19865 - CE19866**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

November 11, 2019

SDG I.D.: GCE19865

Version 2:
MCP narrative revised.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 11, 2019

SDG I.D.: GCE19865

Project ID: LOCKHEED - WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-092619-1	CE19865	GROUND WATER
19A-MW7-092619-1	CE19866	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 11, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	7:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/27/19	16:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE19865
Phoenix ID: CE19865

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-TB01-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/02/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/02/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/02/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/02/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE19865
Client ID: 19A-TB01-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/02/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/02/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/02/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/02/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/02/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/02/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/02/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/02/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/02/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	10/02/19	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	10/02/19	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/02/19	MH	70 - 130 %
% Toluene-d8	93		%	1	10/02/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/02/19	MH	SW8260C	7

Ver 3

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-TB01-092619-1

Phoenix I.D.: CE19865

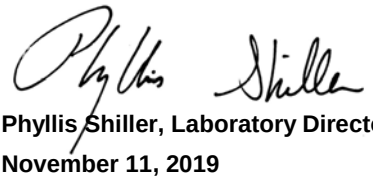
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/02/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/02/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/02/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/02/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 11, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 11, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	15:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/27/19	16:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE19865
Phoenix ID: CE19866

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-MW7-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/03/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE19866

Client ID: 19A-MW7-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/03/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
cis-1,2-Dichloroethene	29	20	ug/L	20	10/03/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/03/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Trichloroethene	27	1.0	ug/L	1	10/03/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Vinyl chloride	2.0	1.0	ug/L	1	10/03/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/03/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	10/03/19	MH	70 - 130 %
% Dibromofluoromethane	93		%	1	10/03/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/03/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	10/03/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	94		%	20	10/03/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	10/03/19	MH	70 - 130 %

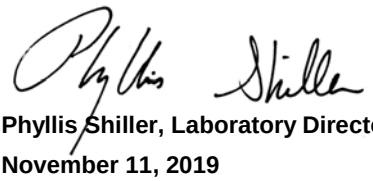
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	10/03/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/03/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 11, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 11, 2019

QA/QC Data

SDG I.D.: GCE19865

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 499937 (ug/L), QC Sample No: CE19615 (CE19865)											
Volatiles - Ground Water											
1,1,1,2-Tetrachloroethane	ND	1.0	88	90	2.2	90	89	1.1	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	82	87	5.9	93	91	2.2	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	96	98	2.1	99	102	3.0	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	85	91	6.8	90	91	1.1	70 - 130	30	
1,1-Dichloroethane	ND	1.0	92	97	5.3	105	103	1.9	70 - 130	30	
1,1-Dichloroethene	ND	1.0	88	92	4.4	95	95	0.0	70 - 130	30	
1,1-Dichloropropene	ND	1.0	73	81	10.4	93	92	1.1	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	117	121	3.4	120	122	1.7	70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	89	95	6.5	94	95	1.1	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	98	104	5.9	97	101	4.0	70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	80	85	6.1	84	83	1.2	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	96	98	2.1	101	100	1.0	70 - 130	30	
1,2-Dibromoethane	ND	1.0	85	88	3.5	88	87	1.1	70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	84	88	4.7	86	86	0.0	70 - 130	30	
1,2-Dichloroethane	ND	1.0	86	92	6.7	97	95	2.1	70 - 130	30	
1,2-Dichloropropane	ND	1.0	88	94	6.6	96	96	0.0	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	78	84	7.4	84	83	1.2	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	80	87	8.4	85	83	2.4	70 - 130	30	
1,3-Dichloropropane	ND	1.0	88	92	4.4	94	91	3.2	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	83	87	4.7	84	84	0.0	70 - 130	30	
1,4-dioxane	ND	100	87	80	8.4	70	80	13.3	40 - 160	30	
2,2-Dichloropropane	ND	1.0	90	91	1.1	91	89	2.2	70 - 130	30	
2-Chlorotoluene	ND	1.0	81	87	7.1	85	84	1.2	70 - 130	30	
2-Hexanone	ND	5.0	83	84	1.2	89	88	1.1	40 - 160	30	
4-Chlorotoluene	ND	1.0	81	86	6.0	85	83	2.4	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	87	91	4.5	95	96	1.0	40 - 160	30	
Acetone	ND	5.0	88	97	9.7	110	96	13.6	40 - 160	30	
Benzene	ND	0.70	83	88	5.8	93	91	2.2	70 - 130	30	
Bromobenzene	ND	1.0	81	87	7.1	82	83	1.2	70 - 130	30	
Bromochloromethane	ND	1.0	88	91	3.4	95	89	6.5	70 - 130	30	
Bromodichloromethane	ND	0.50	88	92	4.4	96	95	1.0	70 - 130	30	
Bromoform	ND	1.0	85	85	0.0	80	87	8.4	70 - 130	30	
Bromomethane	ND	1.0	72	82	13.0	35	54	42.7	40 - 160	30	m,r
Carbon Disulfide	ND	1.0	82	87	5.9	100	99	1.0	70 - 130	30	
Carbon tetrachloride	ND	1.0	83	84	1.2	95	96	1.0	70 - 130	30	
Chlorobenzene	ND	1.0	84	88	4.7	87	86	1.2	70 - 130	30	
Chloroethane	ND	1.0	89	93	4.4	101	99	2.0	70 - 130	30	
Chloroform	ND	1.0	95	100	5.1	99	105	5.9	70 - 130	30	
Chloromethane	ND	1.0	79	85	7.3	82	81	1.2	40 - 160	30	
cis-1,2-Dichloroethene	ND	1.0	93	98	5.2	102	98	4.0	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	88	93	5.5	90	90	0.0	70 - 130	30	

QA/QC Data

SDG I.D.: GCE19865

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Dibromochloromethane	ND	0.50	85	91	6.8	88	86	2.3	70 - 130	30
Dibromomethane	ND	1.0	87	90	3.4	96	92	4.3	70 - 130	30
Dichlorodifluoromethane	ND	1.0	88	89	1.1	92	93	1.1	40 - 160	30
Ethyl ether	ND	1.0	101	106	4.8	102	106	3.8	70 - 130	30
Ethylbenzene	ND	1.0	81	85	4.8	88	85	3.5	70 - 130	30
Hexachlorobutadiene	ND	0.40	85	85	0.0	86	76	12.3	70 - 130	30
Isopropylbenzene	ND	1.0	77	82	6.3	83	83	0.0	70 - 130	30
m&p-Xylene	ND	1.0	79	85	7.3	87	84	3.5	70 - 130	30
Methyl ethyl ketone	ND	5.0	95	102	7.1	112	110	1.8	40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	102	104	1.9	108	105	2.8	70 - 130	30
Methylene chloride	ND	1.0	86	92	6.7	93	92	1.1	70 - 130	30
Naphthalene	ND	1.0	106	110	3.7	102	114	11.1	70 - 130	30
n-Butylbenzene	ND	1.0	82	89	8.2	92	88	4.4	70 - 130	30
n-Propylbenzene	ND	1.0	78	86	9.8	86	84	2.4	70 - 130	30
o-Xylene	ND	1.0	83	89	7.0	88	87	1.1	70 - 130	30
p-Isopropyltoluene	ND	1.0	78	85	8.6	85	81	4.8	70 - 130	30
sec-Butylbenzene	ND	1.0	80	90	11.8	93	90	3.3	70 - 130	30
Styrene	ND	1.0	83	89	7.0	86	85	1.2	70 - 130	30
tert-Butylbenzene	ND	1.0	77	84	8.7	86	83	3.6	70 - 130	30
Tetrachloroethene	ND	1.0	76	81	6.4	84	85	1.2	70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	91	93	2.2	94	97	3.1	70 - 130	30
Toluene	ND	1.0	83	89	7.0	92	91	1.1	70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	90	94	4.3	101	98	3.0	70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	92	95	3.2	93	92	1.1	70 - 130	30
Trichloroethene	ND	1.0	78	83	6.2	86	88	2.3	70 - 130	30
Trichlorofluoromethane	ND	1.0	78	81	3.8	94	96	2.1	70 - 130	30
Trichlorotrifluoroethane	ND	1.0	75	78	3.9	88	91	3.4	70 - 130	30
Vinyl chloride	ND	1.0	80	84	4.9	89	89	0.0	70 - 130	30
% 1,2-dichlorobenzene-d4	97	%	104	102	1.9	105	105	0.0	70 - 130	30
% Bromofluorobenzene	99	%	103	101	2.0	103	103	0.0	70 - 130	30
% Dibromofluoromethane	110	%	108	106	1.9	100	103	3.0	70 - 130	30
% Toluene-d8	93	%	102	101	1.0	103	104	1.0	70 - 130	30

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 499934 (ug/L), QC Sample No: CE19861 (CE19866 (20X))

Volatiles - Ground Water

cis-1,2-Dichloroethene	ND	1.0	78	83	6.2				70 - 130	30
% 1,2-dichlorobenzene-d4	100	%	98	99	1.0				70 - 130	30
% Bromofluorobenzene	100	%	99	100	1.0				70 - 130	30
% Dibromofluoromethane	98	%	95	100	5.1				70 - 130	30
% Toluene-d8	98	%	101	98	3.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 500123 (ug/L), QC Sample No: CE19866 (CE19866)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	93	95	2.1				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	87	98	11.9				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	87	91	4.5				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	85	92	7.9				70 - 130	30
1,1-Dichloroethane	ND	1.0	88	93	5.5				70 - 130	30

QA/QC Data

SDG I.D.: GCE19865

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,1-Dichloroethene	ND	1.0	83	95	13.5				70 - 130	30
1,1-Dichloropropene	ND	1.0	80	93	15.0				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	89	92	3.3				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	86	94	8.9				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	89	94	5.5				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	91	93	2.2				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	80	87	8.4				70 - 130	30
1,2-Dibromoethane	ND	1.0	90	96	6.5				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	88	89	1.1				70 - 130	30
1,2-Dichloroethane	ND	1.0	94	96	2.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	89	92	3.3				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	90	94	4.3				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	90	93	3.3				70 - 130	30
1,3-Dichloropropane	ND	1.0	89	96	7.6				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	86	89	3.4				70 - 130	30
1,4-dioxane	ND	100	83	89	7.0				40 - 160	30
2,2-Dichloropropane	ND	1.0	90	103	13.5				70 - 130	30
2-Chlorotoluene	ND	1.0	89	90	1.1				70 - 130	30
2-Hexanone	ND	5.0	86	98	13.0				40 - 160	30
4-Chlorotoluene	ND	1.0	86	91	5.6				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	93	102	9.2				40 - 160	30
Acetone	ND	5.0	80	88	9.5				40 - 160	30
Benzene	ND	0.70	84	88	4.7				70 - 130	30
Bromobenzene	ND	1.0	87	90	3.4				70 - 130	30
Bromochloromethane	ND	1.0	88	84	4.7				70 - 130	30
Bromodichloromethane	ND	0.50	93	92	1.1				70 - 130	30
Bromoform	ND	1.0	90	98	8.5				70 - 130	30
Bromomethane	ND	1.0	94	97	3.1				40 - 160	30
Carbon Disulfide	ND	1.0	81	88	8.3				70 - 130	30
Carbon tetrachloride	ND	1.0	87	99	12.9				70 - 130	30
Chlorobenzene	ND	1.0	87	92	5.6				70 - 130	30
Chloroethane	ND	1.0	87	96	9.8				70 - 130	30
Chloroform	ND	1.0	87	94	7.7				70 - 130	30
Chloromethane	ND	1.0	94	97	3.1				40 - 160	30
cis-1,3-Dichloropropene	ND	0.40	88	90	2.2				70 - 130	30
Dibromochloromethane	ND	0.50	93	99	6.3				70 - 130	30
Dibromomethane	ND	1.0	86	90	4.5				70 - 130	30
Dichlorodifluoromethane	ND	1.0	110	133	18.9				40 - 160	30
Ethyl ether	ND	1.0	93	94	1.1				70 - 130	30
Ethylbenzene	ND	1.0	85	96	12.2				70 - 130	30
Hexachlorobutadiene	ND	0.40	100	103	3.0				70 - 130	30
Isopropylbenzene	ND	1.0	84	91	8.0				70 - 130	30
m&p-Xylene	ND	1.0	85	93	9.0				70 - 130	30
Methyl ethyl ketone	ND	5.0	90	106	16.3				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	92	95	3.2				70 - 130	30
Methylene chloride	ND	1.0	82	78	5.0				70 - 130	30
Naphthalene	ND	1.0	88	94	6.6				70 - 130	30
n-Butylbenzene	ND	1.0	89	96	7.6				70 - 130	30
n-Propylbenzene	ND	1.0	83	93	11.4				70 - 130	30
o-Xylene	ND	1.0	89	93	4.4				70 - 130	30
p-Isopropyltoluene	ND	1.0	87	95	8.8				70 - 130	30
sec-Butylbenzene	ND	1.0	92	99	7.3				70 - 130	30
Styrene	ND	1.0	89	95	6.5				70 - 130	30

QA/QC Data

SDG I.D.: GCE19865

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
tert-Butylbenzene	ND	1.0	87	92	5.6				70 - 130	30
Tetrachloroethene	ND	1.0	86	98	13.0				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	80	90	11.8				70 - 130	30
Toluene	ND	1.0	82	89	8.2				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	90	88	2.2				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	92	94	2.2				70 - 130	30
Trichloroethene	ND	1.0	82	89	8.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	87	102	15.9				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	77	93	18.8				70 - 130	30
Vinyl chloride	ND	1.0	84	88	4.7				70 - 130	30
% 1,2-dichlorobenzene-d4	101	%	100	99	1.0				70 - 130	30
% Bromofluorobenzene	100	%	99	104	4.9				70 - 130	30
% Dibromofluoromethane	96	%	102	102	0.0				70 - 130	30
% Toluene-d8	100	%	99	98	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 11, 2019

Monday, November 11, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE19865 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE19865	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE19865	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE19865	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE19865	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE19865	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE19865	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	40	0.3	0.3	ug/l
CE19865	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE19865	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE19866	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE19866	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE19866	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE19866	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	29	20	20	20	ug/L
CE19866	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	27	1.0	5	5	ug/L
CE19866	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	20	20	20	ug/L
CE19866	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	27	1.0	5	5	ug/L
CE19866	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE19866	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE19866	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	27	1.0	5	5	ug/L
CE19866	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED - WILMINGTO	ND	40	0.3	0.3	ug/l
CE19866	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE19866	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED - WILMINGTON MA 605520 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE19865, CE19866

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

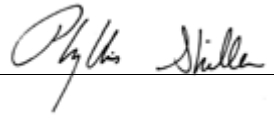
G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: VOA Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Monday, November 11, 2019

Printed Name: Phyllis Shiller

Position: Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 11, 2019

SDG I.D.: GCE19865

SDG Comments

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GW-1 criteria. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

Chem02 10/03/19-1 (CE19866):
Not all RSD and minimum recommended response factors were met - see below.
Chem17 10/03/19-1 (CE19865):
Not all RSD and minimum recommended response factors were met - see below.

Instrument:

CHEM02 10/02/19-2 Michael Hahn, Chemist 10/02/19

CE19866

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1002_30-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

CHEM02 10/03/19-1 Michael Hahn, Chemist 10/03/19

CE19866

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1003_04-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.198 (0.3), 1,2-Dibromo-3-chloropropane 0.038 (0.05), 2-Hexanone 0.053 (0.1), 4-Methyl-2-pentanone 0.064 (0.1), Acetone 0.023 (0.1), Bromomethane 0.091 (0.1), Methyl ethyl ketone 0.035 (0.1), Tetrahydrofuran (THF) 0.022 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM17 10/02/19-1 Michael Hahn, Chemist 10/02/19

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

MCP Certification Report

November 11, 2019

SDG I.D.: GCE19865

VOA Narration

CE19865

Initial Calibration Evaluation (CHEM17/VT-S093019):
95% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 21% (20%), Acetone 22% (20%), Bromoform 22% (20%), Methyl ethyl ketone 28% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.036 (0.05), Acetone 0.053 (0.1), Bromoform 0.052 (0.1), Methyl ethyl ketone 0.086 (0.1)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM17/1002_02-VT-S093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.034 (0.05), 2-Hexanone 0.093 (0.1), Acetone 0.049 (0.1), Bromoform 0.043 (0.1), Methyl ethyl ketone 0.097 (0.1)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 499934 (CE19861)

CE19866

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 499937 (CE19615)

CE19865

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 500123 (CE19866)

CE19866

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Cooler: Yes ☐ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 3.1 °C Pg of

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Client Sample - Information - Identification

Sampler's Signature Date:

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water
SE=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 (FF)	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
199165	19A-TB01-092619-1	GW	9/26/19	0700	2							X									
199166	19A-MW7-092619-1	GW	9/26/19	1535	3							X									

Relinquished by:	Accepted by:	Date:	Time:
		9-27-19	13:50
	Krystal Hall	9/27/19	10:56

Comments, Special Requirements or Regulations:

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☒ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Thursday, October 10, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED-WILMINGTON MA 60552044.13**
SDG ID: **GCE23303**
Sample ID#s: CE23303 - CE23311

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B
NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

SDG Comments

October 10, 2019

SDG I.D.: GCE23303

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

October 10, 2019

SDG I.D.: GCE23303

Project ID: LOCKHEED-WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19A-TB01-093019-1	CE23303	WATER
19A-AE101R6-093019-1	CE23304	GROUND WATER
19A-AE101D-093019-1	CE23305	GROUND WATER
19A-AE101S-093019-1	CE23306	GROUND WATER
19A-EMW10R-093019-1	CE23307	GROUND WATER
19A-EMW10D-093019-1	CE23308	GROUND WATER
19A-MW5-093019-1	CE23309	GROUND WATER
19A-GZA14A-093019-1	CE23310	GROUND WATER
19A-TRC401R-093019-1	CE23311	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	WATER	Collected by:		09/30/19	7:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23303

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/04/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/04/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/04/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/04/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23303
Client ID: 19A-TB01-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/04/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/04/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/04/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/04/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/04/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/04/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/04/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/04/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/04/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	10/04/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	10/04/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	10/04/19	MH	70 - 130 %
% Toluene-d8	97		%	1	10/04/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/04/19	MH	SW8260C	7

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TB01-093019-1

Phoenix I.D.: CE23303

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/04/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/04/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/04/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/04/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

TRIP BLANK INCLUDED.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23304

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R6-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloroethane	42	20	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/04/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	10/04/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/04/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/04/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/04/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/04/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
cis-1,2-Dichloroethene	1500	200	ug/L	200	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	10/04/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/04/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/04/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/04/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/04/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/04/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Tetrachloroethene	17	10	ug/L	20	10/04/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/04/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
trans-1,2-Dichloroethene	25	20	ug/L	20	10/04/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Trichloroethene	1300	200	ug/L	200	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Vinyl chloride	250	20	ug/L	20	10/04/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	103		%	20	10/04/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	102		%	200	10/07/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	102		%	200	10/07/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	104		%	200	10/07/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	99		%	200	10/07/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	10/04/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	11	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	96		%	1	10/03/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	10:15
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23305

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23305

Client ID: 19A-AE101D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	1.5	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	32	20	ug/L	20	10/04/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	1.2	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	3.8	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	1.6	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/07/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	102		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	10/04/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	10/04/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/07/19			
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	90		%	1	10/03/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	10:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23306

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	1.3	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C

7

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23306
Client ID: 19A-AE101S-093019-1

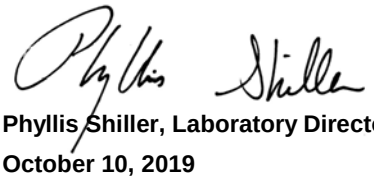
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	90		%	1	10/03/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23307

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	5.6	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23307

Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	29	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	8.0	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	23	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	17	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23307
Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	11:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23308

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW10D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/08/19	MH	SW8260C

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23308

Client ID: 19A-EMW10D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/08/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,2-Dichloroethene	16	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrachloroethene	99	20	ug/L	20	10/04/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/08/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Trichloroethene	28	20	ug/L	20	10/04/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Vinyl chloride	2.1	1.0	ug/L	1	10/08/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	10/08/19	MH	70 - 130 %
% Bromofluorobenzene	108		%	1	10/08/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	10/08/19	MH	70 - 130 %
% Toluene-d8	97		%	1	10/08/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	99		%	20	10/04/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	10/04/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/08/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:57
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23309

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-MW5-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23309

Client ID: 19A-MW5-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	11	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	105		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-MW5-093019-1

Phoenix I.D.: CE23309

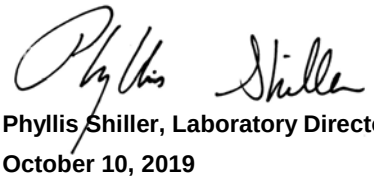
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	11:02
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23310

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-GZA14A-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.043	0.004	mg/L	1	10/04/19	TH	SW6010D
Arsenic (Dissolved)	0.032	0.004	mg/L	1	10/04/19	TH	SW6010D
Iron (Dissolved)	8.03	0.011	mg/L	1	10/04/19	TH	SW6010D
Manganese (Dissolved)	1.65	0.001	mg/L	1	10/04/19	TH	SW6010D
Iron	8.95	0.010	mg/L	1	10/04/19	TH	SW6010D
Manganese	1.71	0.001	mg/L	1	10/04/19	TH	SW6010D
Dissolved Metals Preparation	Completed				10/01/19	AG	SW3005A
Total Metals Digestion	Completed				10/02/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23311

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC401R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloroethane	92	20	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloroethene	20	10	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/05/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	10/05/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/05/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/05/19	MH	SW8260C

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23311

Client ID: 19A-TRC401R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/05/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
cis-1,2-Dichloroethene	100	20	ug/L	20	10/05/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	10/05/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/05/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/05/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/05/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/05/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Tetrachloroethene	2600	400	ug/L	400	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/05/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Trichloroethene	5200	400	ug/L	400	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/05/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	10/05/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	95		%	20	10/05/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	10/05/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	100		%	400	10/07/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	103		%	400	10/07/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	94		%	400	10/07/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	100		%	400	10/07/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	10/05/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 10, 2019

QA/QC Data

SDG I.D.: GCE23303

Parameter	Blank	Blk RL	Sample Result	Dup Result	Dup RPD	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 499753 (mg/L), QC Sample No: CE23786 (CE23310)													
ICP Metals - Aqueous													
Arsenic	BRL	0.004	0.011	0.007	NC	104	104	0.0	105			75 - 125	20
Iron	BRL	0.010	59.2	58.6	1.00	105	104	1.0	NC			75 - 125	20
Manganese	BRL	0.001	2.67	2.66	0.40	103	104	1.0	105			75 - 125	20
QA/QC Batch 499504 (mg/L), QC Sample No: CE24267 (CE23310)													
ICP Metals - Dissolved													
Arsenic	BRL	0.004	<0.004	<0.004	NC	96.6	92.4	4.4	103			75 - 125	20
Iron	BRL	0.011	<0.011	<0.011	NC	99.9	96.1	3.9	105			75 - 125	20
Manganese	BRL	0.001	0.114	0.113	0.90	98.8	95.4	3.5	103			75 - 125	20

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

October 10, 2019

QA/QC Data

SDG I.D.: GCE23303

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 499755 (ug/l), QC Sample No: CE23305 (CE23304, CE23305, CE23306)											
1,4dioxane - Ground Water											
1,4-dioxane	ND	0.20	101	99	2.0	104	92	12.2	30 - 130	20	
% 1,4-dioxane-d8	90	%	95	94	1.1	93	83	11.4	30 - 130	20	
QA/QC Batch 500484 (ug/L), QC Sample No: CE23305 (CE23304 (200X) , CE23305, CE23306, CE23307, CE23309, CE23311 (400X))											
Volatiles - Ground Water											
1,1,1,2-Tetrachloroethane	ND	1.0	119	105	12.5	114	87	26.9	70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	125	115	8.3	125	93	29.4	70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	111	101	9.4	104	94	10.1	70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	108	96	11.8	107	85	22.9	70 - 130	30	
1,1-Dichloroethane	ND	1.0	114	105	8.2	112	94	17.5	70 - 130	30	
1,1-Dichloroethene	ND	1.0	117	110	6.2	126	98	25.0	70 - 130	30	
1,1-Dichloropropene	ND	1.0	114	106	7.3	121	91	28.3	70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	116	108	7.1	112	77	37.0	70 - 130	30	r
1,2,3-Trichloropropane	ND	1.0	107	104	2.8	106	87	19.7	70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	113	105	7.3	109	77	34.4	70 - 130	30	r
1,2,4-Trimethylbenzene	ND	1.0	110	101	8.5	106	89	17.4	70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	111	92	18.7	99	105	5.9	70 - 130	30	
1,2-Dibromoethane	ND	1.0	115	105	9.1	115	84	31.2	70 - 130	30	r
1,2-Dichlorobenzene	ND	1.0	112	101	10.3	105	85	21.1	70 - 130	30	
1,2-Dichloroethane	ND	1.0	126	118	6.6	125	84	39.2	70 - 130	30	r
1,2-Dichloropropane	ND	1.0	111	103	7.5	106	99	6.8	70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	112	103	8.4	107	91	16.2	70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	109	101	7.6	108	86	22.7	70 - 130	30	
1,3-Dichloropropane	ND	1.0	111	102	8.5	109	85	24.7	70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	105	99	5.9	103	82	22.7	70 - 130	30	
1,4-dioxane	ND	100	111	88	23.1	99	94	5.2	40 - 160	30	
2,2-Dichloropropane	ND	1.0	131	117	11.3	117	115	1.7	70 - 130	30	l
2-Chlorotoluene	ND	1.0	106	98	7.8	105	94	11.1	70 - 130	30	
2-Hexanone	ND	5.0	127	111	13.4	116	77	40.4	40 - 160	30	r
4-Chlorotoluene	ND	1.0	108	100	7.7	106	89	17.4	70 - 130	30	
4-Methyl-2-pentanone	ND	5.0	132	123	7.1	130	91	35.3	40 - 160	30	r
Acetone	ND	5.0	112	125	11.0	113	72	44.3	40 - 160	30	r
Benzene	ND	0.70	107	96	10.8	107	95	11.9	70 - 130	30	
Bromobenzene	ND	1.0	108	98	9.7	103	89	14.6	70 - 130	30	
Bromochloromethane	ND	1.0	102	95	7.1	101	88	13.8	70 - 130	30	
Bromodichloromethane	ND	0.50	120	110	8.7	120	90	28.6	70 - 130	30	
Bromoform	ND	1.0	125	107	15.5	113	85	28.3	70 - 130	30	
Bromomethane	ND	1.0	102	93	9.2	103	75	31.5	40 - 160	30	r
Carbon Disulfide	ND	1.0	112	104	7.4	114	92	21.4	70 - 130	30	
Carbon tetrachloride	ND	1.0	128	117	9.0	130	95	31.1	70 - 130	30	r
Chlorobenzene	ND	1.0	112	99	12.3	109	91	18.0	70 - 130	30	

QA/QC Data

SDG I.D.: GCE23303

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Chloroethane	ND	1.0	118	109	7.9	115	74	43.4	70 - 130	30	r
Chloroform	ND	1.0	115	106	8.1	112	84	28.6	70 - 130	30	
Chloromethane	ND	1.0	127	121	4.8	109	66	49.1	40 - 160	30	r
cis-1,2-Dichloroethene	ND	1.0	108	100	7.7	NC	NC	NC	70 - 130	30	
cis-1,3-Dichloropropene	ND	0.40	113	101	11.2	107	92	15.1	70 - 130	30	
Dibromochloromethane	ND	0.50	126	113	10.9	119	87	31.1	70 - 130	30	r
Dibromomethane	ND	1.0	116	103	11.9	112	87	25.1	70 - 130	30	
Dichlorodifluoromethane	ND	1.0	183	165	10.3	179	100	56.6	40 - 160	30	l,m,r
Ethyl ether	ND	1.0	107	103	3.8	106	84	23.2	70 - 130	30	
Ethylbenzene	ND	1.0	107	99	7.8	112	93	18.5	70 - 130	30	
Hexachlorobutadiene	ND	0.40	123	118	4.1	127	86	38.5	70 - 130	30	r
Isopropylbenzene	ND	1.0	105	98	6.9	108	97	10.7	70 - 130	30	
m&p-Xylene	ND	1.0	109	97	11.7	109	93	15.8	70 - 130	30	
Methyl ethyl ketone	ND	5.0	132	118	11.2	110	89	21.1	40 - 160	30	
Methyl t-butyl ether (MTBE)	ND	1.0	119	107	10.6	106	86	20.8	70 - 130	30	
Methylene chloride	ND	1.0	101	93	8.2	95	86	9.9	70 - 130	30	
Naphthalene	ND	1.0	111	108	2.7	108	87	21.5	70 - 130	30	
n-Butylbenzene	ND	1.0	115	104	10.0	112	83	29.7	70 - 130	30	
n-Propylbenzene	ND	1.0	107	97	9.8	108	93	14.9	70 - 130	30	
o-Xylene	ND	1.0	113	100	12.2	108	96	11.8	70 - 130	30	
p-Isopropyltoluene	ND	1.0	113	102	10.2	111	88	23.1	70 - 130	30	
sec-Butylbenzene	ND	1.0	119	109	8.8	119	97	20.4	70 - 130	30	
Styrene	ND	1.0	116	100	14.8	83	90	8.1	70 - 130	30	
tert-Butylbenzene	ND	1.0	110	100	9.5	111	95	15.5	70 - 130	30	
Tetrachloroethene	ND	1.0	115	102	12.0	119	92	25.6	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	114	103	10.1	99	83	17.6	70 - 130	30	
Toluene	ND	1.0	108	97	10.7	106	93	13.1	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	114	103	10.1	113	94	18.4	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	121	107	12.3	112	90	21.8	70 - 130	30	
Trichloroethene	ND	1.0	111	100	10.4	114	96	17.1	70 - 130	30	
Trichlorofluoromethane	ND	1.0	135	125	7.7	142	82	53.6	70 - 130	30	l,m,r
Trichlorotrifluoroethane	ND	1.0	120	111	7.8	124	88	34.0	70 - 130	30	r
Vinyl chloride	ND	1.0	112	105	6.5	119	81	38.0	70 - 130	30	r
% 1,2-dichlorobenzene-d4	100	%	98	101	3.0	103	99	4.0	70 - 130	30	
% Bromofluorobenzene	105	%	108	107	0.9	109	100	8.6	70 - 130	30	
% Dibromofluoromethane	107	%	98	104	5.9	96	93	3.2	70 - 130	30	
% Toluene-d8	99	%	99	101	2.0	100	100	0.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 500370 (ug/L), QC Sample No: CE27670 (CE23303, CE23304 (20X) , CE23305 (20X) , CE23308 (20X) , CE23311 (20X))

Volatiles - Water, Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	91	95	4.3				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	93	93	0.0				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	91	98	7.4				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	88	91	3.4				70 - 130	30	
1,1-Dichloroethane	ND	1.0	91	93	2.2				70 - 130	30	
1,1-Dichloroethene	ND	1.0	91	90	1.1				70 - 130	30	
1,1-Dichloropropene	ND	1.0	89	91	2.2				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	96	98	2.1				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	89	94	5.5				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	92	97	5.3				70 - 130	30	

QA/QC Data

SDG I.D.: GCE23303

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
1,2,4-Trimethylbenzene	ND	1.0	93	93	0.0				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	90	94	4.3				70 - 130	30
1,2-Dibromoethane	ND	1.0	97	99	2.0				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	90	94	4.3				70 - 130	30
1,2-Dichloroethane	ND	1.0	94	95	1.1				70 - 130	30
1,2-Dichloropropane	ND	1.0	89	94	5.5				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	94	95	1.1				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	94	92	2.2				70 - 130	30
1,3-Dichloropropane	ND	1.0	92	95	3.2				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	91	90	1.1				70 - 130	30
1,4-dioxane	ND	100	84	99	16.4				40 - 160	30
2,2-Dichloropropane	ND	1.0	94	95	1.1				70 - 130	30
2-Chlorotoluene	ND	1.0	93	91	2.2				70 - 130	30
2-Hexanone	ND	5.0	96	98	2.1				40 - 160	30
4-Chlorotoluene	ND	1.0	92	93	1.1				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	99	100	1.0				40 - 160	30
Acetone	ND	5.0	92	99	7.3				40 - 160	30
Benzene	ND	0.70	87	88	1.1				70 - 130	30
Bromobenzene	ND	1.0	91	94	3.2				70 - 130	30
Bromochloromethane	ND	1.0	87	89	2.3				70 - 130	30
Bromodichloromethane	ND	0.50	92	96	4.3				70 - 130	30
Bromoform	ND	1.0	93	96	3.2				70 - 130	30
Bromomethane	ND	1.0	75	75	0.0				40 - 160	30
Carbon Disulfide	ND	1.0	88	88	0.0				70 - 130	30
Carbon tetrachloride	ND	1.0	91	91	0.0				70 - 130	30
Chlorobenzene	ND	1.0	91	91	0.0				70 - 130	30
Chloroethane	ND	1.0	89	87	2.3				70 - 130	30
Chloroform	ND	1.0	86	92	6.7				70 - 130	30
Chloromethane	ND	1.0	82	82	0.0				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	89	90	1.1				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	88	90	2.2				70 - 130	30
Dibromochloromethane	ND	0.50	95	97	2.1				70 - 130	30
Dibromomethane	ND	1.0	91	91	0.0				70 - 130	30
Dichlorodifluoromethane	ND	1.0	102	99	3.0				40 - 160	30
Ethyl ether	ND	1.0	89	93	4.4				70 - 130	30
Ethylbenzene	ND	1.0	91	92	1.1				70 - 130	30
Hexachlorobutadiene	ND	0.40	106	101	4.8				70 - 130	30
Isopropylbenzene	ND	1.0	93	94	1.1				70 - 130	30
m&p-Xylene	ND	1.0	90	92	2.2				70 - 130	30
Methyl ethyl ketone	ND	5.0	99	94	5.2				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	91	95	4.3				70 - 130	30
Methylene chloride	ND	1.0	79	80	1.3				70 - 130	30
Naphthalene	ND	1.0	92	98	6.3				70 - 130	30
n-Butylbenzene	ND	1.0	95	93	2.1				70 - 130	30
n-Propylbenzene	ND	1.0	92	92	0.0				70 - 130	30
o-Xylene	ND	1.0	92	94	2.2				70 - 130	30
p-Isopropyltoluene	ND	1.0	95	95	0.0				70 - 130	30
sec-Butylbenzene	ND	1.0	102	99	3.0				70 - 130	30
Styrene	ND	1.0	92	93	1.1				70 - 130	30
tert-Butylbenzene	ND	1.0	94	94	0.0				70 - 130	30
Tetrachloroethene	ND	1.0	90	92	2.2				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	87	90	3.4				70 - 130	30
Toluene	ND	1.0	86	88	2.3				70 - 130	30

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
trans-1,2-Dichloroethene	ND	1.0	90	91	1.1				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	89	95	6.5				70 - 130	30
Trichloroethene	ND	1.0	86	87	1.2				70 - 130	30
Trichlorofluoromethane	ND	1.0	94	94	0.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	88	90	2.2				70 - 130	30
Vinyl chloride	ND	1.0	89	84	5.8				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	102	%	104	102	1.9				70 - 130	30
% Dibromofluoromethane	94	%	100	101	1.0				70 - 130	30
% Toluene-d8	98	%	99	100	1.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 500551 (ug/L), QC Sample No: CE28388 (CE23308)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	108	109	0.9				70 - 130	30
1,1,1-Trichloroethane	ND	1.0	119	112	6.1				70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	102	100	2.0				70 - 130	30
1,1,2-Trichloroethane	ND	1.0	101	98	3.0				70 - 130	30
1,1-Dichloroethane	ND	1.0	110	102	7.5				70 - 130	30
1,1-Dichloroethene	ND	1.0	112	104	7.4				70 - 130	30
1,1-Dichloropropene	ND	1.0	108	107	0.9				70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	108	105	2.8				70 - 130	30
1,2,3-Trichloropropane	ND	1.0	101	96	5.1				70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	106	97	8.9				70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	107	101	5.8				70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	96	95	1.0				70 - 130	30
1,2-Dibromoethane	ND	1.0	107	109	1.9				70 - 130	30
1,2-Dichlorobenzene	ND	1.0	102	99	3.0				70 - 130	30
1,2-Dichloroethane	ND	1.0	117	114	2.6				70 - 130	30
1,2-Dichloropropane	ND	1.0	105	102	2.9				70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	107	101	5.8				70 - 130	30
1,3-Dichlorobenzene	ND	1.0	105	100	4.9				70 - 130	30
1,3-Dichloropropane	ND	1.0	104	105	1.0				70 - 130	30
1,4-Dichlorobenzene	ND	1.0	99	97	2.0				70 - 130	30
1,4-dioxane	ND	100	104	91	13.3				40 - 160	30
2,2-Dichloropropane	ND	1.0	119	115	3.4				70 - 130	30
2-Chlorotoluene	ND	1.0	102	97	5.0				70 - 130	30
2-Hexanone	ND	5.0	108	103	4.7				40 - 160	30
4-Chlorotoluene	ND	1.0	103	98	5.0				70 - 130	30
4-Methyl-2-pentanone	ND	5.0	121	121	0.0				40 - 160	30
Acetone	ND	5.0	115	118	2.6				40 - 160	30
Benzene	ND	0.70	104	96	8.0				70 - 130	30
Bromobenzene	ND	1.0	103	97	6.0				70 - 130	30
Bromochloromethane	ND	1.0	102	92	10.3				70 - 130	30
Bromodichloromethane	ND	0.50	112	110	1.8				70 - 130	30
Bromoform	ND	1.0	107	116	8.1				70 - 130	30
Bromomethane	ND	1.0	115	113	1.8				40 - 160	30
Carbon Disulfide	ND	1.0	106	101	4.8				70 - 130	30
Carbon tetrachloride	ND	1.0	122	115	5.9				70 - 130	30
Chlorobenzene	ND	1.0	102	102	0.0				70 - 130	30
Chloroethane	ND	1.0	105	102	2.9				70 - 130	30

QA/QC Data

SDG I.D.: GCE23303

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
Chloroform	ND	1.0	106	105	0.9				70 - 130	30
Chloromethane	ND	1.0	116	110	5.3				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	107	100	6.8				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	101	3.9				70 - 130	30
Dibromochloromethane	ND	0.50	118	114	3.4				70 - 130	30
Dibromomethane	ND	1.0	107	105	1.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	157	150	4.6				40 - 160	30
Ethyl ether	ND	1.0	104	101	2.9				70 - 130	30
Ethylbenzene	ND	1.0	103	102	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	116	112	3.5				70 - 130	30
Isopropylbenzene	ND	1.0	103	99	4.0				70 - 130	30
m&p-Xylene	ND	1.0	104	101	2.9				70 - 130	30
Methyl ethyl ketone	ND	5.0	114	118	3.4				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	111	104	6.5				70 - 130	30
Methylene chloride	ND	1.0	97	91	6.4				70 - 130	30
Naphthalene	ND	1.0	105	100	4.9				70 - 130	30
n-Butylbenzene	ND	1.0	107	102	4.8				70 - 130	30
n-Propylbenzene	ND	1.0	102	97	5.0				70 - 130	30
o-Xylene	ND	1.0	108	102	5.7				70 - 130	30
p-Isopropyltoluene	ND	1.0	107	102	4.8				70 - 130	30
sec-Butylbenzene	ND	1.0	114	106	7.3				70 - 130	30
Styrene	ND	1.0	105	101	3.9				70 - 130	30
tert-Butylbenzene	ND	1.0	106	103	2.9				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	103	99	4.0				70 - 130	30
Toluene	ND	1.0	103	98	5.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	113	105	7.3				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	109	108	0.9				70 - 130	30
Trichlorofluoromethane	ND	1.0	124	118	5.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	113	105	7.3				70 - 130	30
Vinyl chloride	ND	1.0	113	102	10.2				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	101	%	106	107	0.9				70 - 130	30
% Dibromofluoromethane	100	%	98	101	3.0				70 - 130	30
% Toluene-d8	98	%	99	101	2.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
October 10, 2019

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23303	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE23303	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23303	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23303	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23303	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23303	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23303	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE23303	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE23304	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1500	200	20	20	ug/L
CE23304	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE23304	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	38	38	ug/L
CE23304	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.6	0.6	ug/L
CE23304	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE23304	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	17	10	5	5	ug/L
CE23304	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	4	4	ug/L
CE23304	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE23304	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE23304	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L
CE23304	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE23304	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	8.3	8.3	ug/L
CE23304	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE23304	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE23304	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L
CE23304	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1300	200	5	5	ug/L
CE23304	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	250	20	2	2	ug/L
CE23304	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	250	20	2	2	ug/L
CE23304	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1500	200	20	20	ug/L
CE23304	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	250	20	2	2	ug/L
CE23304	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE23304	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	17	10	5	5	ug/L
CE23304	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23304	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE23304	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE23304	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	1300	200	5	5	ug/L
CE23304	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE23304	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE23304	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE23304	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE23304	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE23304	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE23304	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE23304	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	250	20	2	2	ug/L
CE23304	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE23304	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1300	200	5	5	ug/L
CE23304	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	17	10	5	5	ug/L
CE23304	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE23304	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	1500	200	70	70	ug/L
CE23304	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE23304	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE23304	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23304	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	7	7	ug/L
CE23304	$DIOX_LDL	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	11	0.20	0.3	0.3	ug/l
CE23304	$DIOX_LDL	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	11	0.20	3	3	ug/l
CE23304	$DIOX_LDL	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	11	0.20	0.3	0.3	ug/l
CE23304	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	800	0.3	0.3	ug/l
CE23305	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23305	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23305	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23305	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	32	20	20	20	ug/L
CE23305	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23305	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	32	20	20	20	ug/L
CE23305	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23305	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23306	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23306	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23306	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE23306	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23306	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23306	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23307	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	29	1.0	20	20	ug/L
CE23307	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	23	1.0	5	5	ug/L
CE23307	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	17	1.0	2	2	ug/L
CE23307	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	8.0	1.0	5	5	ug/L
CE23307	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23307	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23307	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE23307	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23307	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	29	1.0	20	20	ug/L
CE23307	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	8.0	1.0	5	5	ug/L
CE23307	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	23	1.0	5	5	ug/L
CE23307	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	17	1.0	2	2	ug/L
CE23307	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	17	1.0	2	2	ug/L
CE23307	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23307	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	8.0	1.0	5	5	ug/L
CE23307	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	23	1.0	5	5	ug/L
CE23307	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	17	1.0	2	2	ug/L
CE23307	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23307	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE23307	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE23308	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23308	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE23308	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23308	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	99	20	5	5	ug/L
CE23308	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	2.1	1.0	2	2	ug/L
CE23308	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	28	20	5	5	ug/L
CE23308	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.1	1.0	2	2	ug/L
CE23308	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	2.1	1.0	2	2	ug/L

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23308	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	28	20	5	5	ug/L
CE23308	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	99	20	5	5	ug/L
CE23308	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23308	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	28	20	5	5	ug/L
CE23308	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	2.1	1.0	2	2	ug/L
CE23308	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23308	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	99	20	5	5	ug/L
CE23308	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23308	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE23308	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE23309	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE23309	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE23309	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE23309	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE23309	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE23309	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	0.3	0.3	ug/l
CE23309	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE23309	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE23310	AS-WM	Arsenic	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.043	0.004	0.01	0.01	mg/L
CE23310	AS-WM	Arsenic	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.043	0.004	0.01	0.01	mg/L
CE23310	AS-WM	Arsenic	MA / GROUNDWATER STANDARDS / GW-1	0.043	0.004	0.01	0.01	mg/L
CE23310	D-AS	Arsenic (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	0.032	0.004	0.01	0.01	mg/L
CE23310	D-AS	Arsenic (Dissolved)	MA / CMR 310.40.1600 / GW-1 (mg/l)	0.032	0.004	0.01	0.01	mg/L
CE23310	D-AS	Arsenic (Dissolved)	MA / GROUNDWATER STANDARDS / GW-1	0.032	0.004	0.01	0.01	mg/L
CE23310	D-MN	Manganese (Dissolved)	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.65	0.001	0.43	0.43	mg/L
CE23310	MN-WM	Manganese	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	1.71	0.001	0.43	0.43	mg/L
CE23311	$8260GWR-WI	Hexachlorobutadiene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.6	0.6	ug/L
CE23311	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00075	0.00075	ug/L
CE23311	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.00033	0.00033	ug/L
CE23311	$8260GWR-WI	Methylene chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Methyl ethyl ketone	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	40	38	38	ug/L
CE23311	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Bromodichloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE23311	$8260GWR-WI	Tetrachloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	2600	400	5	5	ug/L
CE23311	$8260GWR-WI	1,2-Dichloropropane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	3	3	ug/L
CE23311	$8260GWR-WI	Dibromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	8.3	8.3	ug/L
CE23311	$8260GWR-WI	1,4-Dichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Dibromochloromethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	cis-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L
CE23311	$8260GWR-WI	1,2-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23311	$8260GWR-WI	Carbon tetrachloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	Benzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.0075	0.0075	ug/L
CE23311	$8260GWR-WI	Bromomethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE23311	$8260GWR-WI	1,2,3-Trichlorobenzene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	7	7	ug/L
CE23311	$8260GWR-WI	Vinyl chloride	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	cis-1,2-Dichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	100	20	20	20	ug/L
CE23311	$8260GWR-WI	1,1,2-Trichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Trichloroethene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	5200	400	5	5	ug/L
CE23311	$8260GWR-WI	Bromoform	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	4	4	ug/L
CE23311	$8260GWR-WI	1,1-Dichloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	92	20	70	70	ug/L
CE23311	$8260GWR-WI	trans-1,3-Dichloropropene	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	0.47	0.47	ug/L
CE23311	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	cis-1,2-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	100	20	20	20	ug/L
CE23311	$8260GWR-WI	Bromomethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	7	7	ug/L
CE23311	$8260GWR-WI	Carbon tetrachloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	cis-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE23311	$8260GWR-WI	Dibromochloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	Hexachlorobutadiene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.6	0.6	ug/L
CE23311	$8260GWR-WI	Methylene chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Tetrachloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	2600	400	5	5	ug/L
CE23311	$8260GWR-WI	trans-1,3-Dichloropropene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.5	0.5	ug/L
CE23311	$8260GWR-WI	Trichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	5200	400	5	5	ug/L
CE23311	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	Vinyl chloride	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	1,4-Dichlorobenzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Bromoform	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	4	4	ug/L
CE23311	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Bromodichloromethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE23311	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	Benzene	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	0.02	0.02	ug/L
CE23311	$8260GWR-WI	1,1-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	92	20	70	70	ug/L
CE23311	$8260GWR-WI	1,1-Dichloroethene	MA / CMR 310.40.1600 / GW-1 (mg/l)	20	10	7	7	ug/L
CE23311	$8260GWR-WI	1,1,2-Trichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	1,2-Dichloropropane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	3	3	ug/L
CE23311	$8260GWR-WI	1,2-Dichloroethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	1,1-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	92	20	70	70	ug/L
CE23311	$8260GWR-WI	Tetrachloroethene	MA / GROUNDWATER STANDARDS / GW-1	2600	400	5	5	ug/L
CE23311	$8260GWR-WI	1,1,2-Trichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Trichloroethene	MA / GROUNDWATER STANDARDS / GW-1	5200	400	5	5	ug/L
CE23311	$8260GWR-WI	1,1,1,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L

Thursday, October 10, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE23303 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE23311	$8260GWR-WI	Vinyl chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	1,1,2,2-Tetrachloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	1,2-Dichloropropane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Bromodichloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	3	3	ug/L
CE23311	$8260GWR-WI	Carbon tetrachloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Benzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	1,4-Dichlorobenzene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Methylene chloride	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Dibromochloromethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	2	2	ug/L
CE23311	$8260GWR-WI	1,2-Dichloroethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	5	5	ug/L
CE23311	$8260GWR-WI	Hexachlorobutadiene	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.6	0.6	ug/L
CE23311	$8260GWR-WI	Bromoform	MA / GROUNDWATER STANDARDS / GW-1	ND	10	4	4	ug/L
CE23311	$8260GWR-WI	1,1-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	20	10	7	7	ug/L
CE23311	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	10	0.02	0.02	ug/L
CE23311	$8260GWR-WI	cis-1,2-Dichloroethene	MA / GROUNDWATER STANDARDS / GW-1	100	20	70	70	ug/L
CE23311	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED-WILMINGTO	ND	800	0.3	0.3	ug/l
CE23311	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	800	3	3	ug/l
CE23311	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	800	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED-WILMINGTON MA 6055204 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE23303, CE23304, CE23305, CE23306, CE23307, CE23308, CE23309, CE23310, CE23311

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☑ Other: WATER

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Section: VOA Narration .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, October 10, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

October 10, 2019

SDG I.D.: GCE23303

SDG Comments

Metals Analysis: CE23310
The client requested a shorter list of elements than the 6010 MCP list. Only Arsenic, Iron and Manganese are reported as requested on the chain of custody.

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GW-1 criteria. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

Not all requested reporting levels were achieved due to the presence of target and non target compounds. Please refer to the Sample Criteria Exceedances section of this report.

ICP Metals Narration

Were all QA/QC performance criteria specified in the analytical method achieved? Yes.

Instrument:

ARCOS 10/04/19 09:55 Tina Hall, Chemist 10/04/19

CE23310

Additional criteria for CCV and ICSAB:
Sodium and Potassium are poor performing elements, the laboratory's in-house limits are 85-115% (CCV) and 70-130% (ICSAB).The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

BLUE 10/04/19 09:12 Tina Hall, Chemist 10/04/19

CE23310

The initial calibration met criteria.
The continuing calibration standards met criteria for all the elements reported. The linear range is defined daily by the calibration range.
The continuing calibration blanks were less than the reporting level for the elements reported.
The ICSA and ICSAB were analyzed at the beginning and end of the run and were within criteria.The linear range is defined daily by the calibration range.
The following Initial Calibration Verification (ICV) compounds did not meet criteria: None.
The following Continuing Calibration Verification (CCV) compounds did not meet criteria: None.
The following ICP Interference Check (ICSAB) compounds did not meet criteria: None.

QC (Batch Specific):

Batch 499504 (CE24267)

CE23310

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Batch 499753 (CE23786)

CE23310

All LCS recoveries were within 75 - 125 with the following exceptions: None.
All LCSD recoveries were within 75 - 125 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

Certification Report

October 10, 2019

SDG I.D.: GCE23303

ICP Metals Narration

SVOA-Dioxane

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

CHEM22 10/03/19-1 Keith Aloisa, Chemist 10/03/19

CE23304, CE23305, CE23306

Initial Calibration Evaluation (CHEM22/DIOX_1001):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM22/1003_03-DIOX_1001) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Site Specific):

Batch 499755 (CE23305)

CE23304, CE23305, CE23306

All LCS recoveries were within 30 - 130 with the following exceptions: None.
All LCSD recoveries were within 30 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 30 - 130 with the following exceptions: None.
All MSD recoveries were within 30 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 20% with the following exceptions: None.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

October 10, 2019

SDG I.D.: GCE23303

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 500484 (Samples: CE23304, CE23305, CE23306, CE23307, CE23309, CE23311): -----

The LCS recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (2,2-Dichloropropane)

The MS/MSD RPD exceeds the method criteria for one or more analytes, therefore there may be variability in the reported result. (1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2-Dibromoethane, 1,2-Dichloroethane, 2-Hexanone, 4-Methyl-2-pentanone, Acetone, Bromomethane, Carbon tetrachloride, Chloroethane, Chloromethane, Dibromochloromethane, Dichlorodifluoromethane, Hexachlorobutadiene, Trichlorofluoromethane, Trichlorotrifluoroethane, Vinyl chloride)

The QC recovery for one or more analytes is above the upper range but were not reported in the sample(s), therefore no significant bias is suspected. (Dichlorodifluoromethane, Trichlorofluoromethane)

Instrument:

CHEM02 10/04/19-2 Michael Hahn, Chemist 10/04/19

CE23303, CE23304, CE23305, CE23308, CE23311

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1004_31-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.241 (0.3), 1,2-Dibromo-3-chloropropane 0.045 (0.05), 2-Hexanone 0.059 (0.1), 4-Methyl-2-pentanone 0.072 (0.1), Acetone 0.027 (0.1), Bromomethane 0.085 (0.1), Methyl ethyl ketone 0.042 (0.1), Tetrahydrofuran (THF) 0.023 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/07/19-1 Michael Hahn, Chemist 10/07/19

CE23304, CE23305, CE23306, CE23307, CE23309, CE23311

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1007_02-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
87% of target compounds met criteria.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

October 10, 2019

SDG I.D.: GCE23303

VOA Narration

The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.042 (0.05), 1,1,2,2-Tetrachloroethane 0.219 (0.3), 2-Hexanone 0.064 (0.1), 4-Methyl-2-pentanone 0.080 (0.1), Acetone 0.031 (0.1), Bromomethane 0.075 (0.1), Methyl ethyl ketone 0.046 (0.1), Tetrahydrofuran (THF) 0.028 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/07/19-2 Michael Hahn, Chemist 10/07/19

CE23308

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1007_30-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.214 (0.3), 1,2-Dibromo-3-chloropropane 0.043 (0.05), 2-Hexanone 0.062 (0.1), 4-Methyl-2-pentanone 0.079 (0.1), Acetone 0.028 (0.1), Methyl ethyl ketone 0.040 (0.1), Tetrahydrofuran (THF) 0.026 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 500370 (CE27670)

CE23303, CE23304, CE23305, CE23308, CE23311

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

Batch 500551 (CE28388)

CE23308

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QC (Site Specific):

Batch 500484 (CE23305)

CE23304, CE23305, CE23306, CE23307, CE23309, CE23311

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

October 10, 2019

SDG I.D.: GCE23303

VOA Narration

All LCS recoveries were within 70 - 130 with the following exceptions: 2,2-Dichloropropane(131%), Dichlorodifluoromethane(183%), Trichlorofluoromethane(135%)
All LCSD recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(165%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: Dichlorodifluoromethane(179%), Trichlorofluoromethane(142%)
All MSD recoveries were within 70 - 130 with the following exceptions: None.
All MS/MSD RPDs were less than 30% with the following exceptions: 1,2,3-Trichlorobenzene(37.0%), 1,2,4-Trichlorobenzene(34.4%), 1,2-Dibromoethane(31.2%), 1,2-Dichloroethane(39.2%), 2-Hexanone(40.4%), 4-Methyl-2-pentanone(35.3%), Acetone(44.3%), Bromomethane(31.5%), Carbon tetrachloride(31.1%), Chloroethane(43.4%), Chloromethane(49.1%), Dibromochloromethane(31.1%), Dichlorodifluoromethane(56.6%), Hexachlorobutadiene(38.5%), Trichlorofluoromethane(53.6%), Trichlorotrifluoroethane(34.0%), Vinyl chloride(38.0%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

We attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Cooler: Yes ☑ No ☐
Coolant: IPK ☐ ICE ☐ No ☐
Temp 3 °C Pg of

PHOENIX Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature
Client Sample - Information - Identification
Date: 9/30/19

Matrix Code:
DW=Drinking Water GW=Ground Water SW=Surface Water WW=Waste Water RW=Raw Water
SE=Sediment SL=Sludge S=Soil SD=Solid W=Wipe OIL=Oil B=Bulk L=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 [FF]	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
233503	19A-TBD1-093019-1	GW	9/30/19	0730	2							X									
233504	19A-AE1D1R6-093019-1	GW	9/30/19	0940	3	2						X	X								
233505	19A-AE1D1D-093019-1	GW	9/30/19	1015	9	2						X	X								MS/MSD
233506	19A-AE1D1S-093019-1	GW	9/30/19	1055	3	2						X	X								
233507	19A-EMW1DR-093019-1	GW	9/30/19	0945	3							X									
233508	19A-EMW1DD-093019-1	GW	9/30/19	1100	3							X									
233509	19A-MW5-093019-1	GW	9/30/19	0957	3							X									
233510	19A-G2A14A-093019-1	GW	9/30/19	1102				2								X	X				
233511	19A-TRC4D1-093019-1	GW	9/30/19	1230	3							X									
	~~19A~~																				

Relinquished by:
Accepted by:
Date: 9-30-19 9/30/19
Time: 14:00 16:16

Comments, Special Requirements or Regulations:
Dissolved metals field filtered

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☑ MCP (CAM Report)
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Rebecca Merz

From: Potter, Dylan (Chelmsford) <Dylan.Potter2@aecom.com>
Sent: Monday, September 30, 2019 7:04 PM
To: Rebecca Merz
Subject: Chain of Custody Error

Hi Rebecca,

On today's COC, sample ID 19A-TRC401-093019-1 should actually be 19A-TRC401R-093019-1. I forgot the "R" in the ID name.

Thank you!

Dylan Potter
Environmental Scientist
AECOM
250 Apollo Drive
Chelmsford, MA 01824
O: 978-995-2231
C: 508-333-2316

Thursday, November 21, 2019

Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Project ID: **LOCKHEED WILMINGTON MA 60552044.13**
SDG ID: **GCE24659**
Sample ID#s: **CE24659 - CE24660**

This laboratory is in compliance with the NELAC requirements of procedures used except where indicated.

This report contains results for the parameters tested, under the sampling conditions described on the Chain Of Custody, as received by the laboratory. This report is incomplete unless all pages indicated in the pagination at the bottom of the page are included.

A scanned version of the COC form accompanies the analytical report and is an exact duplicate of the original.

Enclosed are revised Analysis Report pages. Please replace and discard the original pages. If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200. The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Sincerely yours,

Phyllis Shiller
Laboratory Director

NELAC - #NY11301
CT Lab Registration #PH-0618
MA Lab Registration #M-CT007
ME Lab Registration #CT-007
NH Lab Registration #213693-A,B

NJ Lab Registration #CT-003
NY Lab Registration #11301
PA Lab Registration #68-03530
RI Lab Registration #63
UT Lab Registration #CT00007
VT Lab Registration #VT11301

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

NY # 11301

SDG Comments

November 21, 2019

SDG I.D.: GCE24659

Phoenix reporting levels may exceed those referenced in the CAM protocol. Please refer to criteria sheet for comparisons to requested MCP standards.

Revision 2
The EPH target analytes acceptance ranges were modified.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Sample Id Cross Reference

November 21, 2019

SDG I.D.: GCE24659

Project ID: LOCKHEED WILMINGTON MA 60552044.13

Client Id	Lab Id	Matrix
19-TB02-093019-1	CE24659	GROUND WATER
19-PZ2S-093019-1	CE24660	GROUND WATER

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	12:00
Location Code:	AECOM-WILMINGTN	Received by:	B	10/01/19	18:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE24659
Phoenix ID: CE24659

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19-TB02-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19-TB02-093019-1

Phoenix I.D.: CE24659

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	14:10
Location Code:	AECOM-WILMINGTN	Received by:	B	10/01/19	18:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE24659
Phoenix ID: CE24660

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				10/04/19	/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				10/01/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				10/02/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				10/03/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trimethylbenzene	1.4	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE24660

Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/08/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/08/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/08/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/08/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/08/19	MH	70 - 130 %
% Dibromofluoromethane	91		%	1	10/08/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	100		%	1	10/08/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	10/08/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Client MS/MSD	Completed				10/08/19		
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	10/03/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	10/03/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Naphthalene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	10/03/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	75		%	1	10/03/19	WB	40 - 140 %
% Nitrobenzene-d5	84		%	1	10/03/19	WB	40 - 140 %
% Terphenyl-d14	72		%	1	10/03/19	WB	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	79		%	1	10/07/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	79		%	1	10/07/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	84		%	1	10/07/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	10/07/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	270	100	ug/L	1	10/03/19	RM	MA VPH 5/2004

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE24660
Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	160	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	100	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
o-Xylene	2.0	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	10/03/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	10/03/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 2

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

QA/QC Report

November 21, 2019

QA/QC Data

SDG I.D.: GCE24659

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
QA/QC Batch 500054 (ug/L), QC Sample No: CE24660 (CE24660)											
MAEPH - Ground Water											
C11-C22 Aromatic Hydrocarbons 1	ND	100	68	84	21.1	81	80	1.2	40 - 140	25	
C11-C22 Aromatic Hydrocarbons U	ND	100							40 - 140	25	
C19-C36 Aliphatic Hydrocarbons 1*	ND	100	70	76	8.2	74	77	4.0	40 - 140	25	
C9-C18 Aliphatic Hydrocarbons 1*	ND	100	32	48	40.0	50	39	24.7	40 - 140	25	l,m,r
Total TPH 1,2*	ND	100	54	64	16.9	64	61	4.8	40 - 140	25	
% 1-chlorooctadecane (aliphatic)	46	%	67	53	23.3	70	88	22.8	40 - 140	25	
% 2-Bromonaphthalene (Fractionati	80	%	86	93	7.8	96	91	5.3	40 - 140	25	
% 2-Fluorobiphenyl (Fractionation)	79	%	84	89	5.8	93	86	7.8	40 - 140	25	
% 2-Methylnaphthalene BT		%	0	0	NC				0 - 5		
% Naphthalene BT		%	0	0	NC				0 - 5		
% o-terphenyl (aromatic)	71	%	68	79	15.0	75	78	3.9	40 - 140	25	
Comment:											
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%											
QA/QC Batch 499734 (ug/L), QC Sample No: CE24660 (CE24660)											
Semivolatiles by SIM, PAH - Ground Water											
2-Methylnaphthalene	ND	0.50	68	61	10.9	67	65	3.0	40 - 140	20	
Acenaphthene	ND	0.50	97	87	10.9	94	87	7.7	40 - 140	20	
Acenaphthylene	ND	0.10	94	83	12.4	91	84	8.0	40 - 140	20	
Anthracene	ND	0.10	99	97	2.0	95	89	6.5	40 - 140	20	
Benz(a)anthracene	ND	0.02	93	92	1.1	87	65	28.9	40 - 140	20	r
Benzo(a)pyrene	ND	0.02	80	78	2.5	66	41	46.7	40 - 140	20	r
Benzo(b)fluoranthene	ND	0.02	90	93	3.3	77	50	42.5	40 - 140	20	r
Benzo(ghi)perylene	ND	0.02	83	81	2.4	71	36	65.4	40 - 140	20	m,r
Benzo(k)fluoranthene	ND	0.02	95	92	3.2	81	47	53.1	40 - 140	20	r
Chrysene	ND	0.02	93	91	2.2	84	61	31.7	40 - 140	20	r
Dibenz(a,h)anthracene	ND	0.02	97	96	1.0	82	39	71.1	40 - 140	20	m,r
Fluoranthene	ND	0.50	96	93	3.2	91	83	9.2	40 - 140	20	
Fluorene	ND	0.10	100	92	8.3	95	89	6.5	40 - 140	20	
Indeno(1,2,3-cd)pyrene	ND	0.02	95	93	2.1	80	41	64.5	40 - 140	20	r
Naphthalene	ND	0.50	62	52	17.5	66	62	6.3	40 - 140	20	
Phenanthrene	ND	0.06	90	89	1.1	86	83	3.6	40 - 140	20	
Pyrene	ND	0.07	99	97	2.0	94	86	8.9	40 - 140	20	
% 2-Fluorobiphenyl	78	%	83	69	18.4	79	74	6.5	40 - 140	20	
% Nitrobenzene-d5	71	%	69	58	17.3	71	71	0.0	40 - 140	20	
% Terphenyl-d14	75	%	83	79	4.9	75	55	30.8	40 - 140	20	r
Comment:											
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)											

QA/QC Data

SDG I.D.: GCE24659

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
QA/QC Batch 500874 (ug/L), QC Sample No: CE24660 (CE24660)										
Volatiles - Ground Water										
1,1,1,2-Tetrachloroethane	ND	1.0	107	106	0.9	101	97	4.0	70 - 130	30
1,1,1-Trichloroethane	ND	1.0	103	102	1.0	106	100	5.8	70 - 130	30
1,1,2,2-Tetrachloroethane	ND	0.50	120	118	1.7	94	87	7.7	70 - 130	30
1,1,2-Trichloroethane	ND	1.0	107	102	4.8	124	112	10.2	70 - 130	30
1,1-Dichloroethane	ND	1.0	110	107	2.8	108	107	0.9	70 - 130	30
1,1-Dichloroethene	ND	1.0	110	110	0.0	119	111	7.0	70 - 130	30
1,1-Dichloropropene	ND	1.0	104	106	1.9	108	99	8.7	70 - 130	30
1,2,3-Trichlorobenzene	ND	1.0	114	113	0.9	101	97	4.0	70 - 130	30
1,2,3-Trichloropropane	ND	1.0	113	109	3.6	101	99	2.0	70 - 130	30
1,2,4-Trichlorobenzene	ND	1.0	116	111	4.4	106	94	12.0	70 - 130	30
1,2,4-Trimethylbenzene	ND	1.0	112	108	3.6	105	100	4.9	70 - 130	30
1,2-Dibromo-3-chloropropane	ND	1.0	130	135	3.8	102	120	16.2	70 - 130	30
1,2-Dibromoethane	ND	1.0	111	110	0.9	101	92	9.3	70 - 130	30
1,2-Dichlorobenzene	ND	1.0	109	108	0.9	102	96	6.1	70 - 130	30
1,2-Dichloroethane	ND	1.0	104	103	1.0	96	90	6.5	70 - 130	30
1,2-Dichloropropane	ND	1.0	116	116	0.0	112	107	4.6	70 - 130	30
1,3,5-Trimethylbenzene	ND	1.0	110	110	0.0	107	104	2.8	70 - 130	30
1,3-Dichlorobenzene	ND	1.0	113	108	4.5	104	99	4.9	70 - 130	30
1,3-Dichloropropane	ND	1.0	110	108	1.8	101	99	2.0	70 - 130	30
1,4-Dichlorobenzene	ND	1.0	107	105	1.9	102	93	9.2	70 - 130	30
1,4-dioxane	ND	100	123	108	13.0	121	108	11.4	40 - 160	30
2,2-Dichloropropane	ND	1.0	126	124	1.6	126	123	2.4	70 - 130	30
2-Chlorotoluene	ND	1.0	114	110	3.6	111	107	3.7	70 - 130	30
2-Hexanone	ND	5.0	102	106	3.8	106	96	9.9	40 - 160	30
4-Chlorotoluene	ND	1.0	110	113	2.7	107	104	2.8	70 - 130	30
4-Methyl-2-pentanone	ND	5.0	102	112	9.3	111	101	9.4	40 - 160	30
Acetone	ND	5.0	91	86	5.6	92	89	3.3	40 - 160	30
Benzene	ND	0.70	109	106	2.8	108	106	1.9	70 - 130	30
Bromobenzene	ND	1.0	110	106	3.7	101	101	0.0	70 - 130	30
Bromochloromethane	ND	1.0	112	103	8.4	105	101	3.9	70 - 130	30
Bromodichloromethane	ND	0.50	112	106	5.5	103	95	8.1	70 - 130	30
Bromoform	ND	1.0	115	109	5.4	99	94	5.2	70 - 130	30
Bromomethane	ND	1.0	129	119	8.1	74	95	24.9	40 - 160	30
Carbon Disulfide	ND	1.0	102	98	4.0	112	105	6.5	70 - 130	30
Carbon tetrachloride	ND	1.0	107	107	0.0	111	104	6.5	70 - 130	30
Chlorobenzene	ND	1.0	110	109	0.9	105	102	2.9	70 - 130	30
Chloroethane	ND	1.0	89	86	3.4	92	91	1.1	70 - 130	30
Chloroform	ND	1.0	103	99	4.0	99	94	5.2	70 - 130	30
Chloromethane	ND	1.0	101	97	4.0	100	98	2.0	40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	113	108	4.5	111	110	0.9	70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	114	110	3.6	105	100	4.9	70 - 130	30
Dibromochloromethane	ND	0.50	115	109	5.4	105	99	5.9	70 - 130	30
Dibromomethane	ND	1.0	108	107	0.9	96	94	2.1	70 - 130	30
Dichlorodifluoromethane	ND	1.0	120	121	0.8	134	111	18.8	40 - 160	30
Ethyl ether	ND	1.0	107	99	7.8	104	97	7.0	70 - 130	30
Ethylbenzene	ND	1.0	110	107	2.8	109	104	4.7	70 - 130	30
Hexachlorobutadiene	ND	0.40	119	122	2.5	109	99	9.6	70 - 130	30
Isopropylbenzene	ND	1.0	115	109	5.4	117	114	2.6	70 - 130	30
m&p-Xylene	ND	1.0	109	109	0.0	108	105	2.8	70 - 130	30
Methyl ethyl ketone	ND	5.0	114	110	3.6	110	100	9.5	40 - 160	30

QA/QC Data

SDG I.D.: GCE24659

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits	
Methyl t-butyl ether (MTBE)	ND	1.0	110	104	5.6	103	96	7.0	70 - 130	30	
Methylene chloride	ND	1.0	99	98	1.0	99	96	3.1	70 - 130	30	
Naphthalene	ND	1.0	120	119	0.8	116	113	2.6	70 - 130	30	
n-Butylbenzene	ND	1.0	114	112	1.8	111	102	8.5	70 - 130	30	
n-Propylbenzene	ND	1.0	114	108	5.4	110	104	5.6	70 - 130	30	
o-Xylene	ND	1.0	115	112	2.6	111	107	3.7	70 - 130	30	
p-Isopropyltoluene	ND	1.0	113	111	1.8	110	102	7.5	70 - 130	30	
sec-Butylbenzene	ND	1.0	119	118	0.8	119	111	7.0	70 - 130	30	
Styrene	ND	1.0	117	112	4.4	109	103	5.7	70 - 130	30	
tert-Butylbenzene	ND	1.0	111	108	2.7	112	106	5.5	70 - 130	30	
Tetrachloroethene	ND	1.0	107	109	1.9	109	106	2.8	70 - 130	30	
Tetrahydrofuran (THF)	ND	2.5	105	99	5.9	97	89	8.6	70 - 130	30	
Toluene	ND	1.0	107	106	0.9	107	103	3.8	70 - 130	30	
trans-1,2-Dichloroethene	ND	1.0	109	107	1.9	111	110	0.9	70 - 130	30	
trans-1,3-Dichloropropene	ND	0.40	116	112	3.5	103	98	5.0	70 - 130	30	
Trichloroethene	ND	1.0	107	107	0.0	107	100	6.8	70 - 130	30	
Trichlorofluoromethane	ND	1.0	92	90	2.2	105	89	16.5	70 - 130	30	
Trichlorotrifluoroethane	ND	1.0	104	101	2.9	116	103	11.9	70 - 130	30	
Vinyl chloride	ND	1.0	97	96	1.0	106	131	21.1	70 - 130	30	m
% 1,2-dichlorobenzene-d4	102	%	102	101	1.0	99	99	0.0	70 - 130	30	
% Bromofluorobenzene	95	%	99	101	2.0	108	103	4.7	70 - 130	30	
% Dibromofluoromethane	103	%	97	98	1.0	102	100	2.0	70 - 130	30	
% Toluene-d8	97	%	98	100	2.0	100	99	1.0	70 - 130	30	

Comment:

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Batch 500551 (ug/L), QC Sample No: CE28388 (CE24659)

Volatiles - Ground Water

1,1,1,2-Tetrachloroethane	ND	1.0	108	109	0.9				70 - 130	30	
1,1,1-Trichloroethane	ND	1.0	119	112	6.1				70 - 130	30	
1,1,2,2-Tetrachloroethane	ND	0.50	102	100	2.0				70 - 130	30	
1,1,2-Trichloroethane	ND	1.0	101	98	3.0				70 - 130	30	
1,1-Dichloroethane	ND	1.0	110	102	7.5				70 - 130	30	
1,1-Dichloroethene	ND	1.0	112	104	7.4				70 - 130	30	
1,1-Dichloropropene	ND	1.0	108	107	0.9				70 - 130	30	
1,2,3-Trichlorobenzene	ND	1.0	108	105	2.8				70 - 130	30	
1,2,3-Trichloropropane	ND	1.0	101	96	5.1				70 - 130	30	
1,2,4-Trichlorobenzene	ND	1.0	106	97	8.9				70 - 130	30	
1,2,4-Trimethylbenzene	ND	1.0	107	101	5.8				70 - 130	30	
1,2-Dibromo-3-chloropropane	ND	1.0	96	95	1.0				70 - 130	30	
1,2-Dibromoethane	ND	1.0	107	109	1.9				70 - 130	30	
1,2-Dichlorobenzene	ND	1.0	102	99	3.0				70 - 130	30	
1,2-Dichloroethane	ND	1.0	117	114	2.6				70 - 130	30	
1,2-Dichloropropane	ND	1.0	105	102	2.9				70 - 130	30	
1,3,5-Trimethylbenzene	ND	1.0	107	101	5.8				70 - 130	30	
1,3-Dichlorobenzene	ND	1.0	105	100	4.9				70 - 130	30	
1,3-Dichloropropane	ND	1.0	104	105	1.0				70 - 130	30	
1,4-Dichlorobenzene	ND	1.0	99	97	2.0				70 - 130	30	
1,4-dioxane	ND	100	104	91	13.3				40 - 160	30	
2,2-Dichloropropane	ND	1.0	119	115	3.4				70 - 130	30	
2-Chlorotoluene	ND	1.0	102	97	5.0				70 - 130	30	
2-Hexanone	ND	5.0	108	103	4.7				40 - 160	30	
4-Chlorotoluene	ND	1.0	103	98	5.0				70 - 130	30	

QA/QC Data

SDG I.D.: GCE24659

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits
4-Methyl-2-pentanone	ND	5.0	121	121	0.0				40 - 160	30
Acetone	ND	5.0	115	118	2.6				40 - 160	30
Benzene	ND	0.70	104	96	8.0				70 - 130	30
Bromobenzene	ND	1.0	103	97	6.0				70 - 130	30
Bromochloromethane	ND	1.0	102	92	10.3				70 - 130	30
Bromodichloromethane	ND	0.50	112	110	1.8				70 - 130	30
Bromoform	ND	1.0	107	116	8.1				70 - 130	30
Bromomethane	ND	1.0	115	113	1.8				40 - 160	30
Carbon Disulfide	ND	1.0	106	101	4.8				70 - 130	30
Carbon tetrachloride	ND	1.0	122	115	5.9				70 - 130	30
Chlorobenzene	ND	1.0	102	102	0.0				70 - 130	30
Chloroethane	ND	1.0	105	102	2.9				70 - 130	30
Chloroform	ND	1.0	106	105	0.9				70 - 130	30
Chloromethane	ND	1.0	116	110	5.3				40 - 160	30
cis-1,2-Dichloroethene	ND	1.0	107	100	6.8				70 - 130	30
cis-1,3-Dichloropropene	ND	0.40	105	101	3.9				70 - 130	30
Dibromochloromethane	ND	0.50	118	114	3.4				70 - 130	30
Dibromomethane	ND	1.0	107	105	1.9				70 - 130	30
Dichlorodifluoromethane	ND	1.0	157	150	4.6				40 - 160	30
Ethyl ether	ND	1.0	104	101	2.9				70 - 130	30
Ethylbenzene	ND	1.0	103	102	1.0				70 - 130	30
Hexachlorobutadiene	ND	0.40	116	112	3.5				70 - 130	30
Isopropylbenzene	ND	1.0	103	99	4.0				70 - 130	30
m&p-Xylene	ND	1.0	104	101	2.9				70 - 130	30
Methyl ethyl ketone	ND	5.0	114	118	3.4				40 - 160	30
Methyl t-butyl ether (MTBE)	ND	1.0	111	104	6.5				70 - 130	30
Methylene chloride	ND	1.0	97	91	6.4				70 - 130	30
Naphthalene	ND	1.0	105	100	4.9				70 - 130	30
n-Butylbenzene	ND	1.0	107	102	4.8				70 - 130	30
n-Propylbenzene	ND	1.0	102	97	5.0				70 - 130	30
o-Xylene	ND	1.0	108	102	5.7				70 - 130	30
p-Isopropyltoluene	ND	1.0	107	102	4.8				70 - 130	30
sec-Butylbenzene	ND	1.0	114	106	7.3				70 - 130	30
Styrene	ND	1.0	105	101	3.9				70 - 130	30
tert-Butylbenzene	ND	1.0	106	103	2.9				70 - 130	30
Tetrachloroethene	ND	1.0	108	108	0.0				70 - 130	30
Tetrahydrofuran (THF)	ND	2.5	103	99	4.0				70 - 130	30
Toluene	ND	1.0	103	98	5.0				70 - 130	30
trans-1,2-Dichloroethene	ND	1.0	113	105	7.3				70 - 130	30
trans-1,3-Dichloropropene	ND	0.40	109	108	0.9				70 - 130	30
Trichloroethene	ND	1.0	105	100	4.9				70 - 130	30
Trichlorofluoromethane	ND	1.0	124	118	5.0				70 - 130	30
Trichlorotrifluoroethane	ND	1.0	113	105	7.3				70 - 130	30
Vinyl chloride	ND	1.0	113	102	10.2				70 - 130	30
% 1,2-dichlorobenzene-d4	99	%	99	101	2.0				70 - 130	30
% Bromofluorobenzene	101	%	106	107	0.9				70 - 130	30
% Dibromofluoromethane	100	%	98	101	3.0				70 - 130	30
% Toluene-d8	98	%	99	101	2.0				70 - 130	30

Comment:

A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.

Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QA/QC Data

SDG I.D.: GCE24659

Parameter	Blank	Blk RL	LCS %	LCSD %	LCS RPD	MS %	MSD %	MS RPD	% Rec Limits	% RPD Limits

l = This parameter is outside laboratory LCS/LCSD specified recovery limits.
m = This parameter is outside laboratory MS/MSD specified recovery limits.
r = This parameter is outside laboratory RPD specified recovery limits.

If there are any questions regarding this data, please call Phoenix Client Services at extension 200.

RPD - Relative Percent Difference
LCS - Laboratory Control Sample
LCSD - Laboratory Control Sample Duplicate
MS - Matrix Spike
MS Dup - Matrix Spike Duplicate
NC - No Criteria
Intf - Interference

Phyllis Shiller, Laboratory Director
November 21, 2019

Thursday, November 21, 2019

Criteria: MA: GW1

State: MA

Sample Criteria Exceedances Report

GCE24659 - AECOM-WILMINGTN

SampNo	Acode	Phoenix Analyte	Criteria	Result	RL	Criteria	RL Criteria	Analysis Units
CE24659	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE24659	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE24659	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE24659	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE24659	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE24659	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE24659	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE24659	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l
CE24660	$8260GWR-WI	1,2-Dibromo-3-chloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00033	0.00033	ug/L
CE24660	$8260GWR-WI	1,2-Dibromoethane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.0075	0.0075	ug/L
CE24660	$8260GWR-WI	1,2,3-Trichloropropane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	0.50	0.00075	0.00075	ug/L
CE24660	$8260GWR-WI	1,2-Dibromoethane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	0.50	0.02	0.02	ug/L
CE24660	$8260GWR-WI	1,2-Dibromoethane	MA / GROUNDWATER STANDARDS / GW-1	ND	0.50	0.02	0.02	ug/L
CE24660	$DIOX_WMR	1,4-dioxane	MA / Client Specified Criteria / LOCKHEED WILMINGTO	ND	40	0.3	0.3	ug/l
CE24660	$DIOX_WMR	1,4-dioxane	MA / CMR 310.40.1600 / GW-1 (mg/l)	ND	40	3	3	ug/l
CE24660	$DIOX_WMR	1,4-dioxane	MA / GROUNDWATER STANDARDS / GW-1	ND	40	0.3	0.3	ug/l

Phoenix Laboratories does not assume responsibility for the data contained in this exceedance report. It is provided as an additional tool to identify requested criteria exceedences. All efforts are made to ensure the accuracy of the data (obtained from appropriate agencies). A lack of exceedence information does not necessarily suggest conformance to the criteria. It is ultimately the site professional's responsibility to determine appropriate compliance.

MassDEP Analytical Protocol Certification Form

Laboratory Name: Phoenix Environmental Laboratories, Inc. **Project #:**

Project Location: LOCKHEED WILMINGTON MA 60552044 **RTN:**

This Form provides certifications for the following data set: [list Laboratory Sample ID Number(s)]

CE24659, CE24660

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH CAM IV A ☑	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
8270 SVOC CAM II B ☑	7010 Metals CAM III C ☐	MassDEP EPH CAM IV B ☑	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9012 Total Cyanide/PAC CAM V1 A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative responses to questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature*) in the field or laboratory, and prepared/analyzed with method holding times? (* see narrative)	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements speified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 methods only: Was the complete analyte list reported for each method?	☑ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to questions G, H and I below is required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No

Data User Note: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056(2)(k) and WSC-07-350

H	Were all QC performance standards specified in the CAM protocol(s) achieved? See Sections: EPH, SVOASIM, VOA Narrations .	☐ Yes ☑ No
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No

All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, accurate and complete.

Authorized Signature: 

Date: Thursday, November 21, 2019

Printed Name: Greg Lawrence

Position: Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE24659

SDG Comments

8260 Volatile Organics:
1,2-Dibromoethane doesn't meet GW-1 criteria, this compound is analyzed by GC/FID to achieve this criteria.
1,4-Dioxane does not meet the GW-1 criteria. This compound is analyzed by method 522 or 8270SIM to achieve this criteria.

EPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 500054 (Samples: CE24660): -----

The LCS and site specific MSD recovery are below the method criteria. A slight low bias is possible. (C9-C18 Aliphatic Hydrocarbons 1*)

The LCS/LCSD RPD exceeds the method criteria for one analyte. This analyte was not reported in the sample(s). No significant variability is suspected. (C9-C18 Aliphatic Hydrocarbons 1*)

Instrument:

AU-FID3 10/07/19-1 Adam Werner, Chemist 10/07/19

CE24660

No significant modifications were made to the EPH method, as specified in Section 11.3 of the method.

The initial calibration (AR0913BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

AU-FID4 10/07/19-1 Adam Werner, Chemist 10/07/19

CE24660

The initial calibration (AL0919BI) RSD for the compound list was less than 20% except for the following compounds: None.
The continuing calibration %D for the compound list was less than 25% except for the following compounds:None.

QC (Site Specific):

Batch 500054 (CE24660)

CE24660

All LCS recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(32%)
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 25% with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(40.0%)
All MS recoveries were within 40 - 140 with the following exceptions: None.
All MSD recoveries were within 40 - 140 with the following exceptions: C9-C18 Aliphatic Hydrocarbons 1*(39%)
All MS/MSD RPDs were less than 25% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional EPH fractionation criteria: Breakthrough criteria (BT) is 0 to 5%

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

SVOASIM Narration

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE24659

SVOASIM Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 499734 (Samples: CE24660): -----

The MS/MSD RPD exceeds the method criteria for one or more analytes and one surrogate. These analytes were not reported in the sample. No significant variability is suspected. (Benz(a)anthracene, Benzo(a)pyrene, Benzo(b)fluoranthene, Benzo(ghi)perylene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene, % Terphenyl-d14)

The site specific MSD recovery is below the lower range. All of the other QC recoveries are acceptable. A low bias for these analytes is possible. (Benzo(ghi)perylene, Dibenz(a,h)anthracene)

Instrument:

CHEM27 10/03/19-1 Wes Bryon, Chemist 10/03/19

CE24660

For 8270 BN list, benzidine peak tailing was evaluated in the DFTPP tune and was found to be in control.

Initial Calibration Evaluation (CHEM27/27_BNSIM18_0925):
100% of target compounds met criteria.
The following compounds had %RSDs >20%: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM27/1003_03-27_BNSIM18_0925) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
100% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: None.
The following compounds did not meet minimum response factors: None.

QC (Site Specific):

Batch 499734 (CE24660)

CE24660

All LCS recoveries were within 40 - 140 with the following exceptions: None.
All LCSD recoveries were within 40 - 140 with the following exceptions: None.
All LCS/LCSD RPDs were less than 20% with the following exceptions: None.
All MS recoveries were within 40 - 140 with the following exceptions: None.
All MSD recoveries were within 40 - 140 with the following exceptions: Benzo(ghi)perylene(36%), Dibenz(a,h)anthracene(39%)
All MS/MSD RPDs were less than 20% with the following exceptions: % Terphenyl-d14(30.8%), Benz(a)anthracene(28.9%), Benzo(a)pyrene(46.7%), Benzo(b)fluoranthene(42.5%), Benzo(ghi)perylene(65.4%), Benzo(k)fluoranthene(53.1%), Chrysene(31.7%), Dibenz(a,h)anthracene(71.1%), Indeno(1,2,3-cd)pyrene(64.5%)
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8270 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is at least 10%. (Acid surrogates acceptance range for aqueous samples: 10-110%, for soils 30-130%)

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE24659

SVOASIM Narration

obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VOA Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? No.

QC Batch 500874 (Samples: CE24660): -----

The LCSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (1,2-Dibromo-3-chloropropane)

The MSD recovery is above the upper range for one analyte that was not reported in the sample(s). No significant bias is suspected. (Vinyl chloride)

Instrument:

CHEM02 10/07/19-2 Michael Hahn, Chemist 10/07/19

CE24659

Initial Calibration Evaluation (CHEM02/VT-P093019):
98% of target compounds met criteria.
The following compounds had %RSDs >20%: Bromomethane 31% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.039 (0.05), 2-Hexanone 0.054 (0.1), 4-Methyl-2-pentanone 0.063 (0.1), Acetone 0.025 (0.1), Methyl ethyl ketone 0.037 (0.1), Tetrahydrofuran (THF) 0.024 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1007_30-VT-P093019) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
93% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.
The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.214 (0.3), 1,2-Dibromo-3-chloropropane 0.043 (0.05), 2-Hexanone 0.062 (0.1), 4-Methyl-2-pentanone 0.079 (0.1), Acetone 0.028 (0.1), Methyl ethyl ketone 0.040 (0.1), Tetrahydrofuran (THF) 0.026 (0.05)
The following compounds did not meet minimum response factors: None.

CHEM02 10/08/19-3 Michael Hahn, Chemist 10/08/19

CE24660

Initial Calibration Evaluation (CHEM02/VT-P100719):
94% of target compounds met criteria.
The following compounds had %RSDs >20%: 1,2-Dibromo-3-chloropropane 32% (20%), Bromomethane 29% (20%), Chloroethane 23% (20%)
The following compounds did not meet recommended response factors: 1,2-Dibromo-3-chloropropane 0.033 (0.05), 2-Hexanone 0.059 (0.1), 4-Methyl-2-pentanone 0.073 (0.1), Acetone 0.033 (0.1), Bromomethane 0.087 (0.1), Methyl ethyl ketone 0.041 (0.1), Tetrahydrofuran (THF) 0.025 (0.05)
The following compounds did not meet a minimum response factors: None.

Continuing Calibration Verification (CHEM02/1008_01-VT-P100719) (MCP Compliance):
Internal standard areas were within 50 to 200% of the initial calibration with the following exceptions: None.
99% of target compounds met criteria.
The following compounds did not meet % deviation criteria: None.

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

ACCREDITED IN ACCORDANCE WITH nelac NY # 11301

MCP Certification Report

November 21, 2019

SDG I.D.: GCE24659

VOA Narration

The following compounds did not meet maximum % deviations: None.
The following compounds did not meet recommended response factors: 1,1,2,2-Tetrachloroethane 0.206 (0.3), 1,2-Dibromo-3-chloropropane 0.040 (0.05), 2-Hexanone 0.052 (0.1), 4-Methyl-2-pentanone 0.071 (0.1), Acetone 0.027 (0.1), Methyl ethyl ketone 0.038 (0.1), Tetrahydrofuran (THF) 0.022 (0.05)
The following compounds did not meet minimum response factors: None.

QC (Batch Specific):

Batch 500551 (CE28388)

CE24659

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: None.
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
A LCS and LCS Duplicate were performed instead of a matrix spike and matrix spike duplicate.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

QC (Site Specific):

Batch 500874 (CE24660)

CE24660

All LCS recoveries were within 70 - 130 with the following exceptions: None.
All LCSD recoveries were within 70 - 130 with the following exceptions: 1,2-Dibromo-3-chloropropane(135%)
All LCS/LCSD RPDs were less than 30% with the following exceptions: None.
All MS recoveries were within 70 - 130 with the following exceptions: None.
All MSD recoveries were within 70 - 130 with the following exceptions: Vinyl chloride(131%)
All MS/MSD RPDs were less than 30% with the following exceptions: None.
A matrix effect is suspected when a MS/MSD recovery is outside of criteria. No further action is required if LCS/LCSD compounds are within criteria.
Additional 8260 criteria: 10% of compounds can be outside of acceptance criteria as long as recovery is 10%.

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

VPH Narration

Were all QA/QC performance criteria specified in the MADEP document CAM achieved? Yes.

Instrument:

PIDFID 10/03/19-1 Caleb Githinji, Chemist 10/03/19

CE24660

I attest under the pains and penalties of perjury that, based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

EPH Fractionation Standard

SDG I.D.: GCE24659

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C9 - Nonane	40	18.96	20.27	20.49	18.72	47.4	50.7	51.2	46.8	
C-10 Decane	40	22.86	24.41	24.96	22.64	57.2	61.0	62.4	56.6	
1,2,3-Trimethylbenzene	40	32.15	32.70	29.72	32.49	80.4	81.7	74.3	81.2	
Naphthalene	40	35.31	35.92	32.63	35.76	88.3	89.8	81.6	89.4	
2-Methylnaphthalene	40	36.24	36.93	33.55	36.75	90.6	92.3	83.9	91.9	
C12 - Dodecane	40	25.51	27.21	27.57	25.45	63.8	68.0	68.9	63.6	
Acenaphthalene	40	37.76	38.39	34.67	38.23	94.4	96.0	86.7	95.6	
Acenaphthene	40	38.58	39.12	35.34	39.01	96.5	97.8	88.3	97.5	
C14 - Tetradecane	40	28.57	30.45	30.82	28.72	71.4	76.1	77.1	71.8	
Fluorene	40	40.44	40.86	36.93	40.77	101.1	102.1	92.3	101.9	
C16 - Hexadecane	40	32.57	34.72	34.82	32.64	81.4	86.8	87.1	81.6	
Anthracene	40	38.92	38.81	35.41	39.01	97.3	97.0	88.5	97.5	
Phenanthrene	40	39.66	39.52	36.02	39.67	99.2	98.8	90.0	99.2	
C18 - Octadecane	40	35.54	37.74	37.80	35.57	88.9	94.3	94.5	88.9	
Fluoranthene	40	38.97	38.68	35.51	39.03	97.4	96.7	88.8	97.6	
Pyrene	40	39.20	38.87	35.63	39.29	98.0	97.2	89.1	98.2	
C20 - Eicosane	40	37.67	40.11	39.74	37.68	94.2	100.3	99.4	94.2	
C21 - Heneicosane	40	36.65	39.06	38.49	36.41	91.6	97.7	96.2	91.0	
C22 - Docosane	40	38.25	41.01	40.01	37.71	95.6	102.5	100.0	94.3	
Benzo(a)anthracene	40	39.10	37.48	34.74	38.88	97.7	93.7	86.9	97.2	
Chyrsene	40	37.05	38.18	35.03	38.36	92.6	95.5	87.6	95.9	
C24 - Tetracosane	40	37.34	40.13	39.11	36.91	93.3	100.3	97.8	92.3	
Benzo(b/K)fluor COPK	80	75.89	74.71	68.89	75.77	94.9	93.4	86.1	94.7	
Benzo(a)pyrene	40	40.14	39.73	35.90	40.28	100.4	99.3	89.8	100.7	
C26 - Hexacosane	40	38.34	41.64	40.56	38.11	95.8	104.1	101.4	95.3	
C28 - Octacosane	40	39.72	42.67	41.97	39.37	99.3	106.7	104.9	98.4	
Indeno/Dibenz copk	80	13.90	74.92	71.31	31.64	17.4	93.7	89.1	39.5	
Benzo(ghi)perylene	40	39.27	35.61	34.83	36.15	98.2	89.0	87.1	90.4	
C30 - Tricotane	40	37.50	40.32	39.72	37.25	93.7	100.8	99.3	93.1	
C32 - Dotriacontance	40	37.09	39.88	39.50	36.81	92.7	99.7	98.7	92.0	
C34 - Tetratriacontane	40	36.67	39.41	38.78	36.38	91.7	98.5	97.0	90.9	
C36 - Hexatriacontane	40	35.46	37.75	37.62	35.32	88.6	94.4	94.1	88.3	

EPH Fractionation Standard

SDG I.D.: GCE24659

Effective Date(s): 10/20/18 - 10/20/19 **Analyst:** aw

AS #	TV	20ml	22ml	25ml	30ml	% Rec1	% Rec2	% Rec3	% Rec4	Rec Limits
C38 - Octatriacontane	40	35.41	37.31	37.18	35.44	88.5	93.3	92.9	88.6	
C40 - Tetracontane	40	35.55	36.94	37.28	35.41	88.9	92.4	93.2	88.5	

Notes: EPH Frac Check Solution EPH10b-solvent transfer into hex, frac 1ml. Dilute 5x to run tv=40 Lot:140118-1165992
AU-FID3 10/29/18 EPH O29_062/O29_064/O29_066/O29_068

Cooler: Yes ☒ No ☐
Coolant: IPK ☒ ICE ☐ No ☐
Temp 0.1 °C Pg of

PHOENIX
Environmental Laboratories, Inc.

CHAIN OF CUSTODY RECORD

587 East Middle Turnpike, P.O. Box 370, Manchester, CT 06040
Email: info@phoenixlabs.com Fax (860) 645-0823
Client Services (860) 645-8726

Data Delivery/Contact Options:
lori.herberich@aecom.com
scott.olson@aecom.com
nicole.callahan@aecom.com

Customer: AECOM
Address: 250 Apollo Drive
Chelmsford, MA 01824 - (978) 905-2100
Contacts: Lori Herberich 978-302-0089 Scott Olson (PM) 978-846-5238

Project: Lockheed - Wilmington MA 60552044.13
Report to: Lori Herberich - Scott Olson - Nicole Callahan
Invoice to: Scott Olson & Lori Herberich
QUOTE # August 2019 (for 2017-2022)

Project P.O: 117370

This section MUST be completed with Bottle Quantities.

Sampler's Signature: [signature] Date: 9/30/19

Client Sample - Information - Identification

Matrix Code:
DW=Drinking Water **GW**=Ground Water **SW**=Surface Water **WW**=Waste Water **RW**=Raw Water **SE**=Sediment **SL**=Sludge **S**=Soil **SD**=Solid **W**=Wipe **OIL**=Oil **B**=Bulk **L**=Liquid

PHOENIX USE ONLY SAMPLE #	Customer Sample Identification	Sample Matrix	Date Sampled	Time Sampled	# of VOA Vials	# of Amber Glass	# of Clear Glass	# of Plastic				VOCs (8260) - HCL + Freon 113, excluding 1,4-dioxane	1,4-Dioxane (8270D SIM) - NaHSO4 for DL <0.3 ug/L	VPH - HCL (MassDEP- VPH-04-1.1 Rev 1)	EPH + PAHs - HCL (MassDEP- EPH-04-1.1 Rev 1)	Total As, Fe, Mn (6010C) - HNO3 (FF)	Dissolved As, Fe, Mn (6010C) - HNO3	Chloride, Nitrate, Nitrite, Sulfate (300) - UNP	Sulfide - Zn-Acetate + NaOH	Total Organic Carbon (9060A) - H3PO4	Comments
24059	19A-TB02-093019-1	GW	9/30/19	1200	2							X									
24060	19A-PZ25-093019-1	GW	9/30/19	1410	15	6						X		X	X						MS/MSD

Relinquished by:	Accepted by:	Date:	Time:
[signature]	[signature]	10-1-19	6:00
[signature]	[signature]	10/1/19	18:04

Comments, Special Requirements or Regulations:

Turnaround:
10 - 15 days

RI
☐ Direct Exposure (Residential)
☐ GW
☐ Other

CT
☐ RCP Cert
☐ GW Protection
☐ SW Protection
☐ GA Mobility
☐ GB Mobility
☐ Residential DEC
☐ I/C DEC
☐ Other

MA
☒ MCP (CAM Report)
☐ GW-1
☐ GW-2
☐ GW-3
☐ S-1
☐ S-2
☐ S-3
☐ MWRA eSMART
☐ Other

State where samples were collected: MA

Data Format
x PDF
x AECOM EQuIS 4-File EDD format

Data Package
☐ Tier II Checklist
☐ Full Data Package*
☐ Phoenix Std Report
☐ Other

* SURCHARGE APPLIES

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

September 30, 2019

Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

RE: **LMC WILMINGTON / 60552044.13**

Pace Workorder: 31482

Dear Scott Olson:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, September 20, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 09/30/2019
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages 34

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	State of Virginia
Accreditation ID:	460201
Scope:	Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID	Sample ID	Matrix	Date Collected	Date Received
314820001	19A-AE105S-091619-1	Water	9/16/2019 09:53	9/20/2019 11:30
314820002	19A-AE106R3-091619-1	Water	9/16/2019 15:15	9/20/2019 11:30
314820003	19A-AE105R2-091619-1	Water	9/16/2019 13:20	9/20/2019 11:30
314820004	19A-EMW11R2-091719-1	Water	9/17/2019 11:45	9/20/2019 11:30
314820005	19A-TRC301R4-091719-1	Water	9/17/2019 13:50	9/20/2019 11:30
314820006	19A-AE106D-091719-1	Water	9/17/2019 10:10	9/20/2019 11:30
314820007	19A-AE103R5-091819-1	Water	9/18/2019 14:05	9/20/2019 11:30
314820008	19A-AE103R1-091819-1	Water	9/18/2019 13:50	9/20/2019 11:30
314820009	19A-AE109R5-091819-1	Water	9/18/2019 15:00	9/20/2019 11:30
314820010	19A-AE103D-091919-1	Water	9/19/2019 11:50	9/20/2019 11:30
314820011	19A-AE106R3-091619-1	Bubble Strip	9/16/2019 17:38	9/20/2019 11:30
314820012	19A-AE105S-091619-1	Bubble Strip	9/16/2019 10:58	9/20/2019 11:30
314820013	19A-AE105R2-091619-1	Bubble Strip	9/16/2019 14:25	9/20/2019 11:30
314820014	19A-TRC301R4-091719-1	Bubble Strip	9/17/2019 15:20	9/20/2019 11:30
314820015	19A-AE106D-091719-1	Bubble Strip	9/17/2019 10:45	9/20/2019 11:30
314820016	19A-EMW11R2-091719-1	Bubble Strip	9/17/2019 12:40	9/20/2019 11:30
314820017	19A-AE103R1-091819-1	Bubble Strip	9/18/2019 15:55	9/20/2019 11:30
314820018	19A-AE103R5-091819-1	Bubble Strip	9/18/2019 15:25	9/20/2019 11:30
314820019	19A-AE109R5-091819-1	Bubble Strip	9/18/2019 16:55	9/20/2019 11:30
314820020	19A-AE103D-091919-1	Bubble Strip	9/19/2019 12:20	9/20/2019 11:30
314820021	19A-TB01-091616-1	Water	9/16/2019 07:00	9/20/2019 11:30

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820001** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE105S-091619-1** Date Collected: 9/16/2019 09:53

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**92**	ug/l	0.50	0.094	1	9/26/2019 12:08	MM	n
Ethane	**0.011J**	ug/l	0.10	0.011	1	9/26/2019 12:08	MM	n
Ethene	**0.16**	ug/l	0.10	0.0080	1	9/26/2019 12:08	MM	n
Propane	**0.020J**	ug/l	0.10	0.0080	1	9/26/2019 12:08	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 12:08	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820002** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE106R3-091619-1** Date Collected: 9/16/2019 15:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**560**	ug/l	0.50	0.094	1	9/26/2019 12:27	MM	n
Ethane	**0.16**	ug/l	0.10	0.011	1	9/26/2019 12:27	MM	n
Ethene	**2.7**	ug/l	0.10	0.0080	1	9/26/2019 12:27	MM	n
Propane	**0.048J**	ug/l	0.10	0.0080	1	9/26/2019 12:27	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 12:27	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820003** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE105R2-091619-1** Date Collected: 9/16/2019 13:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**140**	ug/l	0.50	0.094	1	9/26/2019 12:51	MM	n
Ethane	**0.32**	ug/l	0.10	0.011	1	9/26/2019 12:51	MM	n
Ethene	**0.072J**	ug/l	0.10	0.0080	1	9/26/2019 12:51	MM	n
Propane	**0.14**	ug/l	0.10	0.0080	1	9/26/2019 12:51	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 12:51	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820004** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-EMW11R2-091719-1** Date Collected: 9/17/2019 11:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**630**	ug/l	0.50	0.094	1	9/26/2019 13:04	MM	n
Ethane	**7.6**	ug/l	0.10	0.011	1	9/26/2019 13:04	MM	n
Ethene	**35**	ug/l	0.10	0.0080	1	9/26/2019 13:04	MM	n
Propane	**0.073J**	ug/l	0.10	0.0080	1	9/26/2019 13:04	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 13:04	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820005** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-TRC301R4-091719-1** Date Collected: 9/17/2019 13:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**390**	ug/l	0.50	0.094	1	9/26/2019 13:17	MM	n
Ethane	**1.3**	ug/l	0.10	0.011	1	9/26/2019 13:17	MM	n
Ethene	**2.0**	ug/l	0.10	0.0080	1	9/26/2019 13:17	MM	n
Propane	**1.2**	ug/l	0.10	0.0080	1	9/26/2019 13:17	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 13:17	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820006** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE106D-091719-1** Date Collected: 9/17/2019 10:10

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**3.1**	ug/l	0.50	0.094	1	9/26/2019 13:33	MM	n
Ethane	**0.078J**	ug/l	0.10	0.011	1	9/26/2019 13:33	MM	n
Ethene	**0.016J**	ug/l	0.10	0.0080	1	9/26/2019 13:33	MM	n
Propane	**0.045J**	ug/l	0.10	0.0080	1	9/26/2019 13:33	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 13:33	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820007** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103R5-091819-1** Date Collected: 9/18/2019 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**150**	ug/l	0.50	0.094	1	9/26/2019 13:46	MM	n
Ethane	**1.6**	ug/l	0.10	0.011	1	9/26/2019 13:46	MM	n
Ethene	**120**	ug/l	0.10	0.0080	1	9/26/2019 13:46	MM	n
Propane	**0.13**	ug/l	0.10	0.0080	1	9/26/2019 13:46	MM	n
Acetylene	**0.057J**	ug/l	0.50	0.037	1	9/26/2019 13:46	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820008** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103R1-091819-1** Date Collected: 9/18/2019 13:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.094	1	9/26/2019 14:03	MM	n
Ethane	**0.98**	ug/l	0.10	0.011	1	9/26/2019 14:03	MM	n
Ethene	**12**	ug/l	0.10	0.0080	1	9/26/2019 14:03	MM	n
Propane	**0.15**	ug/l	0.10	0.0080	1	9/26/2019 14:03	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:03	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820009** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE109R5-091819-1** Date Collected: 9/18/2019 15:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**480**	ug/l	0.50	0.094	1	9/26/2019 14:17	MM	n
Ethane	**0.70**	ug/l	0.10	0.011	1	9/26/2019 14:17	MM	n
Ethene	**1.6**	ug/l	0.10	0.0080	1	9/26/2019 14:17	MM	n
Propane	**0.18**	ug/l	0.10	0.0080	1	9/26/2019 14:17	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:17	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820010** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103D-091919-1** Date Collected: 9/19/2019 11:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**25**	ug/l	0.50	0.094	1	9/26/2019 14:30	MM	n
Ethane	**0.54**	ug/l	0.10	0.011	1	9/26/2019 14:30	MM	n
Ethene	**0.044J**	ug/l	0.10	0.0080	1	9/26/2019 14:30	MM	n
Propane	**0.16**	ug/l	0.10	0.0080	1	9/26/2019 14:30	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:30	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820011** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE106R3-091619-1** Date Collected: 9/16/2019 17:38

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.2**	nM	1.0	0.75	1	9/28/2019 07:36	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820012** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE105S-091619-1** Date Collected: 9/16/2019 10:58

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.3**	nM	1.0	0.75	1	9/28/2019 07:49	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820013** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE105R2-091619-1** Date Collected: 9/16/2019 14:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.0**	nM	1.0	0.75	1	9/28/2019 08:02	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820014** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-TRC301R4-091719-1** Date Collected: 9/17/2019 15:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**3.9**	nM	1.0	0.75	1	9/28/2019 08:18	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820015** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE106D-091719-1** Date Collected: 9/17/2019 10:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:31	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820016** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-EMW11R2-091719-1** Date Collected: 9/17/2019 12:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:43	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820017** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103R1-091819-1** Date Collected: 9/18/2019 15:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:56	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820018** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103R5-091819-1** Date Collected: 9/18/2019 15:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.7**	nM	1.0	0.75	1	9/28/2019 09:08	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820019** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE109R5-091819-1** Date Collected: 9/18/2019 16:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.7**	nM	1.0	0.75	1	9/28/2019 09:51	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820020** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103D-091919-1** Date Collected: 9/19/2019 12:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.1**	nM	1.0	0.75	1	9/28/2019 10:05	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820021** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-TB01-091616-1** Date Collected: 9/16/2019 07:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.50 U**	ug/l	0.50	0.094	1	9/25/2019 06:45	TD	n
Ethane	**0.10 U**	ug/l	0.10	0.011	1	9/25/2019 06:45	TD	n
Ethene	**0.10 U**	ug/l	0.10	0.0080	1	9/25/2019 06:45	TD	n
Propane	**0.10 U**	ug/l	0.10	0.0080	1	9/25/2019 06:45	TD	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/25/2019 06:45	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS QUALIFIERS

Workorder: 31482 LMC WILMINGTON / 60552044.13

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31482 LMC WILMINGTON / 60552044.13

QC Batch: DISG/7792 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 314820021

METHOD BLANK: 63358

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	n
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n
Propane	ug/l	0.10 U	0.10	n
Acetylene	ug/l	0.50 U	0.50	n

LABORATORY CONTROL SAMPLE & LCSD: 63360 63362

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methane	ug/l	750	770	790	103	105	80-120	2.2	20	n
Ethane	ug/l	38	40	39	105	104	80-120	0.5	20	n
Ethene	ug/l	35	37	37	106	106	80-120	0.45	20	n
Propane	ug/l	56	57	57	103	102	80-120	0.27	20	n
Acetylene	ug/l	33	31	30	95	92	80-120	2.9	20	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31482 LMC WILMINGTON / 60552044.13

QC Batch: DISG/7797 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 314820001, 314820002, 314820003, 314820004, 314820005, 314820006, 314820007, 314820008, 314820009, 314820010

METHOD BLANK: 63427

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	n
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n
Propane	ug/l	0.10 U	0.10	n
Acetylene	ug/l	0.50 U	0.50	n

LABORATORY CONTROL SAMPLE & LCSD: 63428 63429

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methane	ug/l	750	780	790	104	105	80-120	1.5	20	n
Ethane	ug/l	38	42	42	111	110	80-120	0.47	20	n
Ethene	ug/l	35	39	40	112	112	80-120	0.2	20	n
Propane	ug/l	56	61	61	110	109	80-120	0.53	20	n
Acetylene	ug/l	33	31	31	93	96	80-120	2.3	20	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31482 LMC WILMINGTON / 60552044.13

QC Batch: DISG/7800 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 314820011, 314820012, 314820013, 314820014, 314820015, 314820016, 314820017, 314820018

METHOD BLANK: 63466

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	1.0 U	1.0	n

LABORATORY CONTROL SAMPLE & LCSD: 63467 63468

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hydrogen	nM	24	26	26	107	107	80-120	0.035	20	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31482 LMC WILMINGTON / 60552044.13

QC Batch: DISG/7801 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 314820019, 314820020

METHOD BLANK: 63469

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	1.0 U	1.0	n

LABORATORY CONTROL SAMPLE & LCSD: 63470 63471

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hydrogen	nM	24	28	28	116	117	80-120	0.9	20	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA QUALIFIERS

Workorder: 31482 LMC WILMINGTON / 60552044.13

QUALITY CONTROL PARAMETER QUALIFIERS

n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
314820021	19A-TB01-091616-1			AM20GAX	DISG/7792
314820001	19A-AE105S-091619-1			AM20GAX	DISG/7797
314820002	19A-AE106R3-091619-1			AM20GAX	DISG/7797
314820003	19A-AE105R2-091619-1			AM20GAX	DISG/7797
314820004	19A-EMW11R2-091719-1			AM20GAX	DISG/7797
314820005	19A-TRC301R4-091719-1			AM20GAX	DISG/7797
314820006	19A-AE106D-091719-1			AM20GAX	DISG/7797
314820007	19A-AE103R5-091819-1			AM20GAX	DISG/7797
314820008	19A-AE103R1-091819-1			AM20GAX	DISG/7797
314820009	19A-AE109R5-091819-1			AM20GAX	DISG/7797
314820010	19A-AE103D-091919-1			AM20GAX	DISG/7797
314820011	19A-AE106R3-091619-1			AM20GAX	DISG/7800
314820012	19A-AE105S-091619-1			AM20GAX	DISG/7800
314820013	19A-AE105R2-091619-1			AM20GAX	DISG/7800
314820014	19A-TRC301R4-091719-1			AM20GAX	DISG/7800
314820015	19A-AE106D-091719-1			AM20GAX	DISG/7800
314820016	19A-EMW11R2-091719-1			AM20GAX	DISG/7800
314820017	19A-AE103R1-091819-1			AM20GAX	DISG/7800
314820018	19A-AE103R5-091819-1			AM20GAX	DISG/7800
314820019	19A-AE109R5-091819-1			AM20GAX	DISG/7801
314820020	19A-AE103D-091919-1			AM20GAX	DISG/7801

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here: 31482 JW 9/20/19

ALL SHADED AREAS are for LAB USE ONLY

Company: AECOM	Billing Information: Accts Payable AECOM
Address: 250 Apollo Drive Chelmsford, MA	
Report To: Scott Olson	Email To: lori.herbarich@aecom.com
Copy To: Lori Herbarich / Nicole Callahan	Site Collection Info/Address: 40 Ponkham Rd
Customer Project Name/Number: LMC Wilmington 60552044.13	State: MA County/City: Wilmington Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 978-302-0059 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potts	Purchase Order #: 117459 Quote #: 2017-2021
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Compliance Monitoring? [ ] Yes [ ] No	DW PWS ID #: DW Location Code:
Immediately Packed on Ice: [X] Yes [ ] No	Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U, D

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Lab Project Manager:

Analyses: Dissolved Hydrogen; [Acetylene, Methane, Propane, Ethane, Ethene]

	Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Dissolved Hydrogen	[Acetylene, Methane, Propane, Ethane, Ethene]
1	MA-AE105S-091619-1	GW	Grab	9/16/19	—	9/16/19	0953		3		X
2	MA-AE106R3-091619-1	GW	Grab	9/16/19	—	9/16/19	1515		3		X
3	MA-AE105R2-091619-1	GW	Grab	9/16/19	—	9/16/19	1320		3		X
4	MA-EMW1R2-091719-1	GW	Grab	9/17/19	—	9/17/19	1145		3		X
5	MA-TRC30R4-091719-1	GW	Grab	9/17/19	—	9/17/19	1350		3		X
6	MA-AE106D-091719-1	GW	Grab	9/17/19	—	9/17/19	1010		3		X
7	MA-AE103RS-091819-1	GW	Grab	9/18/19	—	9/18/19	1405		3		X
8	MA-AE103R1-091819-1	GW	Grab	9/18/19	—	9/18/19	1350		3		X
9	MA-AE109RS-091819-1	GW	Grab	9/18/19	—	9/18/19	1500		3		X
10	MA-AE103D-091919-1	GW	Grab	9/19/19	—	9/19/19	1150		3		X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

one vial broke

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: bubble wrap

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 789928582318532

Samples received via: (FEDEX) UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: (Y) N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: 1.4 oC
Cooler 1 Therm Corr. Factor: oC
Cooler 1 Corrected Temp: oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/19/19 1600		9.20.19 1130

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: (Y) N NA
HCL MeOH (TSP) Other

Non Conformance(s): YES / (NO)

Page: of:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

SW 9/20/19

37482

ALL SHADED AREAS are for LAB USE ONLY

Company: AECOM	Billing Information: Accts Payable AECOM
Address: 250 Apollo Drive, Chelmsford, MA 01824	
Report To: Scott Olson	Email To: lori.herbrich@aecom.com
Copy To: Lori Herbrich / Nicole Callahan	Site Collection Info/Address: 40 Fordham Rd
Customer Project Name/Number: LMC-Wilmington 60552044.13	State: MA County/City: Wilmington Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 978-392-0599 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potter	Purchase Order #: 117459 Quote #: 2017-2021
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [ ] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U, D

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses: Dissolved Hydrogen; [Acetylene, Methane, Propane, Ethane, Ethene]

	Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	
11	MA-AE106R3-091619-1	GW	Comp	9/16/19	1713	9/16/19	1738		1	X
12	MA-AE105S-091619-1	GW	Comp	9/16/19	1043	9/16/19	1058		1	X
13	MA-AE106R2-091619-1	GW	Comp	9/16/19	1405	9/16/19	1425		1	X
14	MA-TRC301R4-091719-1	GW	Comp	9/17/19	1500	9/17/19	1520		1	X
15	MA-AE106D-091719-1	GW	Comp	9/17/19	1030	9/17/19	1045		1	X
16	MA-EMW1R2-091719-1	GW	Comp	9/17/19	1220	9/17/19	1240		1	X
17	MA-AE103R1-091819-1	GW	Comp	9/18/19	1530	9/18/19	1555		1	X
18	MA-AE103R5-091819-1	GW	Comp	9/18/19	1500	9/18/19	1525		1	X
19	MA-AE109R5-091819-1	GW	Comp	9/18/19	1625	9/18/19	1655		1	X
20	MA-AE103D-091919-1	GW	Comp	9/19/19	1205	9/19/19	1220		1	X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: Wet Blue Dry None

Packing Material Used: Bubble wrap

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 789928585522 8218533

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: 1.4 oC
Cooler 1 Therm Corr. Factor: ____ oC
Cooler 1 Corrected Temp: ____ oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/19/19 1600	PACE	9.20.19 1130

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: ____ of: ____

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here JW 9/20/19

31482

ALL SHADED AREAS are for LAB USE ONLY

Company: AECOM	Billing Information: Accts Payable
Address: 250 Apollo Drive, Chelmsford, MA	
Report To: Scott Olson	Email To: lori.huberich@aecom.com
Copy To: Lori Heberich / Nicole Callanan	Site Collection Info/Address: 40 Fordham Rd
Customer Project Name/Number: LMC-Wilmington 60552044.13	State: MA County/City: Wilmington Time Zone Collected: [ ] PT [ ] MT [ ] CT [X] ET
Phone: 978-392-0589 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potter	Purchase Order #: 117459 Quote #: 2019-2069
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [ ] No Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U | D

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Lab Project Manager:

Analyses: Dissolved Hydrogen, Acetylene, Methane, Propane, Ethene, Ethane

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Lab Sample # / Comments
2h MA-TB01-091619-1	GW	Grab	9/16/19	—	9/16/19	9700		1	X only 1 vial received

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: bubble wrap

Radchem sample(s) screened (<500 cpm): Y N (NA)

SHORT HOLDS PRESENT (<72 hours): Y (N) N/A

Lab Tracking #: 7899 2858 3528 2318530

Samples received via: (FEDEX) UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: (Y) N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: 1.4 oC
Cooler 1 Therm Corr. Factor: _____ oC
Cooler 1 Corrected Temp: _____ oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/19/19 1600	PACE	9.20.19 1130

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: (Y) N NA
HCL MeOH (TSP) Other

Non Conformance(s): YES / (NO)

Page: _____ of: _____

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

October 10, 2019

Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

RE: **LMC - WILMINGTON 60552044.13**
Pace Workorder: 31567

Dear Scott Olson:

Enclosed are the analytical results for sample(s) received by the laboratory on Friday, September 27, 2019. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Ruth Welsh 10/10/2019
Ruth.Welsh@pacelabs.com

Customer Service Representative

Enclosures

As a valued client we would appreciate your comments on our service.
Please email PAESfeedback@pacelabs.com.

Total Number of Pages 38

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

LABORATORY ACCREDITATIONS & CERTIFICATIONS

Accreditor:	Pennsylvania Department of Environmental Protection, Bureau of Laboratories
Accreditation ID:	02-00538
Scope:	NELAP Non-Potable Water
Accreditor:	West Virginia Department of Environmental Protection, Division of Water and Waste Management
Accreditation ID:	395
Scope:	Non-Potable Water
Accreditor:	South Carolina Department of Health and Environmental Control, Office of Environmental Laboratory Certification
Accreditation ID:	89009003
Scope:	Clean Water Act (CWA); Resource Conservation and Recovery Act (RCRA)
Accreditor:	State of Virginia
Accreditation ID:	460201
Scope:	Non-Potable Water
Accreditor:	NELAP: New Jersey, Department of Environmental Protection
Accreditation ID:	PA026
Scope:	Non-Potable Water
Accreditor:	NELAP: New York, Department of Health Wadsworth Center
Accreditation ID:	11815
Scope:	Non-Potable Water
Accreditor:	State of Connecticut, Department of Public Health, Division of Environmental Health
Accreditation ID:	PH-0263
Scope:	Clean Water Act (CWA) Resource Conservation and Recovery Act (RCRA)
Accreditor:	NELAP: Texas, Commission on Environmental Quality
Accreditation ID:	T104704453-09-TX
Scope:	Non-Potable Water
Accreditor:	State of New Hampshire
Accreditation ID:	299409
Scope:	Non-potable water
Accreditor:	State of Georgia
Accreditation ID:	Chapter 391-3-26
Scope:	As per the Georgia EPD Rules and Regulations for Commercial Laboratories, PAES is accredited by the Pennsylvania Department of Environmental Protection Bureau of Laboratories under the National Environmental Laboratory Approval Program (NELAC).

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

SAMPLE SUMMARY

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID	Sample ID	Matrix	Date Collected	Date Received
315670001	19A-AE28R2-092319-1	Water	9/23/2019 10:40	9/27/2019 13:52
315670002	19A-AE26R1-092319-1	Water	9/23/2019 09:20	9/27/2019 13:52
315670003	19A-AE100R5-092319-1	Water	9/23/2019 12:30	9/27/2019 13:52
315670004	19A-AE108R1-092419-1	Water	9/24/2019 13:30	9/27/2019 13:52
315670005	19A-AE108R1-092419-1 MS	Water	9/24/2019 13:30	9/27/2019 13:52
315670006	19A-AE108R1-092419-1 MSD	Water	9/24/2019 13:30	9/27/2019 13:52
315670007	19A-AE29R6-092419-1	Water	9/24/2019 10:00	9/27/2019 13:52
315670008	19A-AE102RR6-092419-1	Water	9/24/2019 13:20	9/27/2019 13:52
315670009	19A-AE102M-092519-1	Water	9/25/2019 09:20	9/27/2019 13:52
315670010	19A-AE102M-092519-2	Water	9/25/2019 09:25	9/27/2019 13:52
315670011	19A-GZA101R-092619-1	Water	9/26/2019 11:30	9/27/2019 13:52
315670012	19A-GZA12-092619-1	Water	9/26/2019 09:25	9/27/2019 13:52
315670013	19A-STM8R1-092619-1	Water	9/26/2019 09:35	9/27/2019 13:52
315670014	19A-AE28R2-092319-1	Bubble Strip	9/23/2019 11:50	9/27/2019 13:52
315670015	19A-AE26R1-092319-1	Bubble Strip	9/23/2019 10:57	9/27/2019 13:52
315670016	19A-AE100R5-092319-1	Bubble Strip	9/23/2019 14:40	9/27/2019 13:52
315670017	19A-AE108R1-092419-1	Bubble Strip	9/24/2019 14:55	9/27/2019 13:52
315670018	19A-AE29R6-092419-1	Bubble Strip	9/24/2019 11:47	9/27/2019 13:52
315670019	19A-AE102M-092519-1	Bubble Strip	9/25/2019 09:58	9/27/2019 13:52
315670020	19A-GZA101R-092619-1	Bubble Strip	9/26/2019 11:56	9/27/2019 13:52
315670021	19A-GZA12-092619-1	Bubble Strip	9/26/2019 09:56	9/27/2019 13:52
315670022	19A-STM8R1-092619-1	Bubble Strip	9/26/2019 11:00	9/27/2019 13:52
315670023	19A-AE102RR6-092419-1	Bubble Strip	9/24/2019 15:23	9/27/2019 13:52
315670024	19A-TB01-092319-1	Water	9/23/2019 08:00	9/27/2019 13:52

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

PROJECT SUMMARY

Workorder: 31567 LMC - WILMINGTON 60552044.13

Batch Comments

Batch: DISG/7809 - AM20GAX Water QC

The matrix spike and/or spike duplicate, recovery or relative percent difference; accuracy influenced by the concentration of the reference sample 315670004. Analyte Methane. Batch acceptance based on laboratory control sample recovery.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670001** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE28R2-092319-1** Date Collected: 9/23/2019 10:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.046	1	10/3/2019 11:58	BW	M3,n,M5
Ethane	**7.7**	ug/l	0.10	0.0050	1	10/3/2019 11:58	BW	n
Ethene	**11**	ug/l	0.10	0.0040	1	10/3/2019 11:58	BW	n
Propane	**0.74**	ug/l	0.10	0.011	1	10/3/2019 11:58	BW	n
Acetylene	**0.90**	ug/l	0.50	0.019	1	10/3/2019 11:58	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670002** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE26R1-092319-1** Date Collected: 9/23/2019 09:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.046	1	10/3/2019 12:10	BW	M3,n,M5
Ethane	**1.0**	ug/l	0.10	0.0050	1	10/3/2019 12:10	BW	n
Ethene	**1.3**	ug/l	0.10	0.0040	1	10/3/2019 12:10	BW	n
Propane	**0.11**	ug/l	0.10	0.011	1	10/3/2019 12:10	BW	n
Acetylene	**0.25J**	ug/l	0.50	0.019	1	10/3/2019 12:10	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670003** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE100R5-092319-1** Date Collected: 9/23/2019 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**99**	ug/l	0.50	0.046	1	10/3/2019 12:22	BW	M3,n,M5
Ethane	**2.4**	ug/l	0.10	0.0050	1	10/3/2019 12:22	BW	n
Ethene	**5.4**	ug/l	0.10	0.0040	1	10/3/2019 12:22	BW	n
Propane	**0.19**	ug/l	0.10	0.011	1	10/3/2019 12:22	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 12:22	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670004** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2200**	ug/l	0.50	0.046	1	10/3/2019 12:35	BW	M3,n,M5
Ethane	**0.32**	ug/l	0.10	0.0050	1	10/3/2019 12:35	BW	n
Ethene	**0.48**	ug/l	0.10	0.0040	1	10/3/2019 12:35	BW	n
Propane	**0.19**	ug/l	0.10	0.011	1	10/3/2019 12:35	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 12:35	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670005** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1 MS** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2300**	ug/l	0.50	0.046	1	10/3/2019 12:47	BW	M3,n,M5
Ethane	**36**	ug/l	0.10	0.0050	1	10/3/2019 12:47	BW	n
Ethene	**35**	ug/l	0.10	0.0040	1	10/3/2019 12:47	BW	n
Propane	**54**	ug/l	0.10	0.011	1	10/3/2019 12:47	BW	n
Acetylene	**35**	ug/l	0.50	0.019	1	10/3/2019 12:47	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670006** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1 MSD** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2200**	ug/l	0.50	0.046	1	10/3/2019 13:00	BW	M3,n,M5
Ethane	**36**	ug/l	0.10	0.0050	1	10/3/2019 13:00	BW	n
Ethene	**36**	ug/l	0.10	0.0040	1	10/3/2019 13:00	BW	n
Propane	**54**	ug/l	0.10	0.011	1	10/3/2019 13:00	BW	n
Acetylene	**36**	ug/l	0.50	0.019	1	10/3/2019 13:00	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670007** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE29R6-092419-1** Date Collected: 9/24/2019 10:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**1100**	ug/l	0.50	0.046	1	10/3/2019 13:13	BW	M3,n,M5
Ethane	**0.26**	ug/l	0.10	0.0050	1	10/3/2019 13:13	BW	n
Ethene	**0.90**	ug/l	0.10	0.0040	1	10/3/2019 13:13	BW	n
Propane	**0.14**	ug/l	0.10	0.011	1	10/3/2019 13:13	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 13:13	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670008** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102RR6-092419-1** Date Collected: 9/24/2019 13:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**55**	ug/l	0.50	0.046	1	10/4/2019 11:46	BW	n
Ethane	**0.81**	ug/l	0.10	0.0050	1	10/4/2019 11:46	BW	n
Ethene	**7.5**	ug/l	0.10	0.0040	1	10/4/2019 11:46	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 11:46	BW	n
Acetylene	**0.073J**	ug/l	0.50	0.019	1	10/4/2019 11:46	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670009** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102M-092519-1** Date Collected: 9/25/2019 09:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**260**	ug/l	0.50	0.046	1	10/4/2019 12:00	BW	n
Ethane	**6.3**	ug/l	0.10	0.0050	1	10/4/2019 12:00	BW	n
Ethene	**1.4**	ug/l	0.10	0.0040	1	10/4/2019 12:00	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 12:00	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:00	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670010** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102M-092519-2** Date Collected: 9/25/2019 09:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**260**	ug/l	0.50	0.046	1	10/4/2019 12:14	BW	n
Ethane	**6.3**	ug/l	0.10	0.0050	1	10/4/2019 12:14	BW	n
Ethene	**1.4**	ug/l	0.10	0.0040	1	10/4/2019 12:14	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 12:14	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:14	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670011** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-GZA101R-092619-1** Date Collected: 9/26/2019 11:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**11**	ug/l	0.50	0.046	1	10/4/2019 12:28	BW	n
Ethane	**0.59**	ug/l	0.10	0.0050	1	10/4/2019 12:28	BW	n
Ethene	**0.027J**	ug/l	0.10	0.0040	1	10/4/2019 12:28	BW	n
Propane	**0.17**	ug/l	0.10	0.011	1	10/4/2019 12:28	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:28	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670012** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-GZA12-092619-1** Date Collected: 9/26/2019 09:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.30J**	ug/l	0.50	0.046	1	10/4/2019 12:41	BW	n
Ethane	**0.10 U**	ug/l	0.10	0.0050	1	10/4/2019 12:41	BW	n
Ethene	**0.10 U**	ug/l	0.10	0.0040	1	10/4/2019 12:41	BW	n
Propane	**0.10 U**	ug/l	0.10	0.011	1	10/4/2019 12:41	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:41	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670013** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-STM8R1-092619-1** Date Collected: 9/26/2019 09:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.51**	ug/l	0.50	0.046	1	10/4/2019 12:53	BW	n
Ethane	**0.10 U**	ug/l	0.10	0.0050	1	10/4/2019 12:53	BW	n
Ethene	**0.033J**	ug/l	0.10	0.0040	1	10/4/2019 12:53	BW	n
Propane	**0.10 U**	ug/l	0.10	0.011	1	10/4/2019 12:53	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:53	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670014** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE28R2-092319-1** Date Collected: 9/23/2019 11:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**220**	nM	20	15	20	10/5/2019 09:40	TD	d,n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670015** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE26R1-092319-1** Date Collected: 9/23/2019 10:57

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**20**	nM	1.0	0.75	1	10/5/2019 06:56	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670016** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE100R5-092319-1** Date Collected: 9/23/2019 14:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.4**	nM	1.0	0.75	1	10/5/2019 07:13	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670017** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE108R1-092419-1** Date Collected: 9/24/2019 14:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.6**	nM	1.0	0.75	1	10/5/2019 07:26	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670018** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE29R6-092419-1** Date Collected: 9/24/2019 11:47

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**180**	nM	8.0	6.0	8	10/5/2019 09:55	TD	d,n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670019** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE102M-092519-1** Date Collected: 9/25/2019 09:58

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.3**	nM	1.0	0.75	1	10/5/2019 08:00	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670020** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-GZA101R-092619-1** Date Collected: 9/26/2019 11:56

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**22**	nM	1.0	0.75	1	10/5/2019 08:12	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670021** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-GZA12-092619-1** Date Collected: 9/26/2019 09:56

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.8**	nM	1.0	0.75	1	10/5/2019 08:26	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670022** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-STM8R1-092619-1** Date Collected: 9/26/2019 11:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**7.9**	nM	1.0	0.75	1	10/5/2019 08:38	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670023** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE102RR6-092419-1** Date Collected: 9/24/2019 15:23

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**3.7**	nM	1.0	0.75	1	10/5/2019 08:51	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670024** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-TB01-092319-1** Date Collected: 9/23/2019 08:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.50 U**	ug/l	0.50	0.046	1	10/4/2019 13:05	BW	n
Ethane	**0.10 U**	ug/l	0.10	0.0050	1	10/4/2019 13:05	BW	n
Ethene	**0.045J**	ug/l	0.10	0.0040	1	10/4/2019 13:05	BW	n
Propane	**0.10 U**	ug/l	0.10	0.011	1	10/4/2019 13:05	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 13:05	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS QUALIFIERS

Workorder: 31567 LMC - WILMINGTON 60552044.13

DEFINITIONS/QUALIFIERS

MDL	Method Detection Limit. Can be used synonymously with LOD; Limit Of Detection.
PQL	Practical Quanitation Limit. Can be used synonymously with LOQ; Limit Of Quantitation.
ND	Not detected at or above reporting limit.
DF	Dilution Factor.
S	Surrogate.
RPD	Relative Percent Difference.
% Rec	Percent Recovery.
U	Indicates the compound was analyzed for, but not detected at or above the noted concentration.
J	Estimated concentration greater than the set method detection limit (MDL) and less than the set reporting limit (PQL).
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.
d	The analyte concentration was determined from a dilution.
M5	The matrix spike duplicate sample recovery was outside laboratory control limits.
M3	The matrix spike sample recovery was outside laboratory control limits.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31567 LMC - WILMINGTON 60552044.13

QC Batch: DISG/7809 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 315670001, 315670002, 315670003, 315670004, 315670005, 315670006, 315670007

METHOD BLANK: 63524

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	M3,n,M5
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n
Propane	ug/l	0.10 U	0.10	n
Acetylene	ug/l	0.50 U	0.50	n

LABORATORY CONTROL SAMPLE & LCSD: 63526 63528

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methane	ug/l	750	760	730	101	98	80-120	3.5	20	M3,M5,n
Ethane	ug/l	38	39	39	103	103	80-120	0.4	20	n
Ethene	ug/l	35	37	37	105	105	80-120	0.33	20	n
Propane	ug/l	56	57	58	103	104	80-120	0.63	20	n
Acetylene	ug/l	33	35	34	106	103	80-120	2.8	20	n

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 63579 63580 Original: 315670004

Parameter	Units	Original Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
RISK											
Methane	ug/l	2200	750	2300	2200	10	1.7	70-130	2.8	20	M3,n,M5
Ethane	ug/l	0.32	38	36	36	93	94	70-130	1	20	n
Ethene	ug/l	0.48	35	35	36	98	99	70-130	1.4	20	n
Propane	ug/l	0.19	56	54	54	96	96	70-130	0.08	20	n
Acetylene	ug/l	0	33	35	36	107	110	70-130	2.5	20	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31567 LMC - WILMINGTON 60552044.13

QC Batch: DISG/7814 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 315670008, 315670009, 315670010, 315670011, 315670012, 315670013, 315670024

METHOD BLANK: 63568

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Methane	ug/l	0.50 U	0.50	n
Ethane	ug/l	0.10 U	0.10	n
Ethene	ug/l	0.10 U	0.10	n
Propane	ug/l	0.10 U	0.10	n
Acetylene	ug/l	0.50 U	0.50	n

LABORATORY CONTROL SAMPLE & LCSD: 63570 63572

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Methane	ug/l	750	770	760	104	102	80-120	1.1	20	n
Ethane	ug/l	38	40	37	104	99	80-120	5.7	20	n
Ethene	ug/l	35	38	35	106	100	80-120	6.3	20	n
Propane	ug/l	56	59	55	106	99	80-120	6.4	20	n
Acetylene	ug/l	33	36	33	110	100	80-120	8.8	20	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA

Workorder: 31567 LMC - WILMINGTON 60552044.13

QC Batch: DISG/7817 Analysis Method: AM20GAX

QC Batch Method: AM20GAX

Associated Lab Samples: 315670014, 315670015, 315670016, 315670017, 315670018, 315670019, 315670020, 315670021, 315670022, 315670023

METHOD BLANK: 63597

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
RISK				
Hydrogen	nM	1.0 U	1.0	n

LABORATORY CONTROL SAMPLE & LCSD: 63598 63599

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limit	RPD	Max RPD	Qualifiers
Hydrogen	nM	24	27	27	111	113	80-120	1.4	20	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA QUALIFIERS

Workorder: 31567 LMC - WILMINGTON 60552044.13

QUALITY CONTROL PARAMETER QUALIFIERS

M3	The matrix spike sample recovery was outside laboratory control limits.
M5	The matrix spike duplicate sample recovery was outside laboratory control limits.
n	The laboratory does not hold NELAP/TNI accreditation for this method or analyte.

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID	Sample ID	Prep Method	Prep Batch	Analysis Method	Analysis Batch
315670001	19A-AE28R2-092319-1			AM20GAX	DISG/7809
315670002	19A-AE26R1-092319-1			AM20GAX	DISG/7809
315670003	19A-AE100R5-092319-1			AM20GAX	DISG/7809
315670004	19A-AE108R1-092419-1			AM20GAX	DISG/7809
315670005	19A-AE108R1-092419-1 MS			AM20GAX	DISG/7809
315670006	19A-AE108R1-092419-1 MSD			AM20GAX	DISG/7809
315670007	19A-AE29R6-092419-1			AM20GAX	DISG/7809
315670008	19A-AE102RR6-092419-1			AM20GAX	DISG/7814
315670009	19A-AE102M-092519-1			AM20GAX	DISG/7814
315670010	19A-AE102M-092519-2			AM20GAX	DISG/7814
315670011	19A-GZA101R-092619-1			AM20GAX	DISG/7814
315670012	19A-GZA12-092619-1			AM20GAX	DISG/7814
315670013	19A-STM8R1-092619-1			AM20GAX	DISG/7814
315670024	19A-TB01-092319-1			AM20GAX	DISG/7814
315670014	19A-AE28R2-092319-1			AM20GAX	DISG/7817
315670015	19A-AE26R1-092319-1			AM20GAX	DISG/7817
315670016	19A-AE100R5-092319-1			AM20GAX	DISG/7817
315670017	19A-AE108R1-092419-1			AM20GAX	DISG/7817
315670018	19A-AE29R6-092419-1			AM20GAX	DISG/7817
315670019	19A-AE102M-092519-1			AM20GAX	DISG/7817
315670020	19A-GZA101R-092619-1			AM20GAX	DISG/7817
315670021	19A-GZA12-092619-1			AM20GAX	DISG/7817
315670022	19A-STM8R1-092619-1			AM20GAX	DISG/7817
315670023	19A-AE102RR6-092419-1			AM20GAX	DISG/7817

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

31527

ALL SHADED AREAS are for LAB USE ONLY

EIG 9/21/19

Company: AECOM	Billing Information: Accts Payable AECOM
Address: 250 Apollo Drive, Chelmsford, MA 01824	
Report To: Scott Olsen	Email To: lori.herbenick@aecom.com
Copy To: Lori Herbenick / Nicole Callahan	Site Collection Info/Address: 49 Fordham Rd
Customer Project Name/Number: LMC-Wilmington 60552041.13	State: MA County/City: Wilmington Time Zone Collected: [ ] PT [ ] MT [ ] CT [ ] ET
Phone: 978-372-0054 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potts	Purchase Order #: 117459 Quote #: 2017-2021
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)

Compliance Monitoring? [ ] Yes [ ] No

DW PWS ID #: DW Location Code:

Immediately Packed on Ice: [X] Yes [ ] No

Field Filtered (if applicable): [ ] Yes [ ] No

Analysis:

Container Preservative Type **: U, D

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other

Lab Project Manager:

Analyses: Dissolved Hydrogen; Acetylene, Propane, Methane, Ethene, Ethane

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips:	
Sample pH Acceptable	Y N NA
pH Strips:	
Sulfide Present	Y N NA
Lead Acetate Strips:	

LAB USE ONLY:
Lab Sample # / Comments:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Dissolved Hydrogen	Acetylene, Propane, Methane, Ethene, Ethane	Lab Sample # / Comments
MA-AE28R2-092319-1	GW	Grab	9/23/19	—	9/23/19	1040		3		X	
MA-AE26R1-092319-1	GW	Grab	9/23/19	—	9/23/19	0920		3		X	
MA-AE100RS-092319-1	GW	Grab	9/23/19	—	9/23/19	1230		3		X	
MA-AE108R1-092419-1	GW	Grab	9/24/19	—	9/24/19	1330		9		X	MS/MSD
MA-AE25R6-092419-1	GW	Grab	9/24/19	—	9/24/19	1000		3		X	
MA-AE102RR6-092419-1	GW	Grab	9/24/19	—	9/24/19	1320		3		X	
MA-AE102M-092519-1	GW	Grab	9/25/19	—	9/25/19	0920		2		X	
MA-AE102M-092519-2	GW	Grab	9/25/19	—	9/25/19	0925		2		X	
MA-GZA101R-092619-1	GW	Grab	9/26/19	—	9/26/19	1130		2		X	
MA-GZA12-092619-1	GW	Grab	9/26/19	—	9/26/19	0925		3		X	

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: bubble wrap

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 7500 7679 2318 8531

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: (Y) N NA
Therm ID#:
Cooler 1 Temp Upon Receipt: 2.4 oC
Cooler 1 Therm Corr. Factor: oC
Cooler 1 Corrected Temp: oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/26/19 1300		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: (Y) N NA
HCL MeOH (TSP) Other

Non Conformance(s): (YES) / NO

Page: 1 of:

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical™

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

31567

ALL SHADED AREAS are for LAB USE ONLY 9/27/19

Company: AECOM	Billing Information: Accts Payable AECOM
Address: 250 Apollo Drive, Chelmsford, MA 01824	
Report To: Scott Olson	Email To: lori.heberich@aecom.com
Copy To: Lori Heberich / Nicole Callahan	Site Collection Info/Address: 40 Fordham Rd
Customer Project Name/Number: LMC Wilmington 60552044.13	State: MA County/City: Wilmington Time Zone Collected: [ ]PT [ ]MT [ ]CT [X]ET
Phone: 978-392-0089 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potter	Purchase Order #: 117459 Quote #: 2017-2021
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
Compliance Monitoring? [ ] Yes [ ] No	DW PWS ID #: DW Location Code:
Immediately Packed on Ice: [X] Yes [ ] No	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

Container Preservative Type **: U, D

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Analyses: Dissolved Hydrogen; Acetylene, Propene, Methane, Ethane, Ethene

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	(Y) N NA
Custody Signatures Present	(Y) N NA
Collector Signature Present	(Y) N NA
Bottles Intact	(Y) N NA
Correct Bottles	(Y) N NA
Sufficient Volume	(Y) N NA
Samples Received on Ice	(Y) N NA
VOA - Headspace Acceptable	Y N (NA)
USDA Regulated Soils	Y N (NA)
Samples in Holding Time	(Y) N NA
Residual Chlorine Present	Y (N) NA
Cl Strips: _____	
Sample pH Acceptable	Y N (NA)
pH Strips: _____	
Sulfide Present	Y N (NA)
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Dissolved Hydrogen	Acetylene, Propene, Methane, Ethane, Ethene
19A-STM8R1-092619-1	GW	Grab	9/26/19	—	9/26/19	0935		2		X
19A-AE23R2-092319-1	GW	Comp	9/23/19	1125	9/23/19	1150		1	X	
19A-AE26R1-092319-1	GW	Comp	9/23/19	1037	9/23/19	1057		1	X	
19A-AE10RS-092319-1	GW	Comp	9/23/19	1410	9/23/19	1440		1	X	
19A-AE10RR1-092419-1	GW	Comp	9/24/19	1440	9/24/19	1455		1	X	
19A-AE29R6-092419-1	GW	Comp	9/24/19	1117	9/24/19	1147		1	X	
19A-AE102M-092519-1	GW	Comp	9/25/19	0948	9/25/19	0958		1	X	
19A-GZA1C1R-092619-1	GW	Comp	9/26/19	1141	9/26/19	1156		1	X	
19A-GZA12-092619-1	GW	Comp	9/26/19	0941	9/26/19	0956		1	X	
19A-STM8R1-092619-1	GW	Comp	9/26/19	1040	9/26/19	1100		1	X	

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: (Wet) Blue Dry None

Packing Material Used: bubble wrap

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 7800769 5535

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: (Y) N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: 2.1 oC
Cooler 1 Therm Corr. Factor: _____ oC
Cooler 1 Corrected Temp: _____ oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/26/19 1300		

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N (NA)
HCL MeOH TSP Other

Non Conformance(s): YES (NO)

Page: _____ of: _____

CHAIN-OF-CUSTODY Analytical Request Document

Pace Analytical®

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Workorder/Login Label Here or List Pace Workorder Number or MTJL Log-in Number Here

31567

ALL SHADED AREAS are for LAB USE ONLY 9/27/19

Company: AECOM	Billing Information: Accts Payable AECOM
Address: 250 Apollo Drive, Chelmsford, MA 01824	
~~Report To:~~ (PC): Lori Herbert / Nicole Callahan	Email To: lori.herbert@aecom.com
~~Copy To:~~ Report to: Scott Olson	Site Collection Info/Address: 40 Fordham Rd
Customer Project Name/Number: LMC-Wilmington 60552044.13	State: County/City: Time Zone Collected: MA / Wilmington [ ] PT [ ] MT [ ] CT [X] ET
Phone: 978-392-0089 Email:	Site/Facility ID #: LMC-Wilmington
Collected By (print): Dylan Potter	Purchase Order #: 117454 Quote #: 2017-2021
Collected By (signature):	Turnaround Date Required: Standard / 15 day
Sample Disposal: [X] Dispose as appropriate [ ] Return [ ] Archive: _____ [ ] Hold: _____	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply)
	Compliance Monitoring? [ ] Yes [ ] No
	DW PWS ID #: DW Location Code:
	Immediately Packed on Ice: [X] Yes [ ] No
	Field Filtered (if applicable): [ ] Yes [ ] No Analysis: _____

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

Container Preservative Type **: U | D

Lab Project Manager:

** Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: Dissolved Hydrogen	Analyses: Acetylene
19A-AG102RR6-092419-1	GW	Comp	9/24/19	1458	9/24/19	1523		1	X	
19A-TB01-092319-1	GW	Grab	9/23/19	—	9/23/19	0800		1		X

Lab Profile/Line:

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y N NA
Custody Signatures Present	Y N NA
Collector Signature Present	Y N NA
Bottles Intact	Y N NA
Correct Bottles	Y N NA
Sufficient Volume	Y N NA
Samples Received on Ice	Y N NA
VOA - Headspace Acceptable	Y N NA
USDA Regulated Soils	Y N NA
Samples in Holding Time	Y N NA
Residual Chlorine Present	Y N NA
Cl Strips: _____	
Sample pH Acceptable	Y N NA
pH Strips: _____	
Sulfide Present	Y N NA
Lead Acetate Strips: _____	

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards: See AECOM QAPP

Type of Ice Used: Wet Blue Dry None

Packing Material Used: bubble wrap

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 7302 2079 5335

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments:

Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
AECOM	9/26/19 1300		
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:

MTJL LAB USE ONLY
Table #:
Acctnum:
Template:
Prelogin:
PM:
PB:

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

NON-CONFORMANCE FORM

PAES Work Order #: [illegible]

Date: [illegible] Time of Receipt: [illegible] Receiver: [illegible]

Client: [illegible]

REASON FOR NON-CONFORMANCE:

[illegible]

ACTION TAKEN:

Client name: AECOM Date: 9/20/19 Time: [illegible]

[illegible]

Customer Service Initials: BG Date: 9/20/19

F-PAE-Q-014-rev.00, 20 Nov2014

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE09538		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 14, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 12 and 13, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE09538.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and/or select metals for the following samples was assessed:

Sample ID
19A-AE03-091219-1
19A-AE03-091219-2 [Field duplicate of 19A-AE03-091219-1]
19A-AE04-091219-1
19A-AE04-091219-2 [Field duplicate of 19A-AE04-091219-1]
19A-AE112D-091319-1
19A-GZA102S-091319-1
19A-IP1R2-091319-1
19A-TB01-091219-1 [Trip blank]
19A-TB01-091319-1 [Trip blank]

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

*	Chain-of-custody (COC)/sample integrity
*	Holding times and sample preservation
*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
NA	Labeled compound recovery (1,4-dioxane only)[#]
NA	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
*	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batches 497037, 497046, 497168, 497430	1,2-Dibromo-3-chloropropane	0.037	≥ 0.050	J+/R
	2-Hexanone	0.065	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.071	≥ 0.100	J+/R
	Acetone	0.036	≥ 0.100	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	Tetrahydrofuran	0.028	≥ 0.100	J+/R

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
	1,1,2,2-Tetrachloroethane	0.224	≥ 0.300	J+/R
	Compound	**% RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Acetone	29	≤ 20	J/UJ
Associated samples: All samples except 19A-IP1R2-091319-1 40x				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 497636	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.058	≥ 0.100	J+/R
	Bromoform	0.060	≥ 0.300	J+/R
	Methyl ethyl ketone	0.082	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Methylene chloride	23	≤ 20	J/UJ
Associated samples: 19A-IP1R2-091319-1 40x				

The RFs for all compounds listed above also fell below the QC limit in the associated CCVs. Further qualification of the data was not required.

LCS/LCSD Results

All percent recoveries (%Rs) and relative percent differences (RPDs) met the QC acceptance limits with the following exceptions. Only nonconformances resulting in data qualification are listed below.

VOCs

LCS ID	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
Batch 497046	1,2-Dibromo-3-chloropropane	ok	132	70	130	J+/Accept
	Vinyl Chloride	63	65	70	130	J-/UJ
Associated samples: 19A-AE03-091219-1, 19A-AE04-091219-1, 19A-AE04-091219-2, 19A-AE112D-091319-1						

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-IP1R2-091319-1, tetrachloroethene and trichloroethene 400x, all other compounds 40x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE10295		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 18, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 13 and 16, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE10295.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE105D-091619-1	19A-AE110R2-091319-1
19A-AE105R1-091619-1	19A-AE110R4-091319-1
19A-AE105R2-091619-1	19A-AE110R6-091319-1
19A-AE105R4-091619-1	19A-AE112R1-091319-1
19A-AE105R5-091619-1	19A-AE112R3-091319-1
19A-AE105S-091619-1	19A-AE112R5-091319-1
19A-AE106S-091619-1	19A-AE112R6-091319-1
19A-AE110R1-091319-1	19A-TB02-091319-1 (Trip blank)

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity

*	Holding times and sample preservation
*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
*	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 498117	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.070	≥ 0.100	J+/R
	Bromoform	0.065	≥ 0.100	J+/R
	Compound	**% RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Acetone	24	≤ 20	J/UJ
	1,2-Dibromo-3-chloropropane	22	≤ 20	J/UJ

	Compound	RF	QC limit	Actions (Detects/Nondetects)
CCV for batch 498117	1,2-Dibromo-3-chloropropane	0.049	≥ 0.050	J+/R
	Acetone	0.068	≥ 0.100	J+/R
	Bromoform	0.068	≥ 0.100	J+/R
	Methyl ethyl ketone	0.098	≥ 0.100	J+/R
Associated samples: 19A-AE105R1-091619-1, 19A-AE105R2-091619-1, 19A-AE105R4-091619-1, 19A-AE105R5-091619-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batches 497816, 498091	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.058	≥ 0.100	J+/R
	Bromoform	0.060	≥ 0.300	J+/R
	Methyl ethyl ketone	0.082	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Methylene chloride	23	≤ 20	J/UJ
Associated samples: 19A-AE105D-091619-1, 19A-AE105S-091619-1, 19A-AE106S-091619-1, 19A-AE110R1-091319-1, 19A-AE110R2-091319-1, 19A-AE110R4-091319-1, 19A-AE110R6-091319-1, 19A-AE112R1-091319-1, 19A-AE112R3-091319-1, 19A-AE112R5-091319-1, 19A-AE112R6-091319-1, 19A-TB02-091319-1				

The RFs for all compounds listed above also fell below the QC limit in the associated CCVs. Further qualification of the data was not required.

LCS/LCSD Results

All percent recoveries (%Rs) and relative percent differences (RPDs) met the QC acceptance limits with the following exceptions. Only nonconformances resulting in data qualification are listed below.

VOCs

LCS ID	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
Batch 498117	Ethyl ether	69	ok	70	130	J-/UJ
	Tetrahydrofuran	63	ok	70	130	J-/UJ
Associated samples: 19A-AE105R1-091619-1, 19A-AE105R2-091619-1, 19A-AE105R4-091619-1, 19A-AE105R5-091619-1						

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE105R1-091619-1, tetrachloroethene and trichloroethene 5x
19A-AE105R2-091619-1, trichloroethene 20x, tetrachloroethene 5x
19A-AE105R4-091619-1, trichloroethene 20x, all others 2x
19A-AE105R5-091619-1, trichloroethene 20x, tetrachloroethene 5x, cis-1,2-dichloroethene 5x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE11169		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 18, 2019, revised March 18, 2020		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 16 and 17, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE11169.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE106D-091719-1	19A-PS1D-091719-1
19A-AE106R1-091619-1	19A-PS1S-091719-1
19A-AE106R3-091619-1	19A-PS2D-091719-1
19A-AE106R5-091619-1	19A-PS8D-091719-1
19A-EMW11R1-091719-1	19A-TB01-091619-1 (Trip blank)
19A-EMW11R2-091719-1	19A-TRC301R2-091719-1
19A-EMW11R3-091719-1	19A-TRC301R4-091719-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation

*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
NA	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 498096	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.039	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.095	≥ 0.100	J+/R
	2-Hexanone	0.072	≥ 0.100	J+/R
	Tetrahydrofuran	0.030	≥ 0.050	J+/R
	Methyl ethyl ketone	0.051	≥ 0.100	J+/R
	Compound	**% RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	35	≤ 20	J/UJ

	Compound	RF	QC limit	Actions (Detects/Nondetects)
CCV for batch 498096	1,2-Dibromo-3-chloropropane	0.047	≥ 0.050	J+/R
	Acetone	0.034	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.088	≥ 0.100	J+/R
	2-Hexanone	0.071	≥ 0.100	J+/R
	Tetrahydrofuran	0.028	≥ 0.050	J+/R
	Methyl ethyl ketone	0.048	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.230	≥ 0.300	J+/R
Associated samples: 19A-EMW11R1-091719-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 498438	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.080	≥ 0.100	J+/R
	2-Hexanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	Bromomethane	0.076	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	25	≤ 20	J/UJ
	Acetone	24	≤ 20	J/UJ
	Bromomethane	32	≤ 20	J/UJ
CCV for batch 498438	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.034	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.083	≥ 0.100	J+/R
	2-Hexanone	0.063	≥ 0.100	J+/R
	Tetrahydrofuran	0.026	≥ 0.050	J+/R
	Bromomethane	0.061	≥ 0.100	J+/R
	Methyl ethyl ketone	0.045	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.227	≥ 0.300	J+/R
Associated samples: 19A-AE106R1-091619-1, 19A-AE106R3-091619-1, 19A-AE106R5-091619-1 19A-PS1D-091719-1, 19A-TB01-091619-1, 19A-EMW11R3-091719-1, 19A-EMW11R2-091719-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 498449	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.070	≥ 0.100	J+/R
	Bromoform	0.065	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	22	≤ 20	J/UJ
	Acetone	24	≤ 20	J/UJ

	Compound	RF	QC limit	Actions (Detects/Nondetects)
CCV for batch 498449	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.056	≥ 0.100	J+/R
	Bromoform	0.055	≥ 0.100	J+/R
	Methyl ethyl ketone	0.095	≥ 0.100	J+/R
Associated samples: 19A-AE106D-091719-1, 19A-PS1S-091719-1, 19A-PS2D-091719-1, 19A-PS8D-091719-1, 19A-TRC301R2-091719-1, 19A-TRC301R4-091719-1				

LCS/LCSD Results

All percent recoveries (%Rs) and relative percent differences (RPDs) met the QC acceptance limits with the following exceptions. Only nonconformances resulting in data qualification are listed below.

EPH

LCS ID	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
Batch 497291	Acenaphthylene	ok	0	40	130	J-/R[1]
Associated samples: 19A-AE106R3-091619-1, 19A-AE106R5-091619-1, 19A-EMW11R2-091719-1						
[1] Professional judgment was applied to qualify the nondetect results in associated samples as estimated (UJ) rather than reject (R) since the recovery in the LCS met criteria.						

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for "Presumptive Certainty" status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE106R1-091619-1, cis-1,2-dichloroethene 20x
19A-AE106R3-091619-1, cis-1,2-dichloroethene 20x
19A-AE106R5-091619-1, trichloroethene 20x
19A-EMW11R1-091719-1, tetrachloroethene and trichloroethene 400x, all others 20x
19A-EMW11R2-091719-1, tetrachloroethene and trichloroethene 400x, all others100x
19A-EMW11R3-091719-1, tetrachloroethene and trichloroethene 400x, all others 40x
19A-TRC301R4-091719-1, trichloroethene 20x
19A-TRC301R2-091719-1, tetrachloroethene and trichloroethene 20x

VPH

19A-EMW11R2-091719-1, VPH 2x. Note: The final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily tetrachloroethene and trichloroethene.

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE13428		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 20, 2019, revised March 18, 2020		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 18 and 19, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE13428.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE103D-091919-1	19A-GZA105R-091819-1
19A-AE103R1-091819-1	19A-GZA105S-091819-1
19A-AE103R3-091819-1	19A-MW4-091919-1
19A-AE103R4-091819-1	19A-MW4-091919-2 (Field duplicate of 19A-MW4-091919-1)
19A-AE103R5-091819-1	19A-AE104R5-091819-1
19A-AE103R7-091819-1	19A-AE104R6-091819-1
19A-AE109R6-091819-1	19A-AE109R1-091819-1
19A-AE109R7-091819-1	19A-AE109R2-091819-1
19A-AE109R7-091819-2 (Field duplicate of 19A-AE109R7-091819-1)	19A-AE109R3-091819-1
19A-AE103S-091919-1	19A-AE109R4-091819-1
19A-AE104R1-091819-1	19A-AE109R5-091819-1
19A-AE104R3-091819-1	19A-PS3-091919-1

Sample ID	Sample ID
19A-AE104R4-091819-1	19A-PS5D-091919-1
19A-AE109R8-091819-1	19A-TB01-091819-1 [Trip blank]
19A-EMW11D-091919-1	19A-MW4A-091919-1
19A-GZA105D-091819-1	--

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

*	Chain-of-custody (COC)/sample integrity
*	Holding times and sample preservation
*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
*	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 498972, 498690 and 506526	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.080	≥ 0.100	J+/R
	2-Hexanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	Bromomethane	0.076	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	25	≤ 20	J/UJ
	Acetone	24	≤ 20	J/UJ
	Bromomethane	32	≤ 20	J/UJ
CCV for batch 498972	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.041	≥ 0.050	J+/R
	Acetone	0.032	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.091	≥ 0.100	J+/R
	2-Hexanone	0.063	≥ 0.100	J+/R
	Tetrahydrofuran	0.030	≥ 0.050	J+/R
	Methyl ethyl ketone	0.052	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.233	≥ 0.300	J+/R
Associated samples: 19A-GZA105S-091819-1				
CCV for batch 506526	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.034	≥ 0.050	J+/R
	Acetone	0.028	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.076	≥ 0.100	J+/R
	2-Hexanone	0.056	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Bromomethane	0.089	≥ 0.100	J+/R
	Methyl ethyl ketone	0.040	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.227	≥ 0.300	J+/R
Associated samples: 19A-AE109R7-091819-1, 19A-AE109R7-091819-2, 19A-AE104R3-091819-1, 19A-AE104R4-091819-1 (50x), 19A-AE104R5-091819-1 (50x), 19A-AE104R6-091819-1 (50x), 19A -AE103D-091919-1 (20x)				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 498452	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.070	≥ 0.100	J+/R
	Bromoform	0.065	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	22	≤ 20	J/UJ

	Acetone	24	≤ 20	J/UJ
CCV for batch 498452	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.040	≥ 0.050	J+/R
	Acetone	0.060	≥ 0.100	J+/R
	Bromoform	0.052	≥ 0.100	J+/R
	Methyl ethyl ketone	0.089	≥ 0.100	J+/R
Associated samples: 19A-TB01-091819-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 498698, 499270 499283, 499279	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.050	≥ 0.100	J+/R
	Bromoform	0.057	≥ 0.100	J+/R
	Methyl ethyl ketone	0.084	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	34	≤ 20	J/UJ
	Bromoform	28	≤ 20	J/UJ
	Dibromochloromethane	22	≤ 20	J/UJ
CCV for batch 498698	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.043	≥ 0.100	J+/R
	Bromoform	0.058	≥ 0.100	J+/R
	Methyl ethyl ketone	0.085	≥ 0.100	J+/R
Associated samples: 19A-AE103R1-091819-1 (20x), 19A-AE103R7-091819-1 (20x), 19A-GZA105D-091819-1, 19A-GZA105R-091819-1 (100x)				
CCV for batch 499270	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.043	≥ 0.050	J+/R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.057	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
Associated samples: 19A-AE103R3-091819-1 (20x), 19A-AE103R4-091819-1 (100x), 19A-AE103R5-091819-1 (100x), 19A-AE109R1-091819-1, 19A-AE109R2-091819-1, 19A-AE109R3-091819-1, 19A-AE109R5-091819-1 (5x), 19A-AE109R6-091819-1 (5x)				
CCV for batch 499283	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.041	≥ 0.050	J+/R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.053	≥ 0.100	J+/R
	Methyl ethyl ketone	0.093	≥ 0.100	J+/R
Associated samples: 19A-AE109R4-091819-1 (2x)				
CCV for batch 499279	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**

	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.062	≥ 0.100	J+/R
	Bromoform	0.054	≥ 0.100	J+/R
	Methyl ethyl ketone	0.095	≥ 0.100	J+/R
Associated samples: 19A-AE109R8-091819-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499302	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.061	≥ 0.100	J+/R
	Bromoform	0.059	≥ 0.100	J+/R
	Methyl ethyl ketone	0.088	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	30	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	21	≤ 20	J/UJ
	Methyl ethyl ketone	21	≤ 20	J/UJ
CCV for batch 499302	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.055	≥ 0.100	J+/R
	Bromoform	0.061	≥ 0.100	J+/R
	Methyl ethyl ketone	0.092	≥ 0.100	J+/R
Associated samples: 19A-AE103D-091919-1, 19A-AE103S-091919-1, 19A-EMW11D-091919-1, 19A-MW4-091919-1, 19A-MW4-091919-2, 19A-PS3-091919-1, 19A-PS5D-091919-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499703	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.052	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	21	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	22	≤ 20	J/UJ
	Methyl ethyl ketone	28	≤ 20	J/UJ
CCV for batch 499703	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.037	≥ 0.050	J+/R
	Acetone	0.055	≥ 0.100	J+/R
	Bromoform	0.058	≥ 0.100	J+/R
	Methyl ethyl ketone	0.083	≥ 0.100	J+/R
Associated samples: 19A-AE104R1-091819-1 (5x)				

Surrogate Recoveries

The recovery of surrogate toluene-d8 exceeded the QC acceptance limits for the 20x analysis of sample 19A-AE103R3-091819-1. Positive results reported from the 20x analysis of sample 19A-AE103R3-091819-1 are qualified as estimated (J+), nondetects are not affected.

LCS/LCSD Results

VOCs

The LCS and/or LCSD percent recoveries fell below the QC acceptance limits for the compounds tabulated below. Only nonconformances resulting in qualification of sample results are tabulated below.

	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
Batch 498452	Ethyl ether	68	ok	70	130	J-/UJ
	Tetrahydrofuran	66	ok	70	130	J-/UJ
Associated samples: 19A-TB01-091819-1						

Field Duplicate Results

Relative percent differences (RPDs) met the QC criterion of <30% for all analytes in field duplicate pair 19A-MW4-091919-1/19A-MW4-091919-2. RPDs met the QC criterion of <30% for all analytes except trichloroethene in field duplicate pair 19A-AE109R7-091819-1/19A-AE109R7-091819-2. The positive results for trichloroethene in samples 19A-AE109R7-01819-1 and 19A-AE109R7-091819-2 are qualified as estimated. Only samples 19A-AE109R7-01819-1 and 19A-AE109R7-091819-2 were qualified since the RPD for trichloroethene was acceptable for field duplicate pair 19A-AE109R7-091819-1/19A-AE109R7-091819-2.

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

For samples 19A-AE103R1-091819-1, 19A-AE109R5-091819-1, and 19A-AE109R2-091819-1 the final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily tetrachloroethene and trichloroethene.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-GZA105D-091819-1, cis-1,2-dichloroethene, trichloroethene 20x
19A-GZA105R-091819-1, trichloroethene 400x, 100x all others

19A-AE103R1-091819-1, trichloroethene and tetrachloroethene 400x, 20x all others
19A-AE103R3-091819-1, trichloroethene and tetrachloroethene 400x, 20x all others
19A-AE103R4-091819-1, trichloroethene and tetrachloroethene 400x, 100x all others
19A-AE103R5-091819-1, trichloroethene and tetrachloroethene 400x, 100x all others
19A-AE103R7-091819-1, trichloroethene and tetrachloroethene 200x, 20x all others
19A-AE109R4-091819-1, cis-1,2-dichloroethene 20x, 2x all others
19A-AE109R5-091819-1, cis-1,2-dichloroethene and trichloroethene 20x, 5x all others
19A-AE109R6-091819-1, cis-1,2-dichloroethene and trichloroethene 20x, 5x all others
19A-AE109R7-091819-1, cis-1,2-dichloroethene 20x
19A-AE109R7-091819-2, cis-1,2-dichloroethene 20x
19A-AE104R1-091819-1, cis-1,2-dichloroethene, tetrachloroethene, trichloroethene 20x, 5x all others
19A-AE104R3-091819-1, trichloroethene and tetrachloroethene 200x, 20x all others
19A-AE104R4-091819-1, trichloroethene and tetrachloroethene 400x, 50x all others
19A-AE104R5-091819-1, trichloroethene and tetrachloroethene 400x, 50x all others
19A-AE104R6-091819-1, trichloroethene and tetrachloroethene 400x, 50x all others
19A-AE103D-091919-1, trichloroethene and tetrachloroethene 20x

1,4-Dioxane

19A-AE103R4-091819-1, 5x
19A-AE103R5-091819-1, 5x
19A-AE104R6-091819-1, 5x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE14410		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 18, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 19 and 20, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE14410.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), and/or select metals for the following samples was assessed:

Sample ID
19A-TB01-091919-1 (Trip blank)
19A-TRC101-091919-1
19A-TRC103-091919-1
19A-AE104S-092019-1
19A-AE104D-092019-1
19A-TRC102-092019-1
19A-AE109D-092019-1
19A-GZA6-092019-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation

*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
*	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batches 499283, 499279	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Bromoform	0.057	≥ 0.100	J+/R
	Acetone	0.050	≥ 0.100	J+/R
	Methyl ethyl ketone	0.084	≥ 0.100	J+/R
	Compound	**% RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	34	≤ 20	J/UJ
	Bromoform	28	≤ 20	J/UJ
	Dibromochloromethane	22	≤ 20	J/UJ
Associated samples: 19A-TRC102-092019-1, 19A-TB01-091919-1				

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499302	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.061	≥ 0.100	J+/R
	Bromoform	0.059	≥ 0.300	J+/R
	Methyl ethyl ketone	0.088	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	30	≤ 20	J/UJ
	Bromoform	21	≤ 20	J/UJ
	Methyl ethyl ketone	21	≤ 20	J/UJ
Associated samples: 19A-AE104D-092019-1, 19A-AE104S-092019-1, 19A-AE109D-092019-1, 19A-TRC101-091919-1, 19A-TRC103-091919-1				

The RFs for all compounds listed above also fell below the QC limit in the associated CCVs. Further qualification of the data was not required.

MS/MSD Results

EPH

The percent recoveries of dibenz(a,h)anthracene (26/ok) fell below the QC acceptance limits in the MS/MSD analyses performed on sample 19A-TRC102-092019-1. In addition, the relative percent difference (23.7) for dibenz(a,h)anthracene exceeded the QC acceptance limit. The nondetect results reported for dibenz(a,h)anthracene in all samples are qualified as estimated (UJ).

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE14947		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 18, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 23, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE14947.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID
19A-AE100R1-092319-1
19A-AE100R3-092319-1
19A-AE100R4-092319-1
19A-AE100R5-092319-1
19A-AE100R6-092319-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning[#]

  Initial calibration/initial calibration and continuing calibration verifications[#]

*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
*	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499265	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.080	≥ 0.100	J+/R
	2-Hexanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	Bromomethane	0.076	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	25	≤ 20	J/UJ
	Acetone	24	≤ 20	J/UJ

	Bromomethane	32	≤ 20	J/UJ
CCV for batch 499265	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.042	≥ 0.100	J+/R
	2-Hexanone	0.061	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Bromomethane	0.072	≥ 0.100	J+/R
	Methyl ethyl ketone	0.081	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.206	≥ 0.300	J+/R
Associated samples: All				

LCS/LCSD Results

EPH

The percent recoveries (30/24) for the C9-C18 aliphatic hydrocarbon range in the LCS and LCSD analyses associated with sample 19A-AE100R1-092319-1 fell below the QC acceptance limits. The nondetect result reported for the C9-C18 aliphatic hydrocarbon range in this sample is qualified as estimated (UJ).

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE100R3-092319-1, tetrachloroethene and trichloroethene 400x, all others 100x
19A-AE100R4-092319-1, tetrachloroethene and trichloroethene 400x, all others 100x
19A-AE100R5-092319-1, trichloroethene 400x, all others 50x
19A-AE100R6-092319-1, tetrachloroethene and trichloroethene 400x, all others 20x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
VPH – MADEP VPH 5/2004

EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE14952		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 19, 2019, revised March 18, 2020		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 23, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE14952.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE23R-092319-1	19A-AE28R1-092319-1
19A-AE24-092319-1	19A-AE28R2-092319-1
19A-AE26R1-092319-1	19A-AE28R3-092319-1
19A-AE26R2-092319-1	19A-AE28R4-092319-1
19A-AE26R5-092319-1	19A-TB01-092319-1 (Trip blank)
19A-AE26S-092319-1	--

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning[#]

	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
NA	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499265	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.080	≥ 0.100	J+/R
	2-Hexanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	Bromomethane	0.076	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	25	≤ 20	J/UJ
	Acetone	24	≤ 20	J/UJ
	Bromomethane	32	≤ 20	J/UJ

	Compound	RF	QC limit	Actions (Detects/Nondetects)
CCV for batch 499265	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.081	≥ 0.100	J+/R
	2-Hexanone	0.061	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Bromomethane	0.072	≥ 0.100	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.206	≥ 0.300	J+/R
Associated samples: 19A-AE24-092319-1 (100x), 19A-AE26R1-092319-1 (20x), 19A-AE26R5-092319-1 (20x), 19A-AE28R1-092319-1 (100x), 19A-AE28R2-092319-1 (100x), 19A-TB01-092319-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499331	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.030	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.082	≥ 0.100	J+/R
	2-Hexanone	0.060	≥ 0.100	J+/R
	Tetrahydrofuran	0.027	≥ 0.050	J+/R
	Methyl ethyl ketone	0.044	≥ 0.100	J+/R
	Bromomethane	0.091	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	2-Hexanone	25	≤ 20	J/UJ
	Bromoform	23	≤ 20	J/UJ
	Bromomethane	34	≤ 20	J/UJ
CCV for batch 499331	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.075	≥ 0.100	J+/R
	2-Hexanone	0.062	≥ 0.100	J+/R
	Tetrahydrofuran	0.027	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.239	≥ 0.300	J+/R
Associated samples: 19A-AE23R-092319-1 (1000x), 19A-AE26R5-092319-1 (100x), 19A-AE28R1-092319-1 (500x), 19A-AE28R2-092319-1 (1000x), 19A-AE28R3-092319-1 (100x), 19A-AE28R4-092319-1 (100x)				

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499458	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.061	≥ 0.100	J+/R
	Bromoform	0.056	≥ 0.100	J+/R
	Methyl ethyl ketone	0.088	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	30	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	21	≤ 20	J/UJ
	Methyl ethyl ketone	21	≤ 20	J/UJ
CCV for batch 499458	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.052	≥ 0.100	J+/R
	Bromoform	0.060	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
Associated samples: 19A-AE23R-092319-1 (10,000x), 19A-AE26R1-092319-1 (5x), 19A-AE28R3-092319-1 (500x), 19A-AE28R4-092319-1 (500x)				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499703	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.052	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	21	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	22	≤ 20	J/UJ
	Methyl ethyl ketone	28	≤ 20	J/UJ
CCV for batch 499703	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.037	≥ 0.050	J+/R
	Acetone	0.055	≥ 0.100	J+/R
	Bromoform	0.058	≥ 0.100	J+/R
	Methyl ethyl ketone	0.083	≥ 0.100	J+/R
Associated samples: 19A-AE26R2-092319-1 (2x), 19A-AE26S-092319-1				

LCS/LCSD Results

EPH

The percent recoveries (30/24) fell below the QC acceptance limits for the C9-C18 aliphatic hydrocarbon range in the LCS and LCSD analysis associated with all samples. The nondetect results reported for the C9-C18 aliphatic hydrocarbon range in all samples are qualified as estimated (J-/UJ).

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for "Presumptive Certainty" status for all parameters for which there is a CAM protocol.

For samples 19A-AE26R1-092319-1, 19A-AE28R2-092319-1, and 19A-AE23R-092319-1 the final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily tetrachloroethene and trichloroethene.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE26R5-092319-1: tetrachloroethene and trichloroethene 100x, 20x all others
19A-AE26S-092319-1: cis-1,2-dichloroethene 2x
19A-AE28R1-092319-1: tetrachloroethene and trichloroethene 500x, 100x all others
19A-AE28R2-092319-1: tetrachloroethene and trichloroethene 1000x, 100x all others
19A-AE28R3-092319-1: tetrachloroethene and trichloroethene 500x, 100x all others
19A-AE28R4-092319-1: tetrachloroethene and trichloroethene 500x, 100x all others
19A-AE23R-092319-1: tetrachloroethene and trichloroethene 10,000x, 1000x all others
19A-AE24-092319-1: tetrachloroethene 400x, 100x all others
19A-AE26R1-092319-1: cis-1,2-dichloroethene, tetrachloroethene and trichloroethene 20x, 5x all others
19A-AE26R2-092319-1: trichloroethene and cis-1,2-dichloroethene 5x, 2x all others

VPH

19A-AE23R-092319-1: Adjusted and Unadjusted C5-C8 Aliphatic Hydrocarbons and toluene 100x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D

TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE16341		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 19, 2019, revised March 18, 2020		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 24, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE16341.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE102RR2-092419-1	19A-AE108R3-092419-1
19A-AE102RR4-092419-1	19A-AE108R5-092419-1
19A-AE102RR5-092419-1	19A-AE29R1-092419-1
19A-AE102RR6-092419-1	19A-AE29R6-092419-1
19A-AE108R1-092419-1	19-TB01-092419-1 (Trip blank)

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning[#]

  Initial calibration/initial calibration and continuing calibration verifications[#]

*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
*	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499706 and 500127	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.052	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	21	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	22	≤ 20	J/UJ
	Methyl ethyl ketone	28	≤ 20	J/UJ
CCV for batch 499706	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.037	≥ 0.050	J+/R
	Acetone	0.055	≥ 0.100	J+/R

	Bromoform	0.058	≥ 0.100	J+/R
	Methyl ethyl ketone	0.083	≥ 0.100	J+/R
Associated samples: 19A-AE108R1-092419-1				
	Compound	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
CCV for batch 500127	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.058	≥ 0.100	J+/R
	Bromoform	0.05	≥ 0.100	J+/R
	Methyl ethyl ketone	0.094	≥ 0.100	J+/R
	2-Hexanone	0.089	≥ 0.100	J+/R
Associated samples: 19A-AE102RR4-092419-1				
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499326	Methylene chloride	23	≤ 20	J/UJ
	Tetrahydrofuran	28	≤ 20	J/UJ
	Trans-1,2-Dichloroethene	22	≤ 20	J/UJ
Associated samples: 19A-AE102RR4-092419-1 20x, 19A-AE102RR5-092419-1 100x, 19A-AE102RR6-092419-1 100x, 19-TB01-092419-1				

MD/MS/MSD Results

All percent recoveries (%Rs) and relative percent differences (RPDs) met the QC acceptance limits with the following exceptions. Only nonconformances resulting in data qualification are listed below.

VOCs

Parent Sample*	Compound	MS % Recovery	MSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
19A-AE108R1-092419-1	N-Propylbenzene	65	ok	70	130	J-/UJ
	N-Butylbenzene	58	ok	70	130	J-/UJ
	4-Chlorotoluene	69	ok	70	130	J-/UJ
	1,4-Dichlorobenzene	69	ok	70	130	J-/UJ
	1,3,5-Trimethylbenzene	67	ok	70	130	J-/UJ
	Tetrahydrofuran	63	ok	70	130	J-/UJ
	Freon TF (Chlorinated fluorocarbon)	67	ok	70	130	J-/UJ
	Trichloroethene	63	ok	70	130	J-/UJ
	1,2,4-Trimethylbenzene	68	ok	70	130	J-/UJ
	Cymene	64	ok	70	130	J-/UJ
*Compounds in the parent sample only are qualified.						

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

For samples 19A-AE29R6-092419-1 and 19A-AE102RR6-092419-1the final concentration reported as C5-C8 aliphatic hydrocarbons may be biased high by the presence of non-petroleum compounds eluting in the range, primarily tetrachloroethene and trichloroethene.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE102RR2-092419-1: 5x all compounds
19A-AE102RR4-092419-1: 20x for tetrachloroethene and trichloroethene, 20x all others
19A-AE102RR5-092419-1: 100x trichloroethene, 20x others
19A-AE102RR6-092419-1: 100x trichloroethene, 20x others
19A-AE29R6-092419-1: 5x all compounds

1,4-Dioxane

19A-AE29R6-092419-1: 5x
19A-AE102RR6-092419-1: 5x

Nitrite

19A-AE29R6-092419-1: 10x due to interference from elevated level of chloride.

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.
The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE17362		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 19, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 24 and 25, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE17362.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE101R1-092519-1	19A-AE102M-092519-2 [Field duplicate of 19A-AE102M-092519-1]
19A-AE101R1-092519-2 [Field duplicate of 19A-AE101R1-092519-1]	19A-AE29R3-092419-1
19A-AE101R2-092519-1	19A-AE29R5-092419-1
19A-AE101R3-092519-1	19A-EB01-092519-1 [Equipment blank]
19A-AE102D-092519-1	19A-TB02-092419-1 [Trip blank]
19A-AE102M-092519-1	--

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation

*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
*	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499331	1,2-Dibromo-3-chloropropane	0.046	≥ 0.050	J+/R
	Acetone	0.030	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.082	≥ 0.100	J+/R
	2-Hexanone	0.060	≥ 0.100	J+/R
	Tetrahydrofuran	0.027	≥ 0.050	J+/R
	Methyl ethyl ketone	0.044	≥ 0.100	J+/R
	Bromomethane	0.091	≥ 0.100	J+/R
	Compound	**% RSD**	**QC limit**	**Actions (Detects/Nondetects)**

	Bromomethane	34	≤ 20	J/UJ
	2-Hexanone	25	≤ 20	J/UJ
	Bromoform	23	≤ 20	J/UJ
CCV for batch 499331	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.075	≥ 0.100	J+/R
	2-Hexanone	0.062	≥ 0.100	J+/R
	Tetrahydrofuran	0.027	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.239	≥ 0.300	J+/R
Associated samples: 19A-TB02-092419-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499710, 499919	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.063	≥ 0.100	J+/R
	2-Hexanone	0.054	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	31	≤ 20	J/UJ
CCV for batch 499710	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.040	≥ 0.050	J+/R
	Acetone	0.028	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.075	≥ 0.100	J+/R
	2-Hexanone	0.058	≥ 0.100	J+/R
	Tetrahydrofuran	0.023	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.212	≥ 0.300	J+/R
Associated samples: 19A-AE101R2-092519-1, 19A-AE101R3-092519-1, 19A-EB01-092519-1				
CCV for batch 499919	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.033	≥ 0.050	J+/R
	Acetone	0.023	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.070	≥ 0.100	J+/R
	2-Hexanone	0.050	≥ 0.100	J+/R
	Tetrahydrofuran	0.022	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.181	≥ 0.300	J+/R
	Bromoform	0.096	≥ 0.100	J+/R

	Bromomethane	0.077	≥ 0.100	J+/R
Associated samples: 19A-AE101R1-092519-2				
ICAL for batch 499453	**Compound**	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Chloroethane	29	≤ 20	J/UJ
	Methyl ethyl ketone	21	≤ 20	J/UJ
	Methylene chloride	26	≤ 20	J/UJ
	Tetrahydrofuran	24	≤ 20	J/UJ
Associated samples: 19A-AE101R1-092519-1, 19A-AE102D-092519-1, 19A-AE102M-092519-1, 19A-AE102M-092519-2, 19A-AE29R3-092419-1, 19A-AE29R5-092419-1				

MD/MS/MSD Results

1,4-Dioxane

The relative percent difference (RPD) exceeded the QC acceptance limit in the MS/MSD analysis performed on sample 19A-AE101R3-092519-1. The positive result reported for 1,4-dioxane in sample 19A-AE101R3-092519-1 is qualified as estimated (J).

LCS/LCSD Results

VOCs

The LCS and/or LCSD percent recoveries fell below the QC acceptance limits for the compounds tabulated below.

	Compound	**LCS % Recovery**	**LCSD % Recovery**	**Lower Limit**	**Upper Limit**	**Data Validation Actions (Detects/Nondetects)**
Batch 499919	Carbon disulfide	69	ok	70	130	J-/UJ
	Methylene chloride	69	ok	70	130	J-/UJ
	Vinyl chloride	69	66	70	130	J-/UJ
Associated sample: 19A-AE101R1-092519-2 (2x)						

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE29R5-092419-1, cis-1,2-dichloroethene 20x

19A-AE101R1-092519-1, cis-1,2-dichloroethene 20x
19A-AE101R1-092519-2, tetrachloroethene 20x and 2x for all others
19A-AE101R2-092519-1, cis-1,2-dichloroethene and trichloroethene 20x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE19865		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 20, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 26, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE19865.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs) for the following samples was assessed:

Sample ID
19A-TB01-092619-1 [Trip blank]
19A-MW7-092619-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning#
  Initial calibration/initial calibration and continuing calibration verifications#
* Laboratory blanks/equipment blanks/trip blanks
* Surrogate recoveries (%Rs)
* Labeled compound recovery (1,4-dioxane only)#

NA	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
*	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 500123	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	2-Hexanone	0.054	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.063	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	31	≤ 20	J/UJ
CCV for batch 500123	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.038	≥ 0.050	J+/R
	Acetone	0.023	≥ 0.100	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	2-Hexanone	0.053	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R

	1,1,2,2-Tetrachloroethane	0.198	≥ 0.300	J+/R
Associated samples: 19A-MW7-092619-1				
Calibration	**Compound**	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499937	1,2-Dibromo-3-chloropropane	21	≤ 20	J/UJ
	Acetone	22	≤ 20	J/UJ
	Bromoform	22	≤ 20	J/UJ
	Methyl ethyl ketone	28	≤ 20	J/UJ
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 499937	1,2-Dibromo-3-chloropropane	0.036	≥ 0.050	J+/R
	Acetone	0.053	≥ 0.100	J+/R
	Bromoform	0.052	≥ 0.100	J+/R
	Methyl ethyl ketone	0.086	≥ 0.100	J+/R
CCV for batch 499937	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.034	≥ 0.050	J+/R
	Acetone	0.049	≥ 0.100	J+/R
	Bromoform	0.043	≥ 0.100	J+/R
	Methyl ethyl ketone	0.097	≥ 0.100	J+/R
	2-Hexanone	0.093	≥ 0.100	J+/R
Associated samples: 19-TB02-093019-1				

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-MW7-092619-1, 20x for cis-1,2-dichloroethene

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.
The following method was used to analyze samples:

VOCs – 8260C

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE23303		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 20, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 30, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE23303.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, and select metals for the following samples was assessed:

Sample ID	Sample ID
19A-AE101D-093019-1	19A-MW5-093019-1
19A-AE101R6-093019-1	19A-TB01-093019-1 [Trip blank]
19A-AE101S-093019-1	19A-TRC401R-093019-1
19A-EMW10D-093019-1	19A-GZA14A-093019-1
19A-EMW10R-093019-1	--

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning[#]

Initial calibration/initial calibration and continuing calibration verifications[#]

*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
*	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
*	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 500370, 500484, 500551	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.063	≥ 0.100	J+/R
	2-Hexanone	0.054	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	31	≤ 20	J/UJ
CCV for batch 500370	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.045	≥ 0.050	J+/R
	Acetone	0.027	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.072	≥ 0.100	J+/R

	2-Hexanone	0.059	≥ 0.100	J+/R
	Tetrahydrofuran	0.023	≥ 0.050	J+/R
	Bromomethane	0.085	≥ 0.100	J+/R
	Methyl ethyl ketone	0.042	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.241	≥ 0.300	J+/R
Associated samples: 19A-AE101R6-093019-1 20x, 19A-TB01-093019-1, 19A-TRC401R-093019-1 20x				
	Compound	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
CCV for batch 500484	1,2-Dibromo-3-chloropropane	0.042	≥ 0.050	J+/R
	Acetone	0.031	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.080	≥ 0.100	J+/R
	2-Hexanone	0.064	≥ 0.100	J+/R
	Tetrahydrofuran	0.028	≥ 0.050	J+/R
	Methyl ethyl ketone	0.046	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.219	≥ 0.300	J+/R
	Bromomethane	0.075	≥ 0.100	J+/R
Associated samples: 19A-AE101D-093019-1, 19A-AE101S-093019-1, 19A-EMW10R-093019-1, 19A-MW5-093019-1				
	Compound	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
CCV for batch 500551	1,2-Dibromo-3-chloropropane	0.043	≥ 0.050	J+/R
	Acetone	0.028	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.079	≥ 0.100	J+/R
	2-Hexanone	0.062	≥ 0.100	J+/R
	Tetrahydrofuran	0.026	≥ 0.100	J+/R
	Methyl ethyl ketone	0.040	≥ 0.300	J+/R
	1,1,2,2-Tetrachloroethane	0.214	≥ 0.100	J+/R
Associated samples: 19A-EMW10D-093019-1				

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for “Presumptive Certainty” status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE101R6-093019-1: cis-1,2-dichloroethene and trichloroethene 200x, 20x all others
19A-AE101D-093019-1: cis-1,2-dichloroethene 20x
19A-EMW10D-093019-1: tetrachloroethene and trichloroethene 20x
19A-TRC401R-093019-1: tetrachloroethene and trichloroethene 400x, 20x all others

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
Arsenic, manganese, and iron – 6010C

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE24659		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 20, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 30, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE24659.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), volatile petroleum hydrocarbons (VPH), and extractable petroleum hydrocarbons (EPH) for the following samples was assessed:

Sample ID
19-TB02-093019-1 [Trip blank]
19-PZ2S-093019-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

* Chain-of-custody (COC)/sample integrity
* Holding times and sample preservation
* GC/MS tuning#
  Initial calibration/initial calibration and continuing calibration verifications#
* Laboratory blanks/equipment blanks/trip blanks
* Surrogate recoveries (%Rs)
* Labeled compound recovery (1,4-dioxane only)#

	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

VOCs

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 500551	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	2-Hexanone	0.054	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.063	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	31	≤ 20	J/UJ
CCV for batch 500551	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.043	≥ 0.050	J+/R
	Acetone	0.028	≥ 0.100	J+/R
	Methyl ethyl ketone	0.040	≥ 0.100	J+/R
	2-Hexanone	0.062	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.079	≥ 0.100	J+/R
	Tetrahydrofuran	0.026	≥ 0.050	J+/R

	1,1,2,2-Tetrachloroethane	0.214	≥ 0.300	J/R
Associated samples: 19-TB02-093019-1				
Calibration	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
ICAL for batch 500874	1,2-Dibromo-3-chloropropane	0.033	≥ 0.050	J+/R
	Acetone	0.033	≥ 0.100	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	2-Hexanone	0.059	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.073	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Bromomethane	0.087	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	32	≤ 20	J/UJ
	Bromomethane	29	≤ 20	J/UJ
	Chloroethane	23	≤ 20	J/UJ
CCV for batch 500874	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.04	≥ 0.050	J+/R
	Acetone	0.027	≥ 0.100	J+/R
	Methyl ethyl ketone	0.038	≥ 0.100	J+/R
	2-Hexanone	0.052	≥ 0.100	J+/R
	4-Methyl-2-pentanone	0.071	≥ 0.100	J+/R
	Tetrahydrofuran	0.022	≥ 0.050	J+/R
	1,1,2,2-Tetrachloroethane	0.206	≥ 0.300	J+/R
Associated samples: 19-PZ2S-093019-1				

MD/MS/MSD Results

All percent recoveries (%Rs) and relative percent differences (RPDs) met the QC acceptance limits with the following exceptions. Only nonconformances resulting in data qualification are listed below.

EPH

Parent Sample*	**Compound**	**MS % Recovery**	**MSD % Recovery**	**Lower Limit**	**Upper Limit**	**Data Validation Actions (Detects/Nondetects)**
19-PZ2S-093019-1	C9-C18 Aliphatic hydrocarbon range	ok	39	40	140	J-/UJ
	Benzo(g,h,i)perylene	ok	36	40	140	J-/UJ
	Dibenz(a,h) anthracene	ok	39	40	140	J-/UJ
*Compounds in the parent sample only are qualified.						

In addition to the low MSD recoveries tabulated above, the MS/MSD RPDs for the C9-C18 aliphatic hydrocarbon range, benzo(g,h,i)perylene, and dibenz(a,h) anthracene exceeded the QC limit. Further qualification is not required.

LCS/LCSD Results

EPH

The LCS percent recovery (30) fell below the QC acceptance limits for the C9-C18 aliphatic hydrocarbon range. The nondetect result reported for the C9-C18 aliphatic hydrocarbon range in sample 19-PZ2S-093019-1 is qualified as estimated (UJ).

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for "Presumptive Certainty" status for all parameters for which there is a CAM protocol.

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Phoenix Environmental Laboratories, Inc. SDG: GCE18817		
From	Lori Herberich		
Reviewed by	Paula DiMattei		60552044.13
Date	November 20, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 25 and 26, 2019 and tabulated below. Phoenix Environmental Laboratories, Inc. (Phoenix) in Manchester, CT analyzed the samples and reported the data in sample delivery group (SDG) GCE18817.

The data review was performed with reference to Massachusetts Department of Environmental Protection (MADEP) document WSC-CAM-VIIA, *Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data in Support of Response Actions Conducted Under the Massachusetts Contingency Plan (MCP)*, Revision 2, January19, 2017, MADEP Bureau of Waste Site Cleanup; MADEP *MCP Representativeness Evaluations and Data Usability Assessments*; Policy #WSC-07-350; September 19, 2007; the applicable MADEP Compendium of Analytical Methods performance standards; and the project-specific work plan. The current EPA Region I Data Validation Guidelines were used as a reference for evaluating the data.

Data for volatile organic compounds (VOCs), 1,4-dioxane, volatile petroleum hydrocarbons (VPH), extractable petroleum hydrocarbons (EPH), select metals, total organic carbon (TOC), nitrate, nitrite, chloride, sulfate, and/or sulfide for the following samples was assessed:

Sample ID	Sample ID
19A-AE101R5-092519-1	19A-STM3D-092619-1
19A-AE111R1-092519-1	19A-STM8D-092619-1
19A-AE111R3-092519-1	19A-STM8R-092619-1
19A-AE111R5-092519-1	19A-STM8R1-092619-1
19A-AE111R6-092519-1	19A-TB01-092519-1 [Trip blank]
19A-EB02-092519-1 [Equipment blank]	19A-TRC201R-092519-1
19A-GZA101R-092619-1	19A-STM3D-092619-1
19A-GZA12-092619-1	19A-GZA10-092619-1

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

*	Chain-of-custody (COC)/sample integrity
*	Holding times and sample preservation
*	GC/MS tuning[#]
	Initial calibration/initial calibration and continuing calibration verifications[#]
*	Laboratory blanks/equipment blanks/trip blanks
*	Surrogate recoveries (%Rs)
*	Labeled compound recovery (1,4-dioxane only)[#]
*	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Interference check standard results[#]
NA	Serial dilution results[#]
NA	Field duplicate results
*	Internal standard (IS) performance[#]
*	General reporting issues

The laboratory is required to completely and accurately narrate all quality control exceptions. The symbol (#) indicates that nonconformances concerning this review element are only described in the SDG case narrative since complete results for these review elements are not a required report deliverable. The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An "NA" indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

Initial Calibration/Initial Calibration and Continuing Calibration Verifications

<u>VOCs</u>

The laboratory narrated the nonconformances tabulated below for the initial calibration and/or continuing calibration verification (CCV) response factors (RFs), percent relative standard deviations (% RSDs), percent differences or percent drifts (%Ds) that did not meet the QC limits.

Calibration	Compound	RF	QC limit	Actions (Detects/Nondetects)
ICAL for batch 499710, 499919, 499482	1,2-Dibromo-3-chloropropane	0.039	≥ 0.050	J+/R
	Acetone	0.025	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.063	≥ 0.100	J+/R
	2-Hexanone	0.054	≥ 0.100	J+/R
	Tetrahydrofuran	0.024	≥ 0.050	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	Compound	**%RSD**	**QC limit**	**Actions (Detects/Nondetects)**
	Bromomethane	31	≤ 20	J/UJ
CCV for batch 499710	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.040	≥ 0.050	J+/R
	Acetone	0.028	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.075	≥ 0.100	J+/R
	2-Hexanone	0.058	≥ 0.100	J+/R
	Tetrahydrofuran	0.023	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.212	≥ 0.300	J+/R
Associated samples: 19A-AE111R1-092519-1, 19A-AE111R3-092519-1, 19A-AE111R5-092519-1, 19A-AE111R6-092519-1, 19A-EB02-092519-1, 19A-GZA12-092619-1, 19A-STM3D-092619-1, 19A-STM8D-092619-1, 19A-STM8R-092619-1, 19A-STM8R1-092619-1, 19A-TRC201R-092519-1				
CCV for batch 499919	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.033	≥ 0.050	J+/R
	Acetone	0.023	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.070	≥ 0.100	J+/R
	2-Hexanone	0.050	≥ 0.100	J+/R
	Tetrahydrofuran	0.022	≥ 0.050	J+/R
	Methyl ethyl ketone	0.041	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.181	≥ 0.300	J+/R
	Bromoform	0.096	≥ 0.100	J+/R
	Bromomethane	0.077	≥ 0.100	J+/R
Associated samples: 19A-AE101R5-092519-1 (200x), 19A-AE101R5-092519-1 (5x)				
CCV for batch 499482	**Compound**	**RF**	**QC limit**	**Actions (Detects/Nondetects)**
	1,2-Dibromo-3-chloropropane	0.044	≥ 0.050	J+/R
	Acetone	0.024	≥ 0.100	J+/R
	4- Methyl-2-pentanone	0.074	≥ 0.100	J+/R
	2-Hexanone	0.058	≥ 0.100	J+/R
	Tetrahydrofuran	0.025	≥ 0.050	J+/R
	Methyl ethyl ketone	0.037	≥ 0.100	J+/R
	1,1,2,2-Tetrachloroethane	0.233	≥ 0.300	J+/R

Associated samples: 19A-TB01-092519-1, 19A-TRC201R-092519-1, 19A-GZA101R-092619-1 (20x)

LCS/LCSD Results

VOCs

The LCS and/or LCSD percent recoveries fell below the QC acceptance limits for the compounds tabulated below.

	Compound	LCS % Recovery	LCSD % Recovery	Lower Limit	Upper Limit	Data Validation Actions (Detects/Nondetects)
Batch 499919	Carbon disulfide	69	ok	70	130	J-/UJ
	Methylene chloride	69	ok	70	130	J-/UJ
	Vinyl chloride	69	66	70	130	J-/UJ
Associated samples: 19A-AE101R5-092519-1 (200x),19A-GZA101R-092619-1 (5x)						

EPH

The LCS/LCSD percent recoveries (34/38) fell below the QC acceptance limits for the C9-C18 aliphatic hydrocarbon range. The nondetect result reported for the C9-C18 aliphatic hydrocarbon range in the associated sample 19A-STM8R1-092619-1 is qualified as estimated (UJ).

General Reporting Issues

The MassDEP Analytical Protocol Certification Form was reviewed and indicates that the data have met the requirements for "Presumptive Certainty" status for all parameters for which there is a CAM protocol.

The following samples were diluted at the noted dilution factor due to concentrations of one or more compounds which would have exceeded the calibration range if analyzed undiluted. Sample quantitation limits were raised accordingly.

VOCs

19A-AE101R5-092519-1: tetrachloroethene, trichloroethene, cis-1,2-dichloroethene 200x, others 20x
19A-GZA101R-092619-1: tetrachloroethene 20x, 5x others
19A-TRC201R-092519-1: cis-1,2-dichloroethene, trans-1,2-dichloroethene, 1,1-dichloroethane, trichloroethene 20x

Nitrite

19A-GZA12-092619-1: 5x

Laboratory quantitation limits exceed Project Action Limits (PALs) for several VOCs in the undiluted analyses. Analytical dilutions, as noted above, will further elevate those quantitation limits and will cause additional quantitation limits to exceed the PALs. Review elements which may impact sensitivity (i.e., laboratory and field blanks or sample dilutions) have also been reviewed and are summarized, if applicable.

The following methods were used to analyze samples:

VOCs – 8260C
1,4-Dioxane - 8270D
TOC – SM5310-B
VPH – MADEP VPH 5/2004
EPH - MADEP EPH 5/2004
Arsenic, manganese, and iron – 6010C
Nitrate, nitrite, chloride, and sulfate – 300.0
Sulfide – SM4500-S D

AECOM
250 Apollo Drive
Chelmsford, Massachusetts 01824

978.905.2100 tel
978.905.2101 fax

Memorandum

To	Scott Olson	Page	1
Subject	Data Validation/Usability Summary Lockheed Martin-Wilmington, MA Site Pace Analytical Energy Services Work Orders: 31482 and 31567		
From	Kristin Rutherford		
Reviewed by	Lori Herberich		60552044.13
Date	November 12, 2019		

Data validation was performed on the data for samples collected at the Lockheed Martin site in Wilmington, MA on September 16, 17, 18, and 19, 2019 and tabulated below. Pace Analytical Energy Services (PACE) in Pittsburgh, PA analyzed the samples and reported the data in work orders 31482 and 31567.

The data review was performed with reference to method Dissolved Gases – Laboratory SOP AM20GAX based on RSK 175, current Region 1 - EPA New England validation guidelines, and the project-specific work plan.

Work Order	Sample ID
34182	19A-AE105S-091619-1
	19A-AE106R3-091619-1
	19A-AE105R2-091619-1
	19A-EMW11R2-091719-1
	19A-TRC301R4-091719-1
	19A-AE106D-091719-1
	19A-AE103R5-091819-1
	19A-AE103R1-091819-1
	19A-AE109R5-091819-1
	19A-AE103D-091919-1
	19A-TB01-091616-1 (Trip blank)
31567	19A-AE28R2-092319-1
	19A-AE26R1-092319-1
	19A-AE100R5-092319-1
	19A-AE108R1-092419-1
	19A-AE29R6-092419-1
	19A-AE102RR6-092419-1

Work Order	Sample ID
31567	19A-AE102M-092519-1
	19A-AE102M-092519-2 (Field duplicate of 19A-AE102M-092519-1)
	19A-GZA101R-092619-1
	19A-GZA12-092619-1
	19A-STM8R1-092619-1
	19A-TB01-092319-1 (Trip blank)

The following method was used to analyze the samples:

Dissolved Gases– Laboratory SOP AM20GAX based on RSK 175 [Hydrogen, Methane, Ethane, Ethene, Acetylene and Propane]

DATA REVIEW ELEMENTS

The assessment was based on the following review elements:

*	Chain-of-custody (COC)/sample integrity
*	Holding times and sample preservation
NA	Initial calibration/initial calibration and continuing calibration verifications
*	Laboratory blanks
	Trip blank/Equipment blanks
	Matrix duplicate (MD)/matrix spike (MS) and/or matrix spike duplicate (MSD) results
*	Laboratory control sample/laboratory control duplicate sample (LCS/LCSD) results
*	Field duplicate results
*	General reporting issues

The symbol (*) indicates that all criteria were met, no issues were narrated, and/or no qualifications were required for these review elements. An “NA” indicates that the parameter was not included as part of this data set or was not applicable to this validation and therefore not reviewed. The data appear valid as reported, were qualified as indicated below if required, and may be used for decision making purposes.

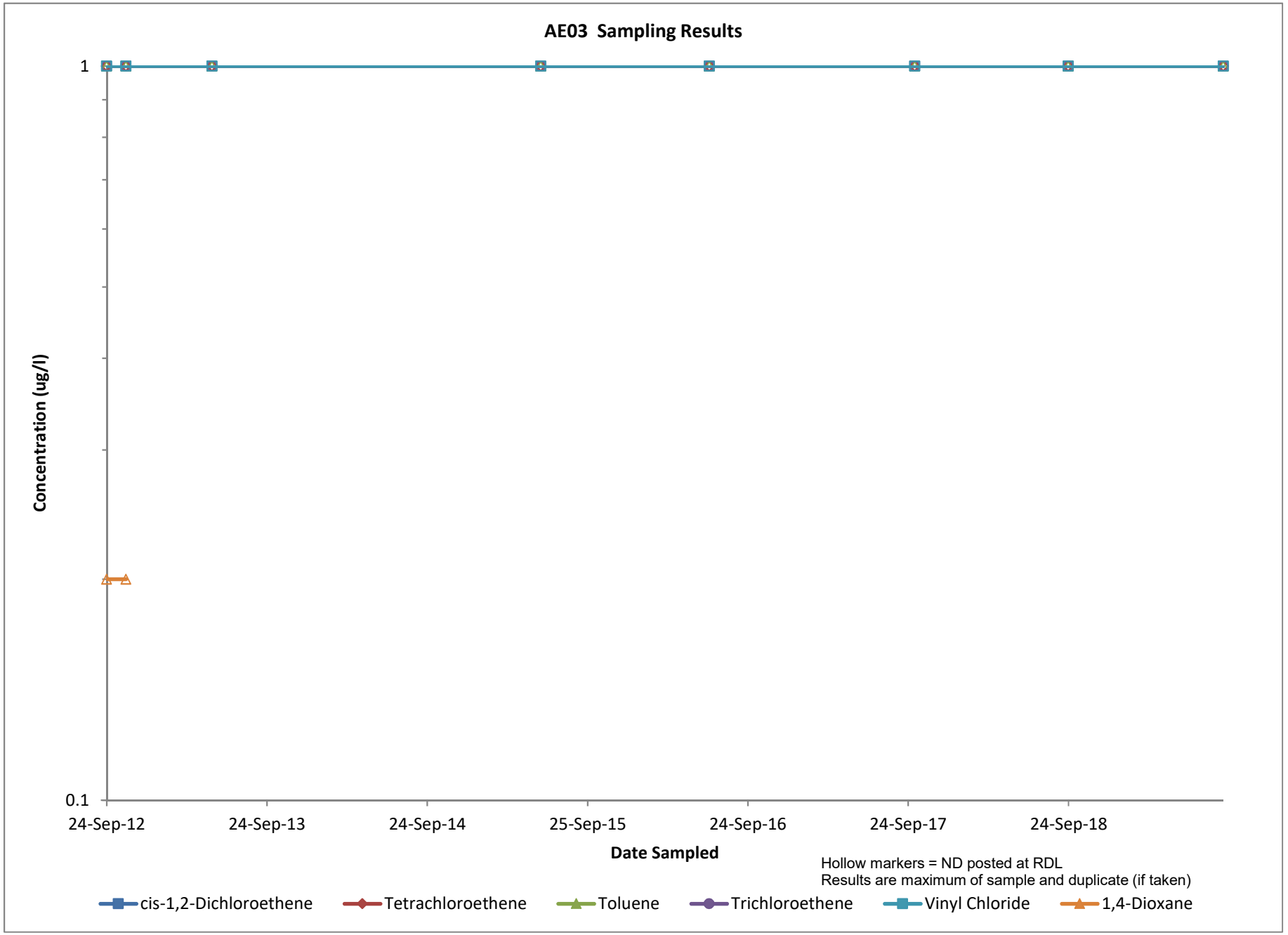
Trip Blanks/Equipment Blanks

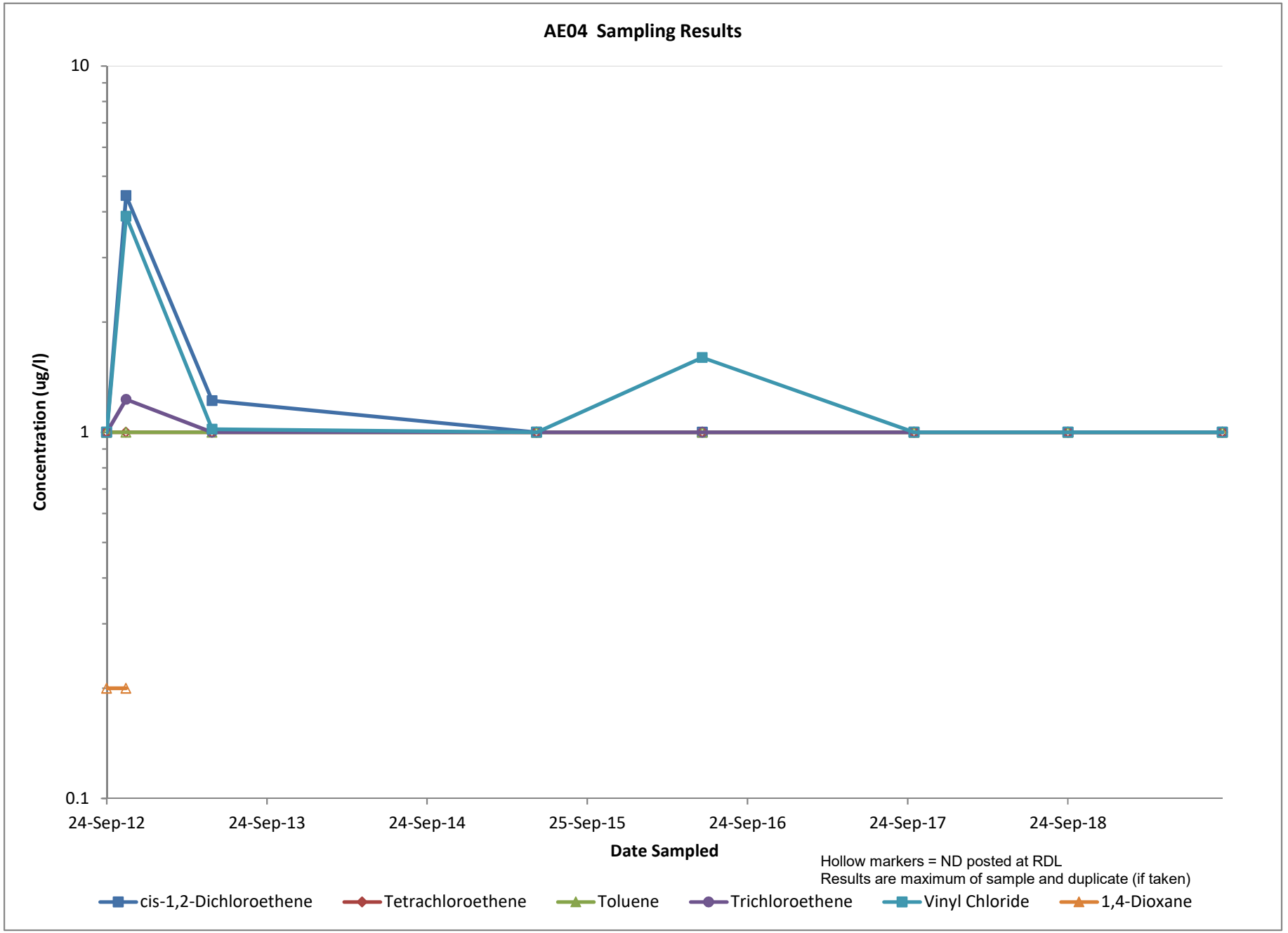
Ethene was detected in trip blank sample 19A-TB01-092319-1. Results for ethene in associated samples 19A-GZA101R-092619-1 and 19A-STM8R1-092619-1 in work order 31567 were qualified as nondetect (U) at the reporting limit.

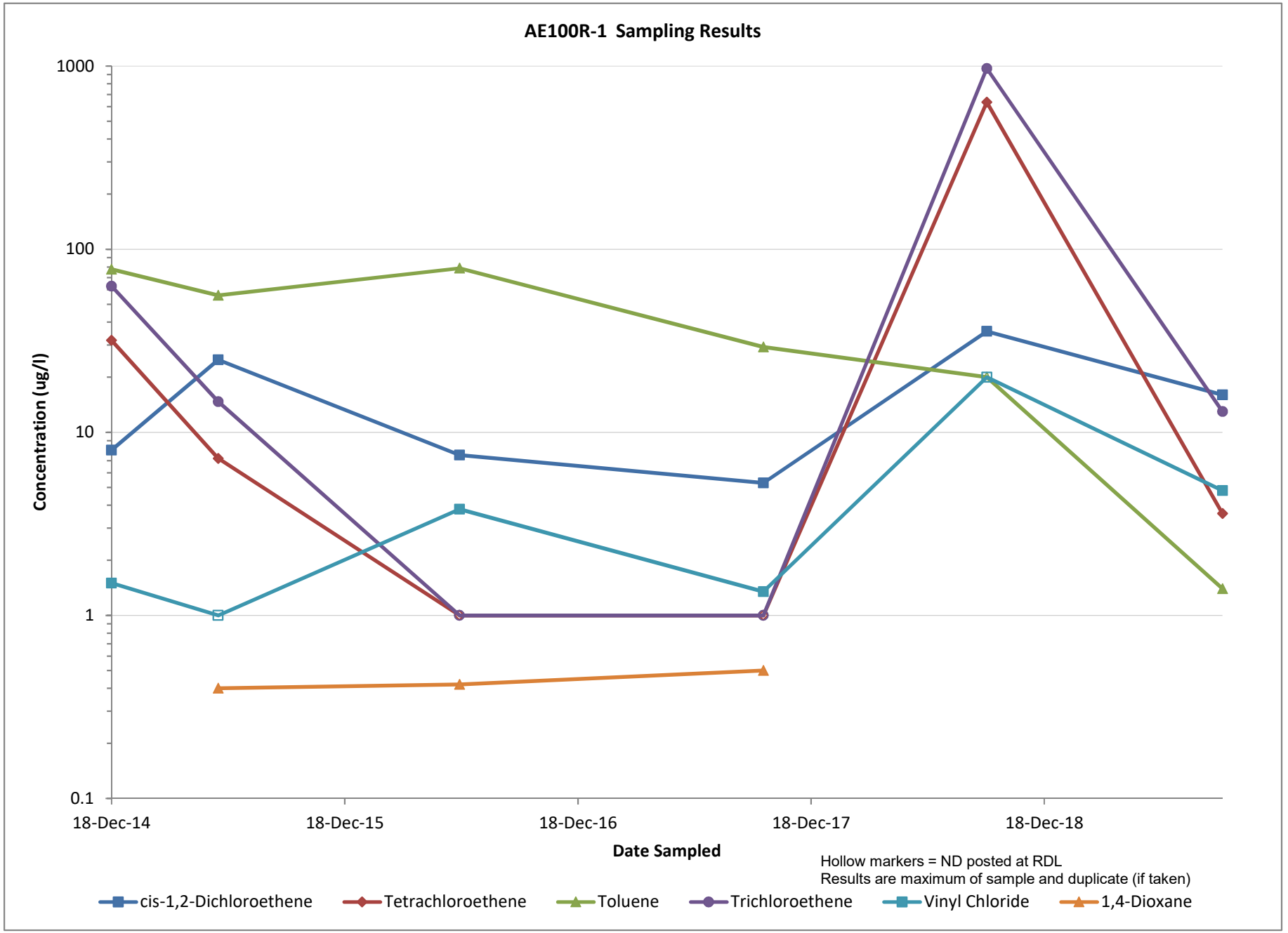
MS/MSD Results

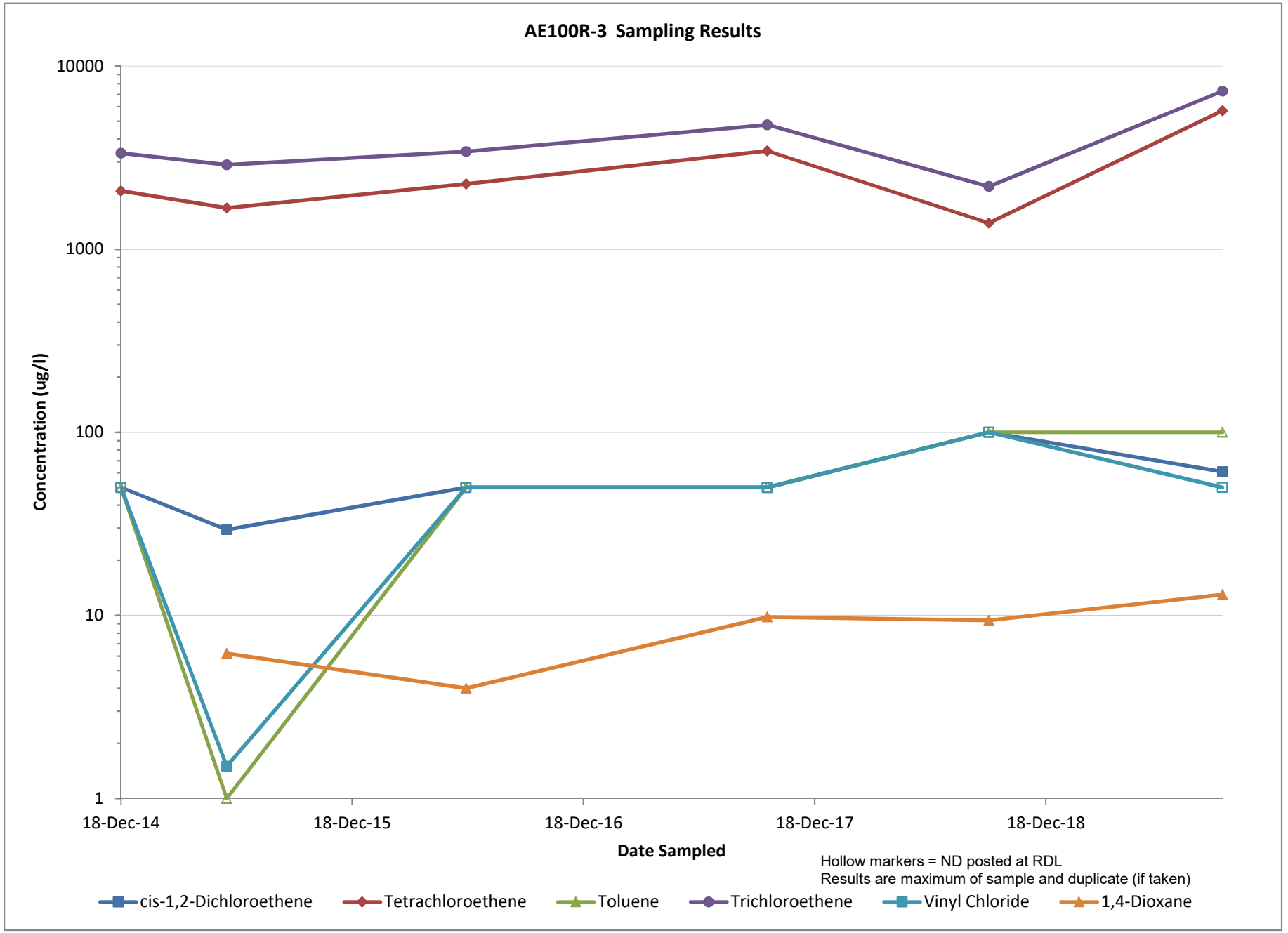
The percent recoveries fell below the QC acceptance limits for the MS/MSD analyses performed on sample 19A-AE108R1-092419-1 reported in work order 31567. The positive methane results in all samples in work order 31567 were qualified as estimated with a low bias (J-).

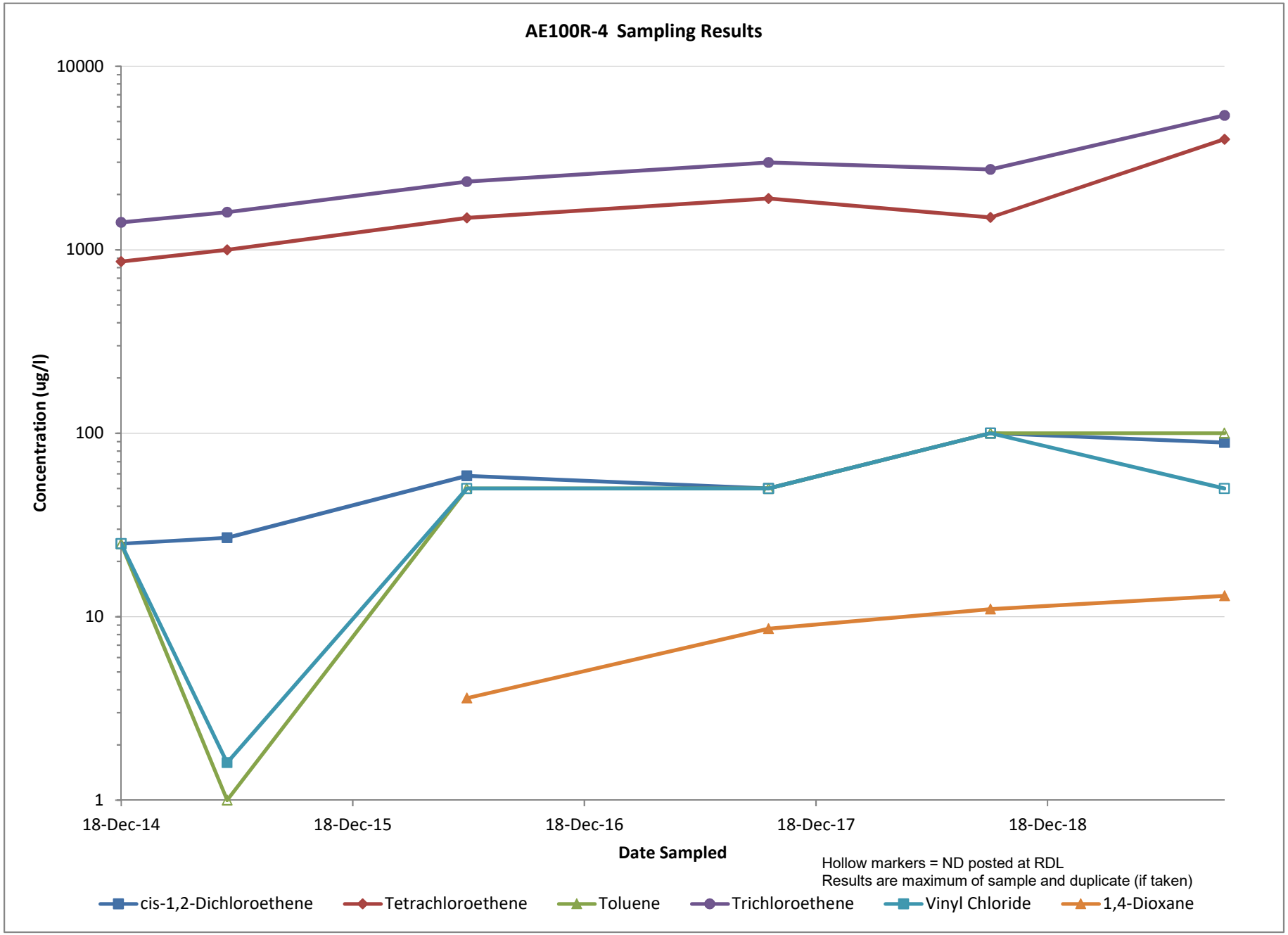
APPENDIX F – GROUNDWATER CONCENTRATION TREND GRAPHS

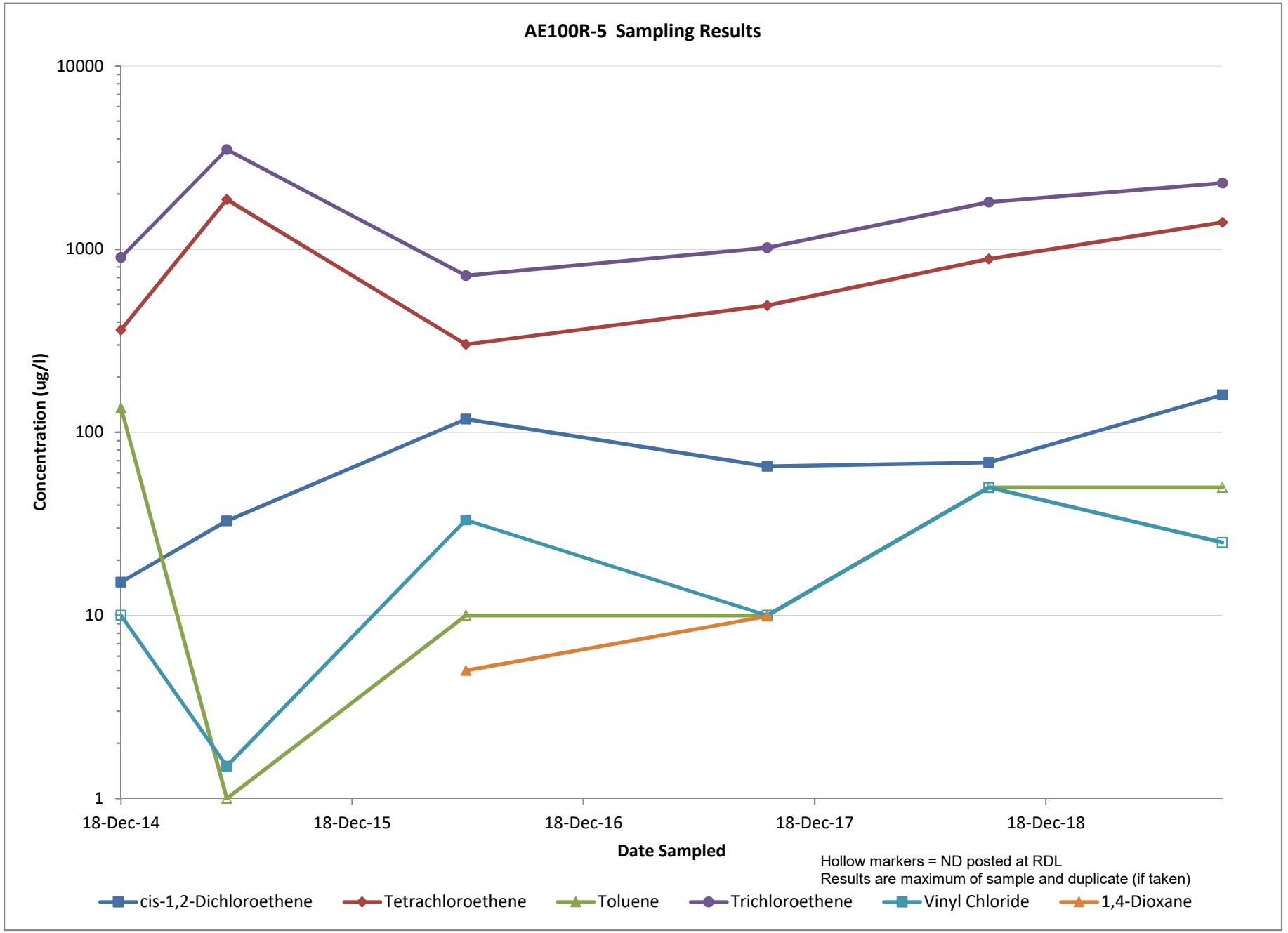

AE03 Sampling Results
1
0.1
Concentration (ug/l)
24-Sep-12
24-Sep-13
24-Sep-14
25-Sep-15
24-Sep-16
24-Sep-17
24-Sep-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

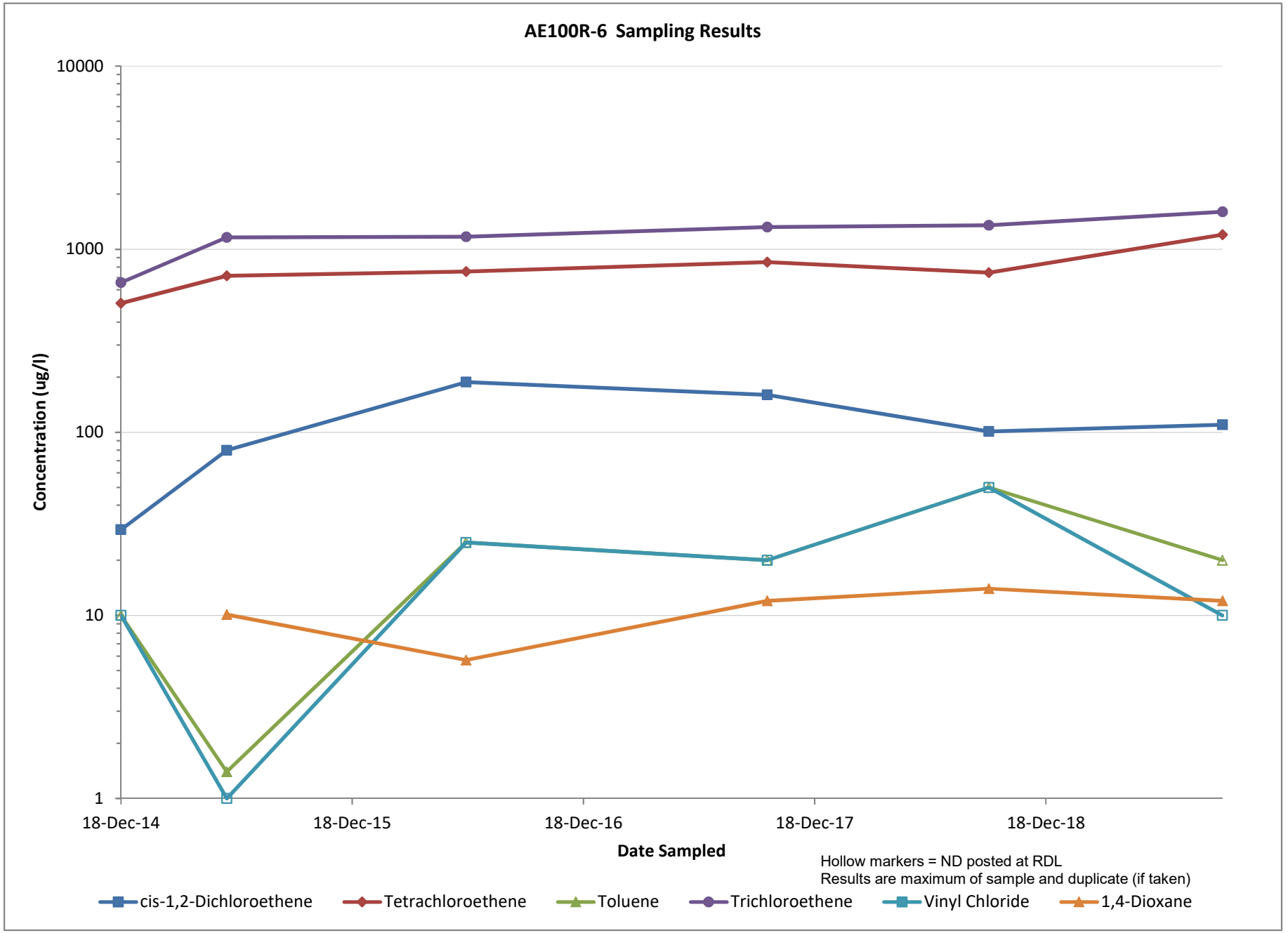

AE04 Sampling Results
10
1
0.1
Concentration (ug/l)
24-Sep-12
24-Sep-13
24-Sep-14
25-Sep-15
24-Sep-16
24-Sep-17
24-Sep-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

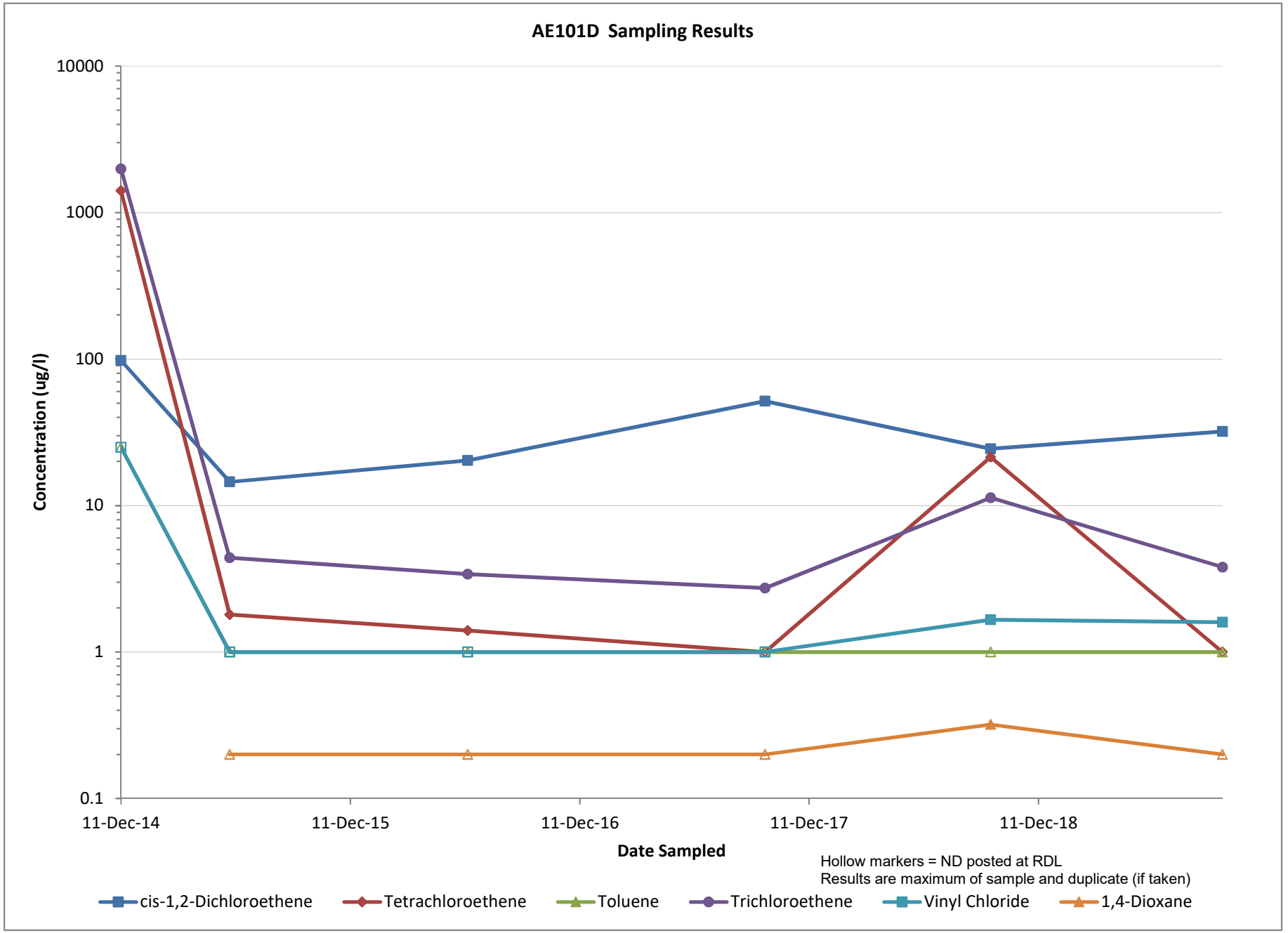

AE100R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

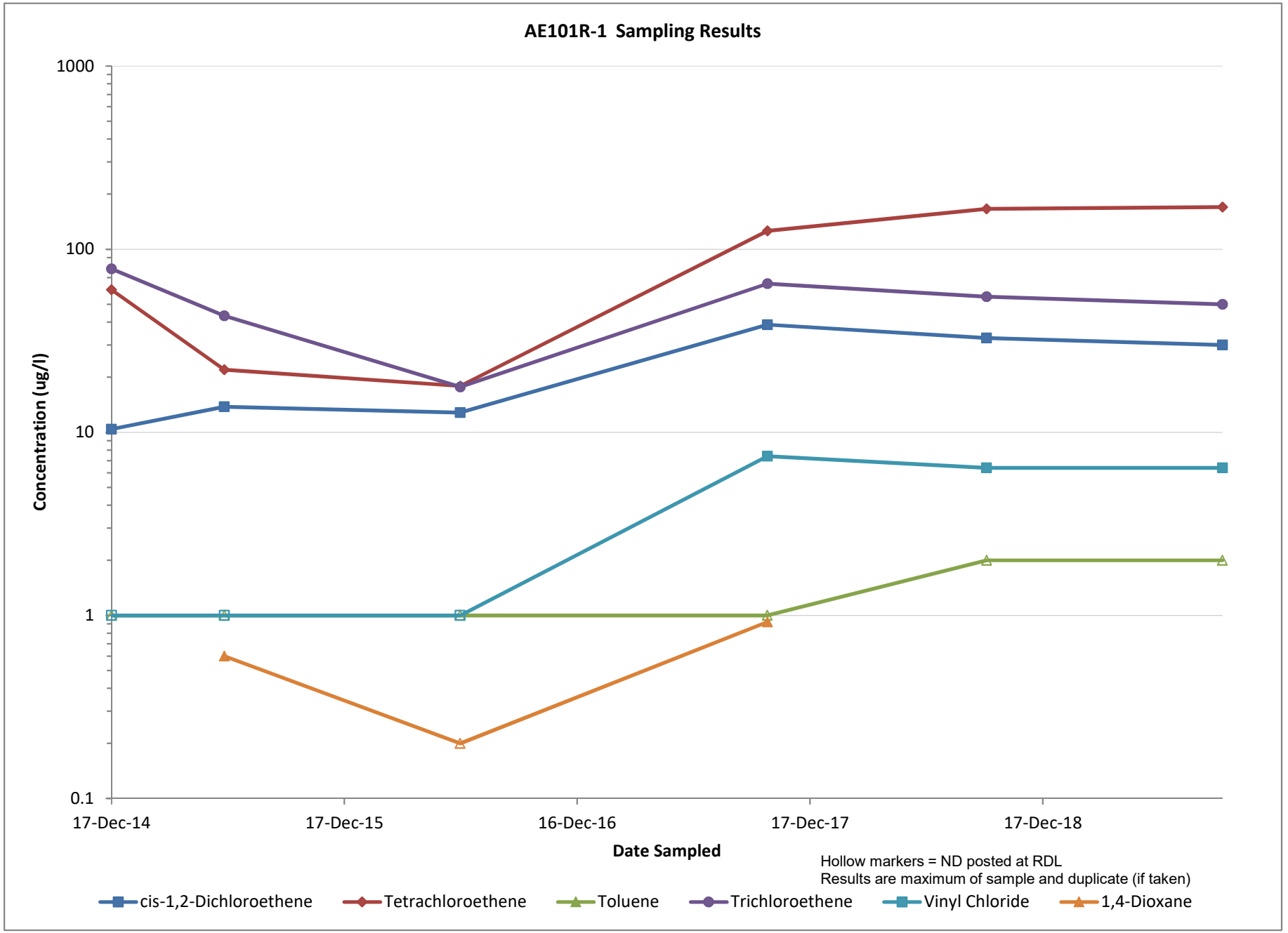

AE100R-3 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

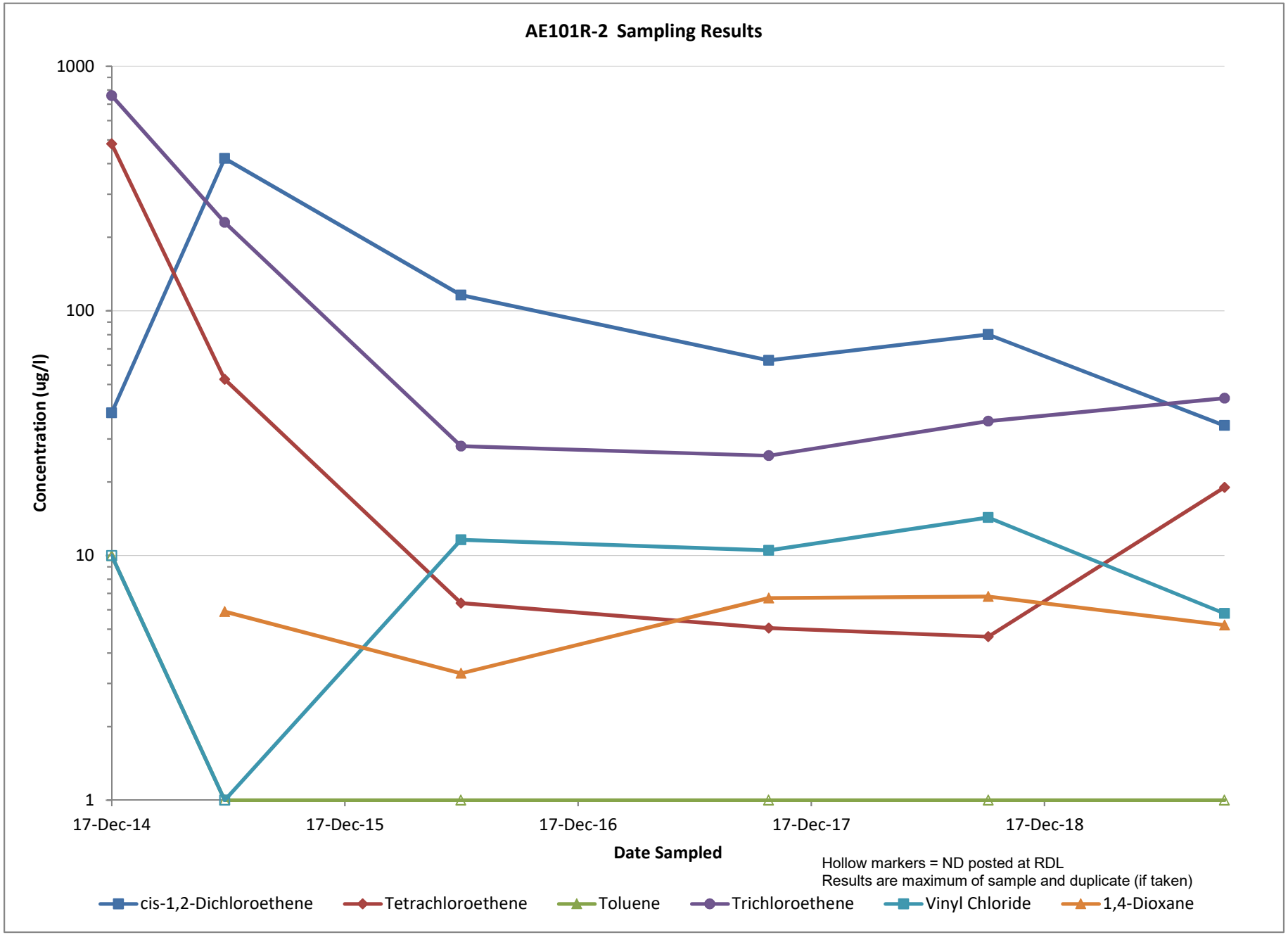

AE100R-4 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

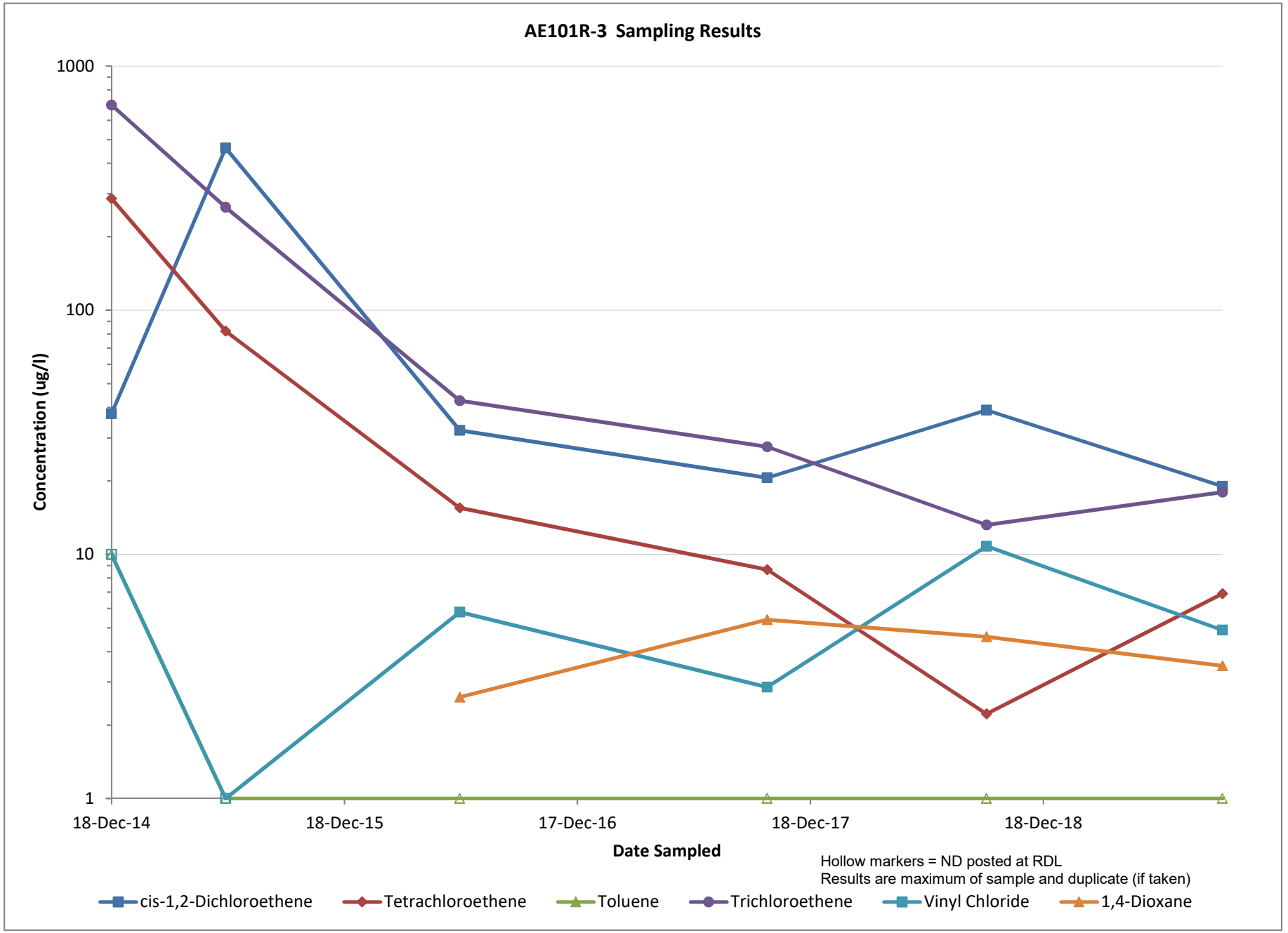

AE100R-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

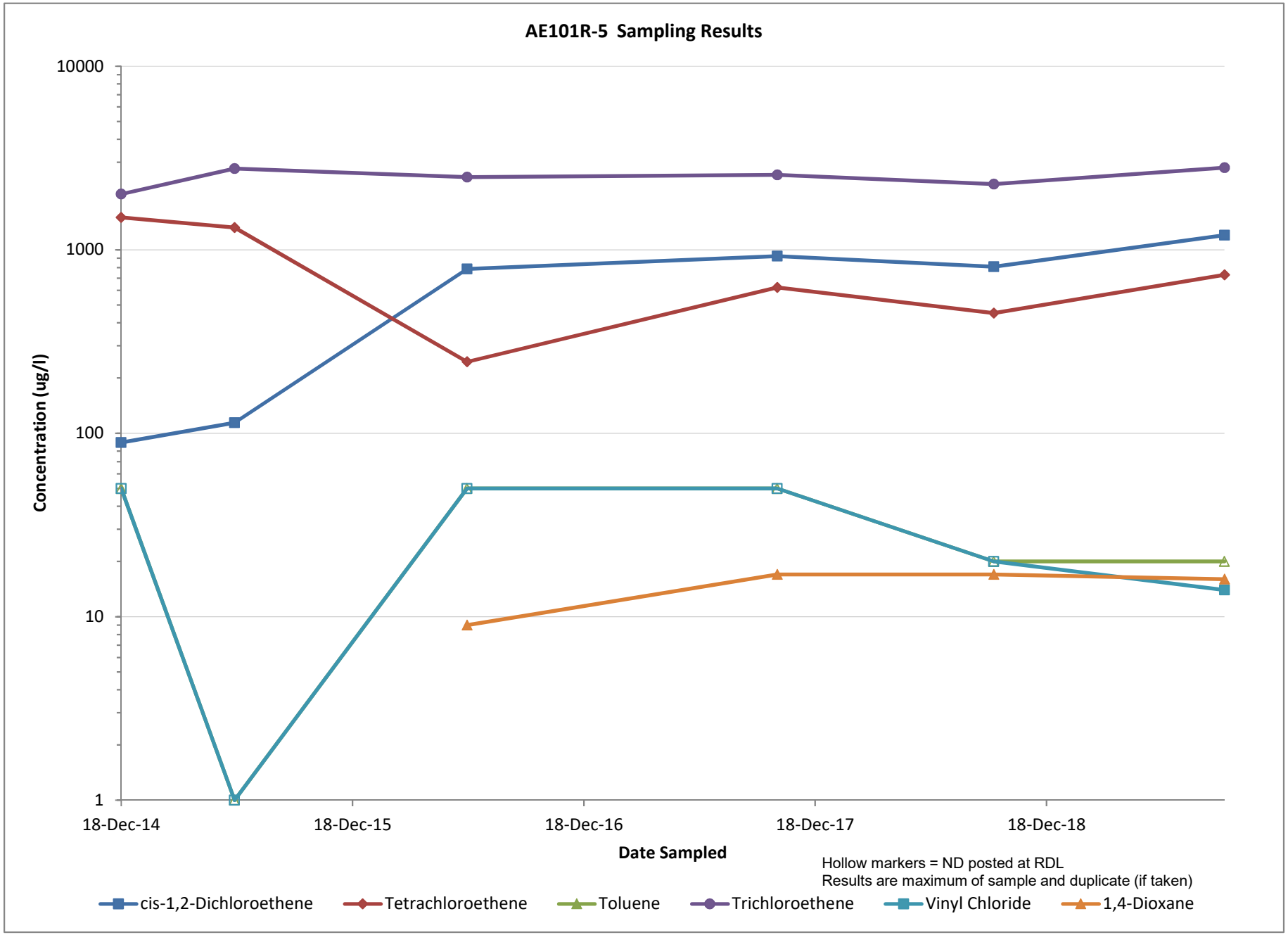

AE100R-6 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

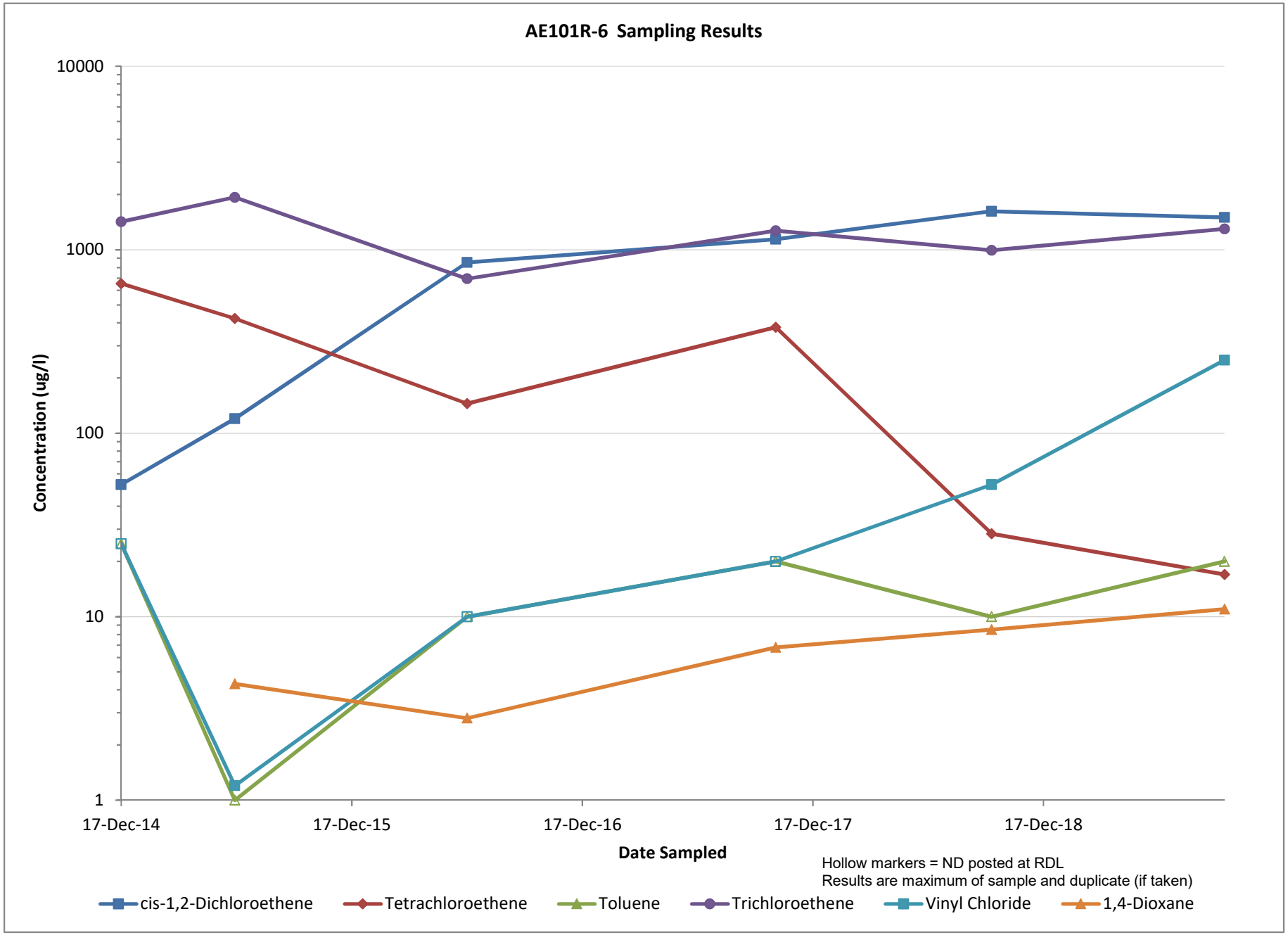

AE101D Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

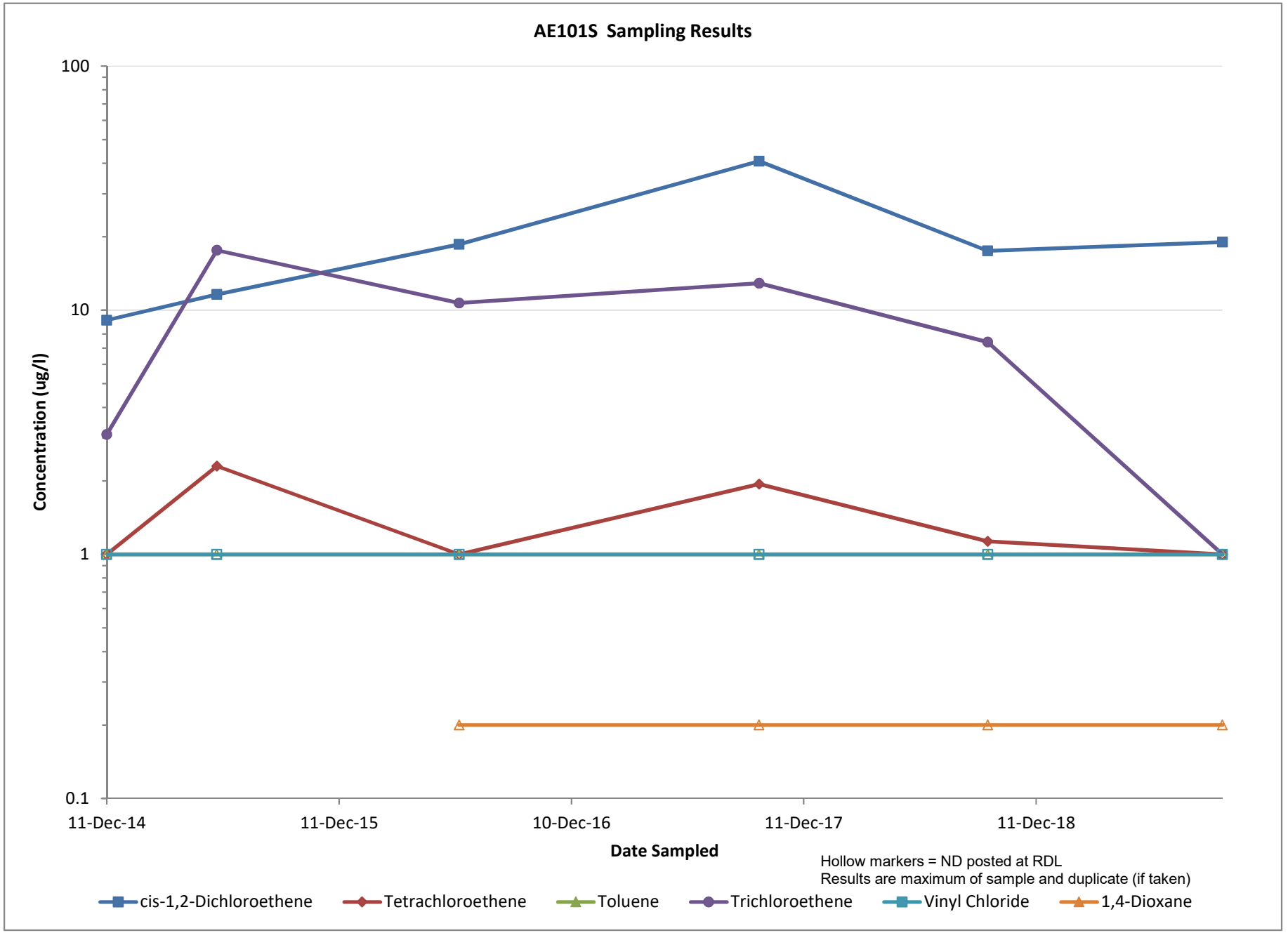

AE101R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
17-Dec-14
17-Dec-15
16-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

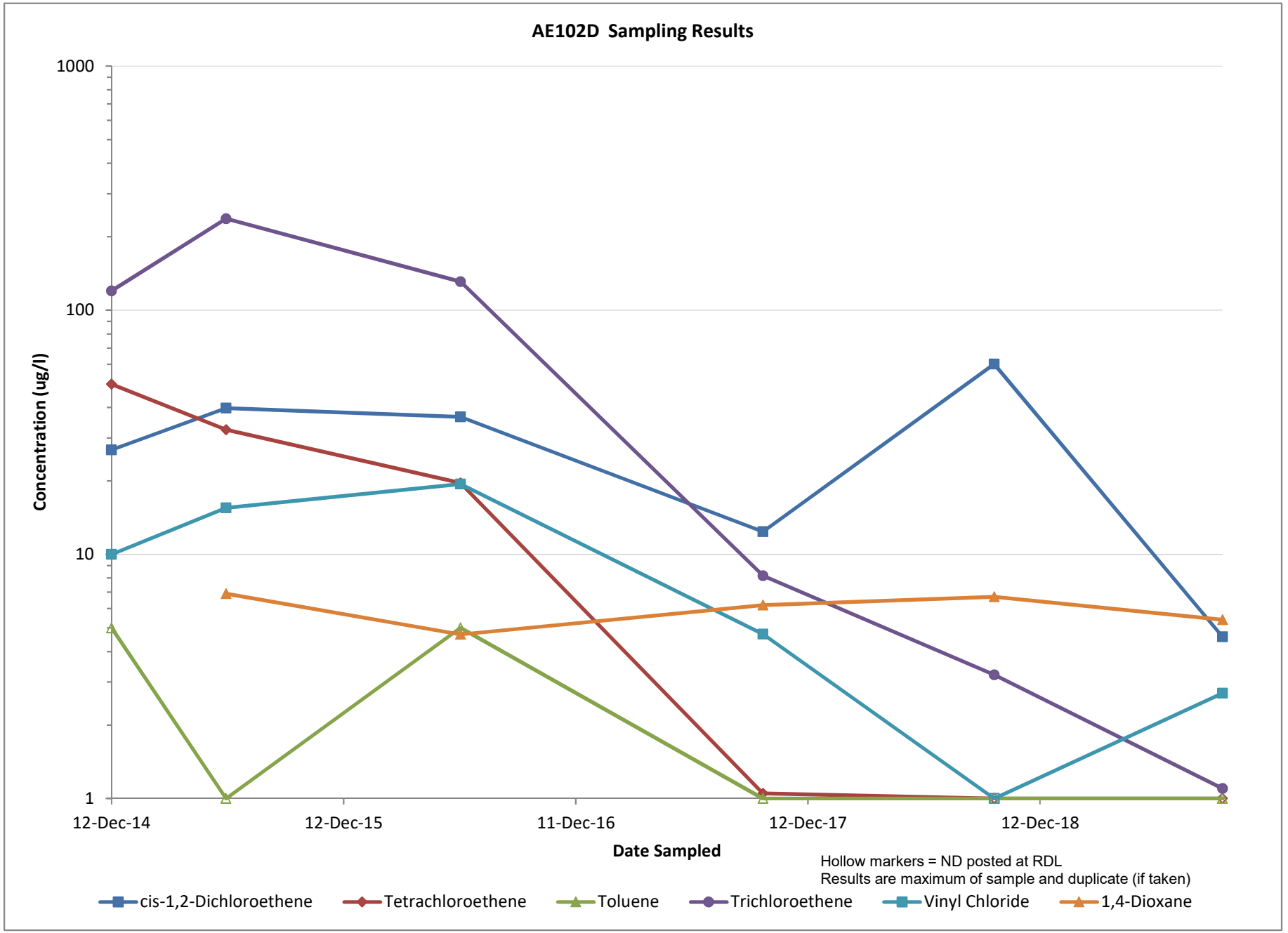

AE101R-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

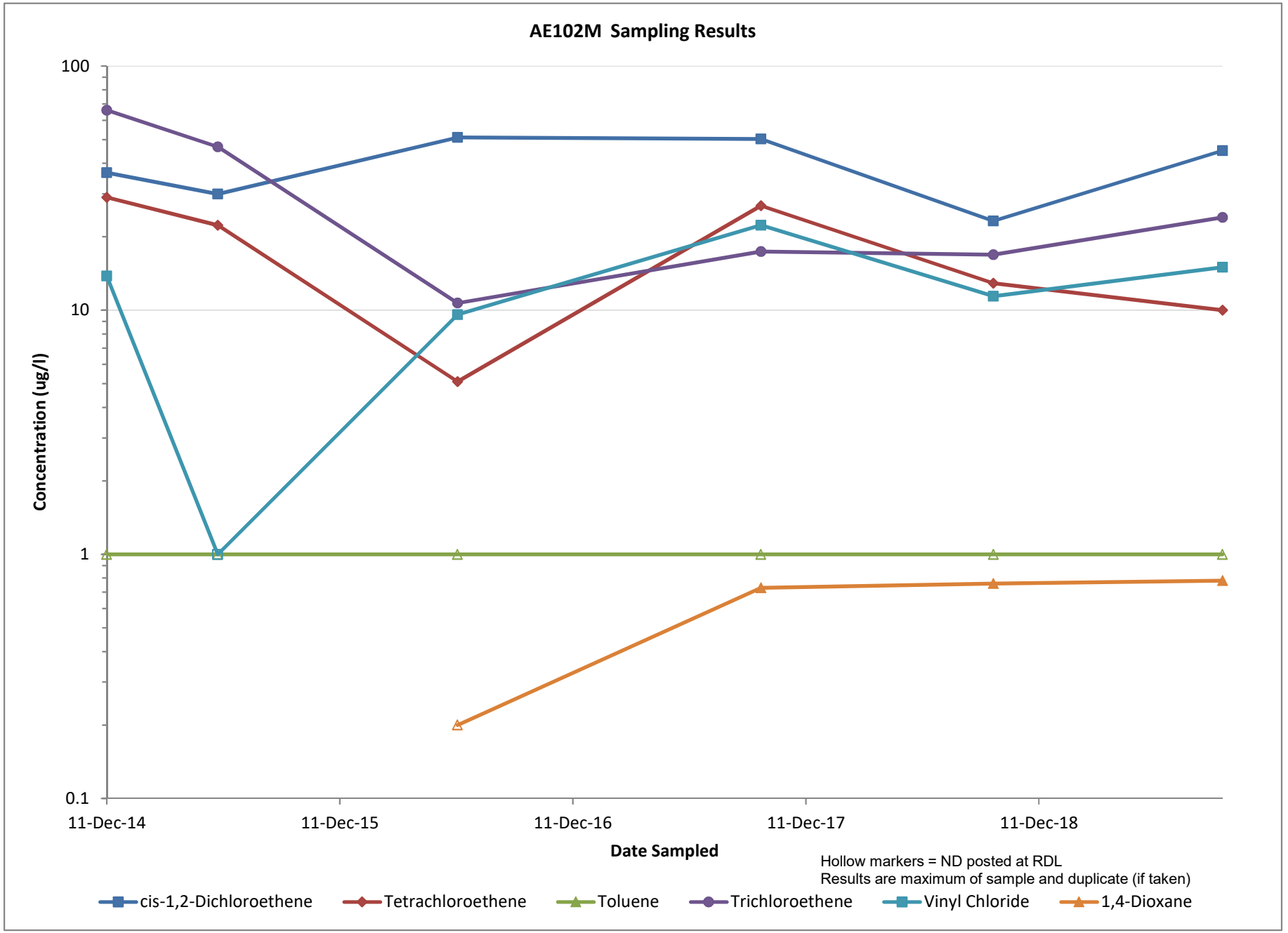

AE101R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
17-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

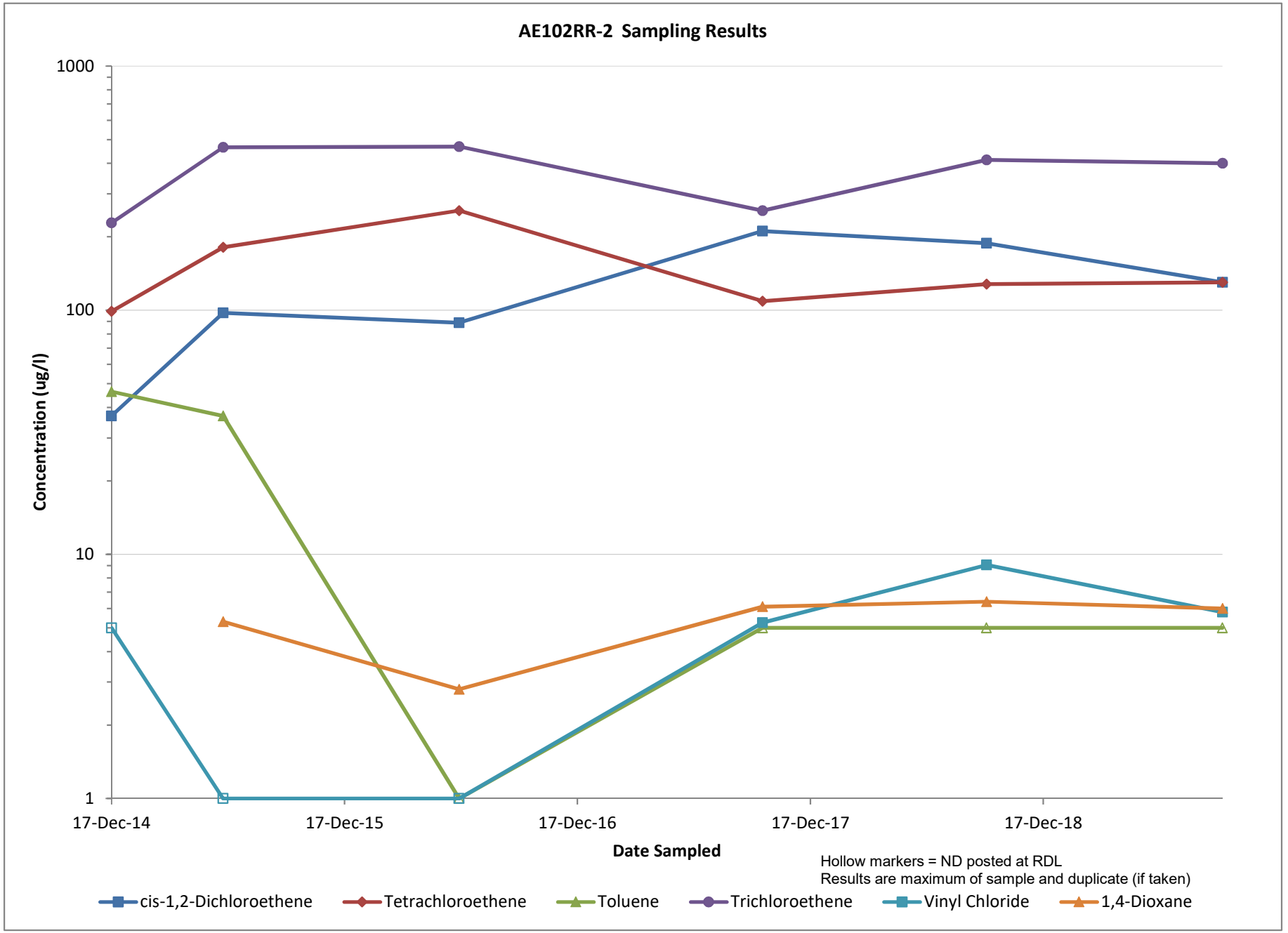

AE101R-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

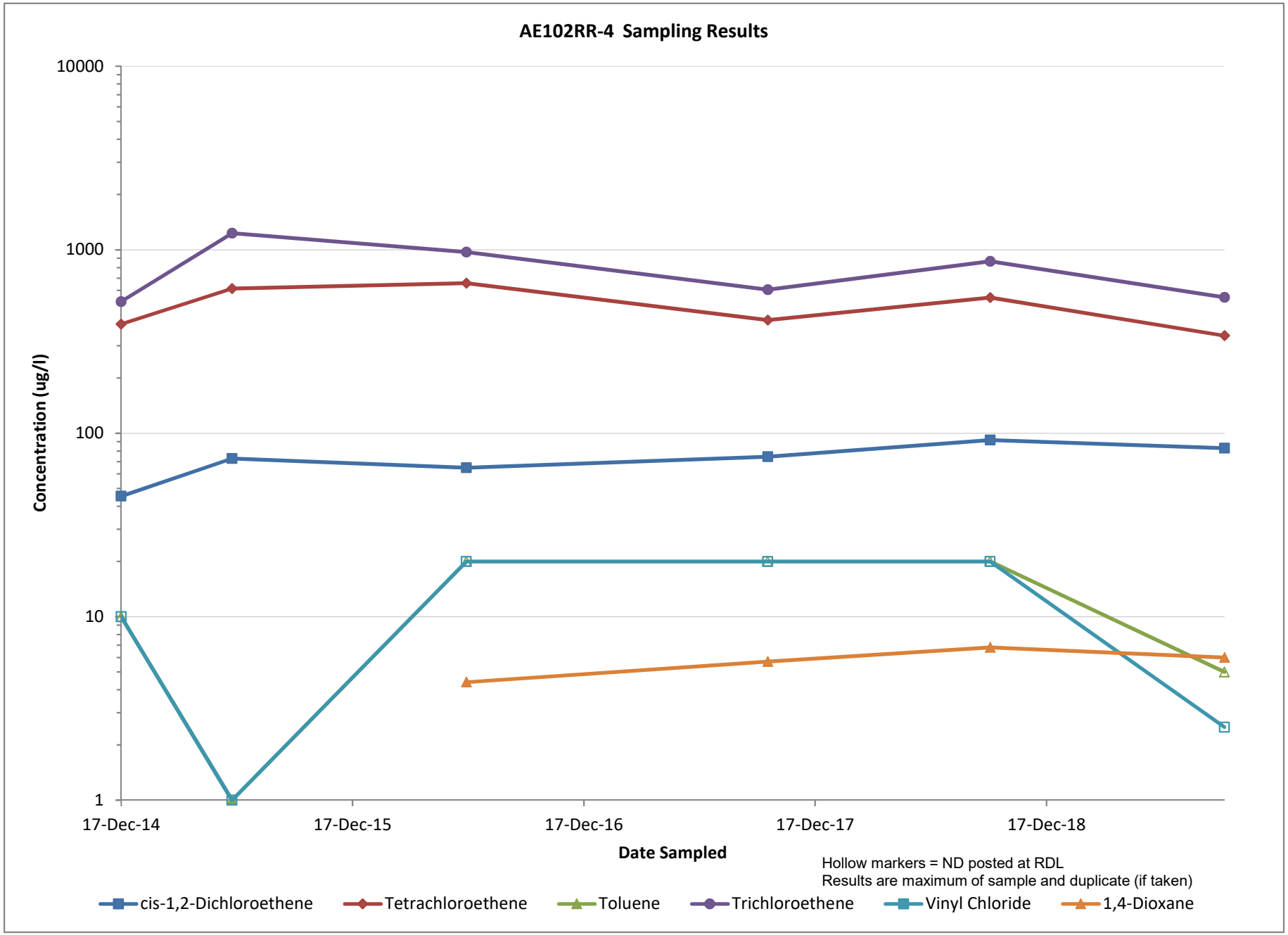

AE101R-6 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

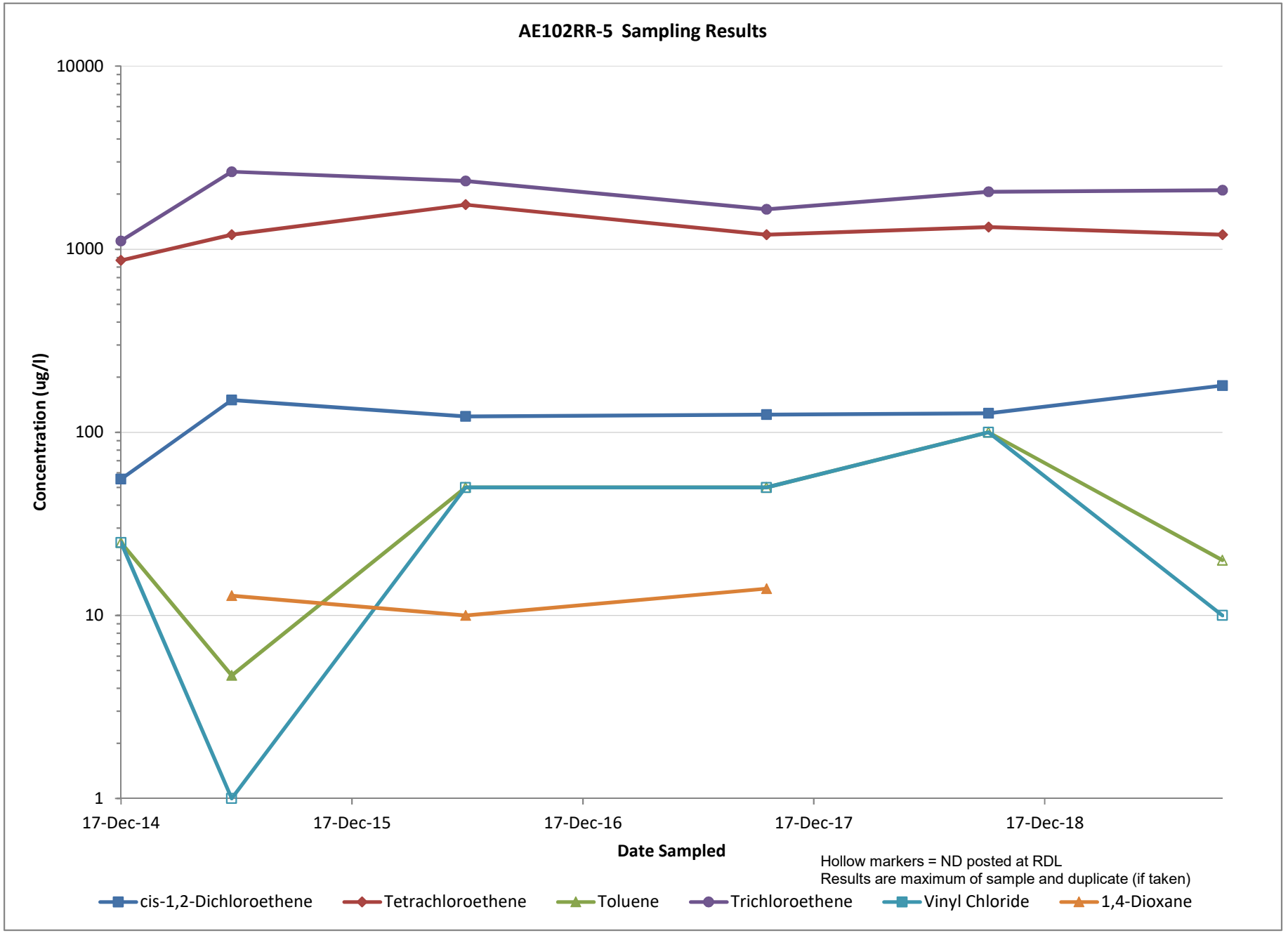

AE101S Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
10-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

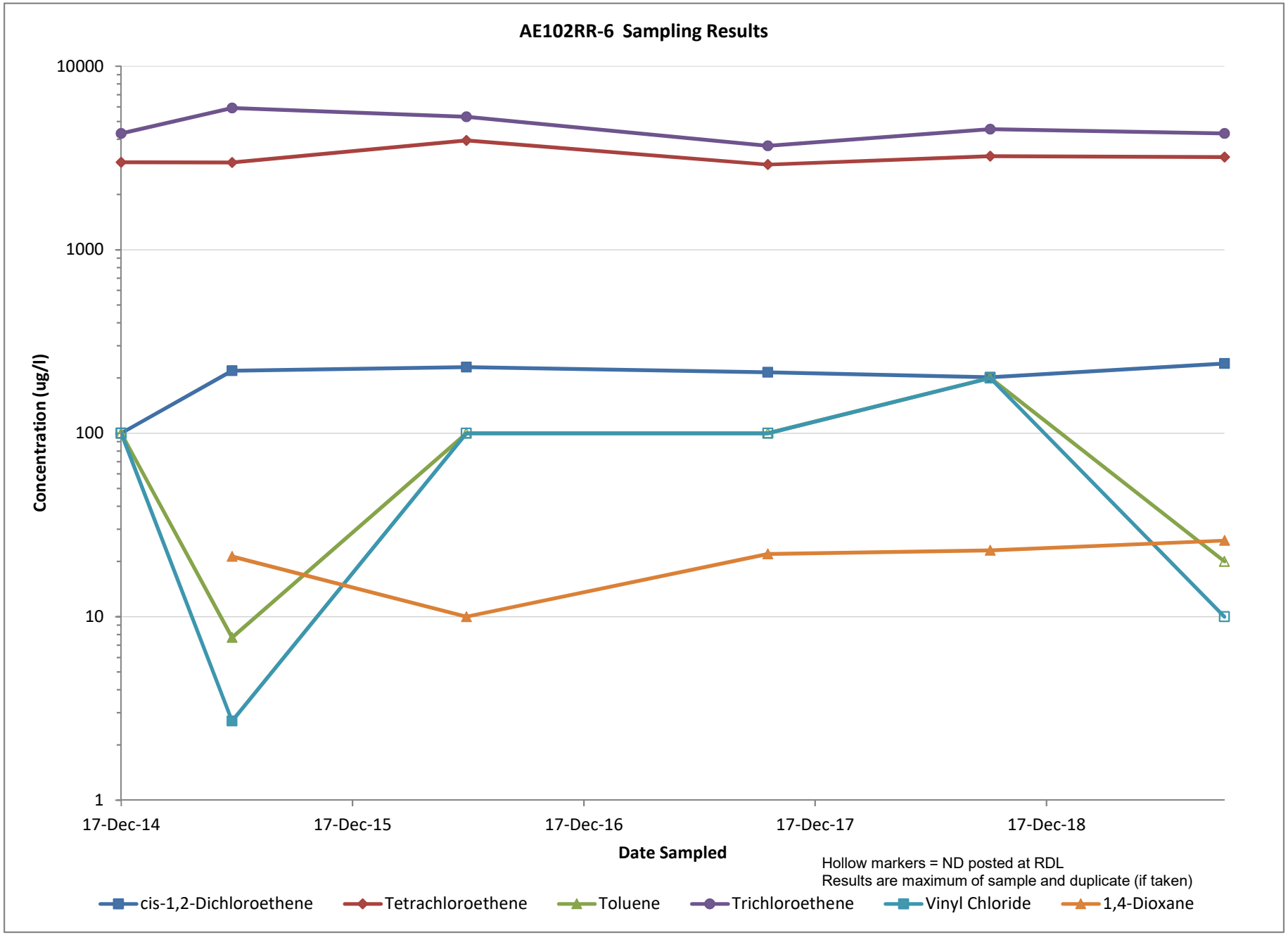

AE102D Sampling Results
1000
100
10
1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

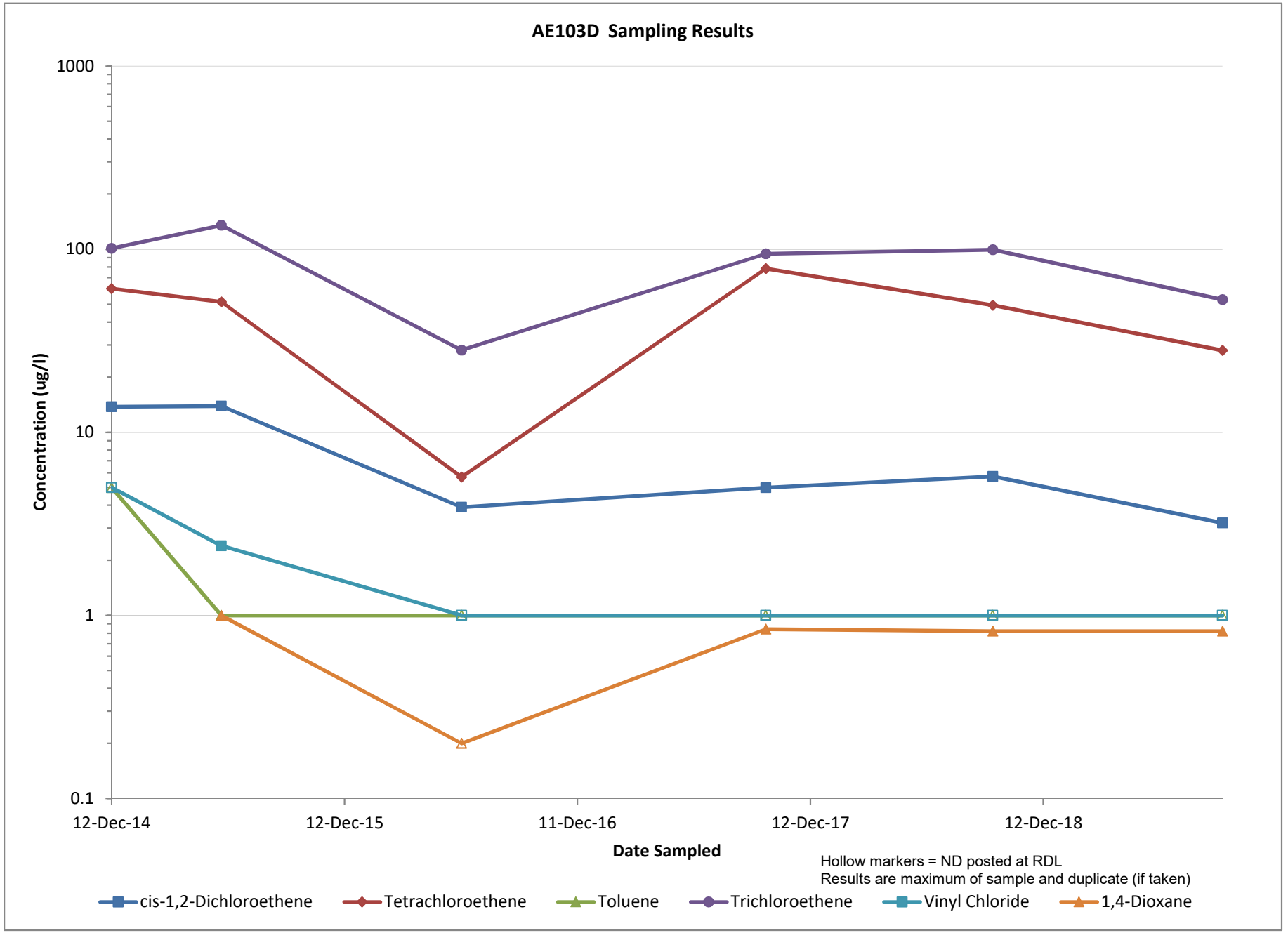

AE102M Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

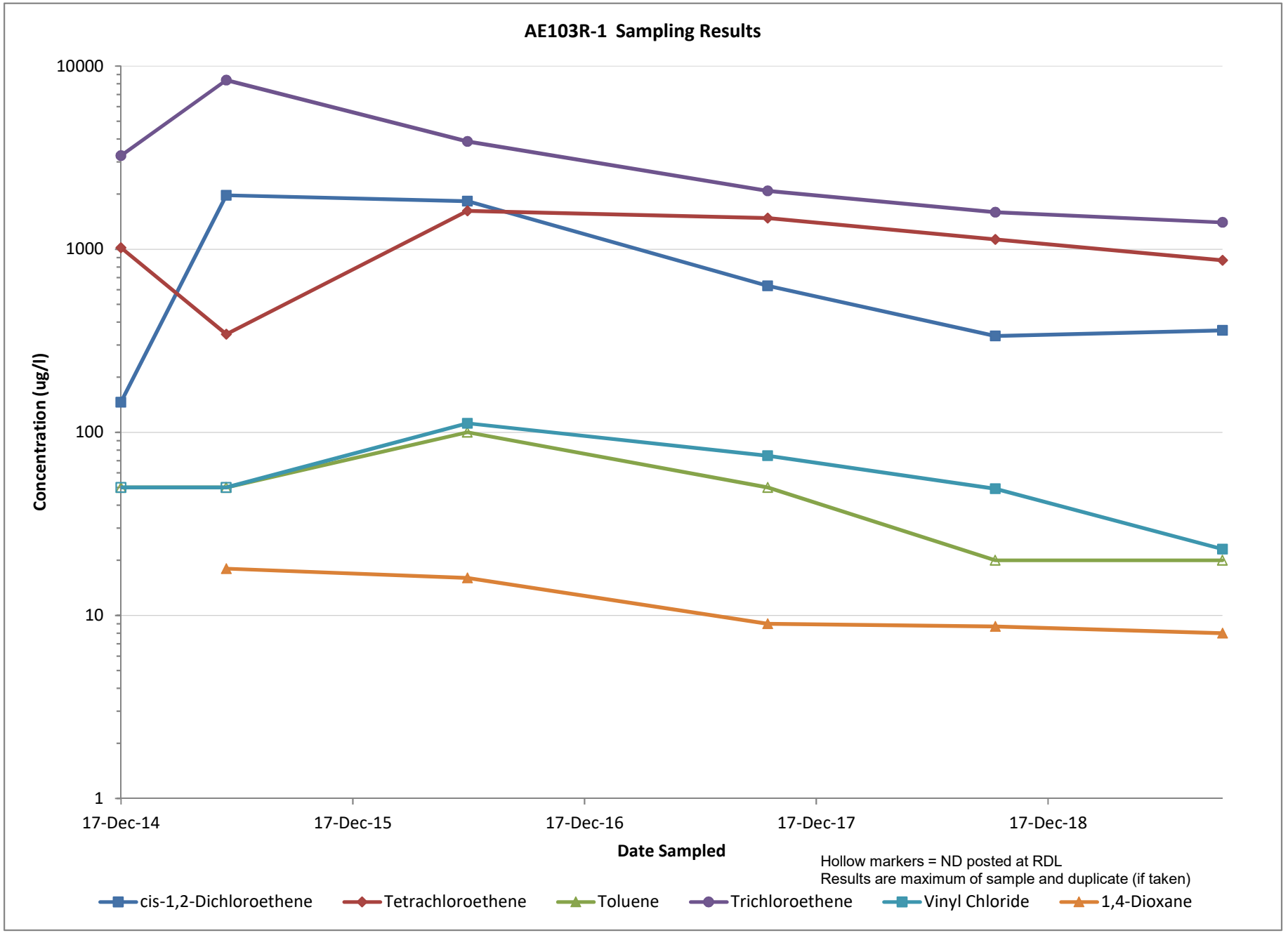

AE102RR-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

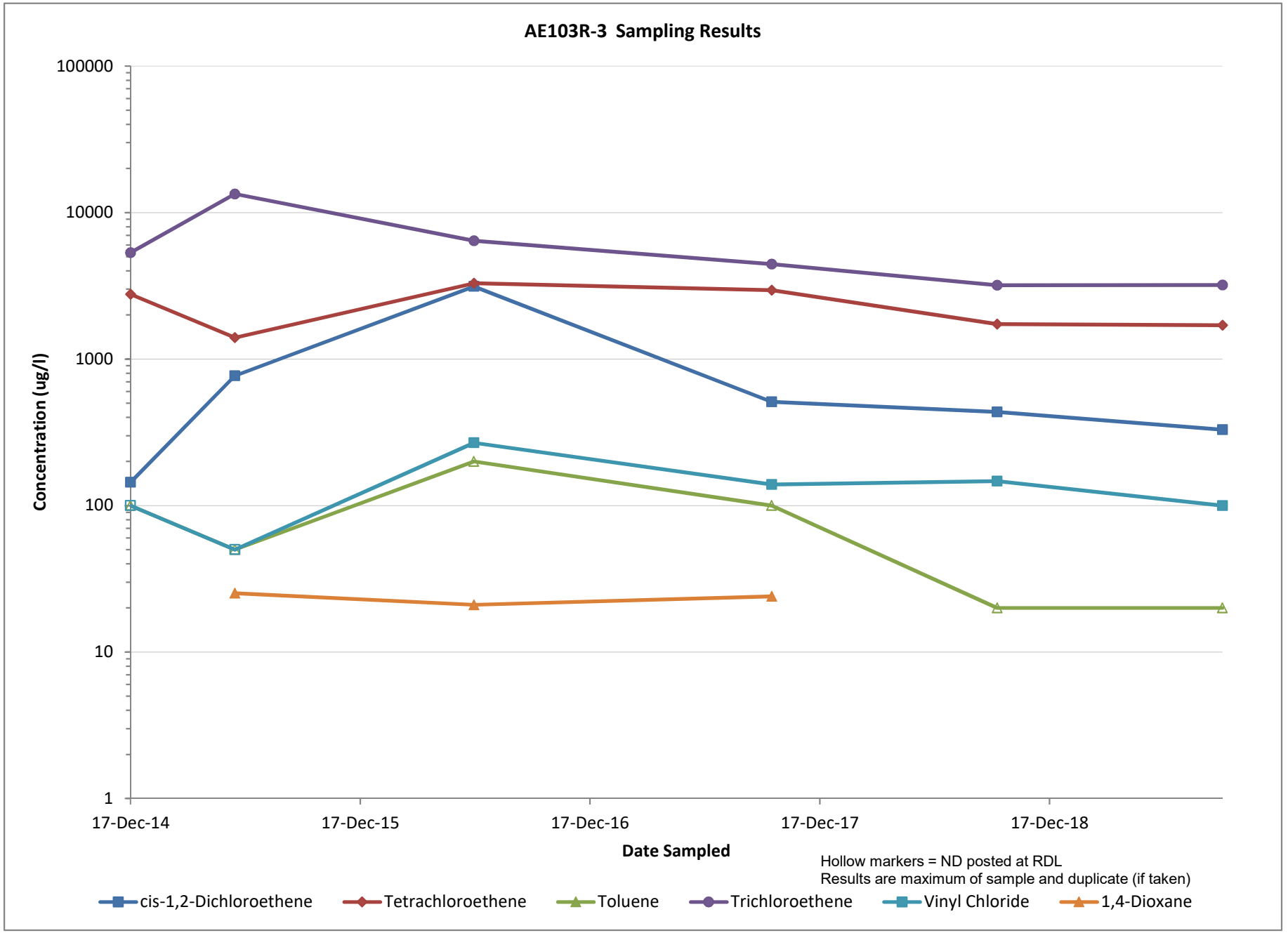

AE102RR-4 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

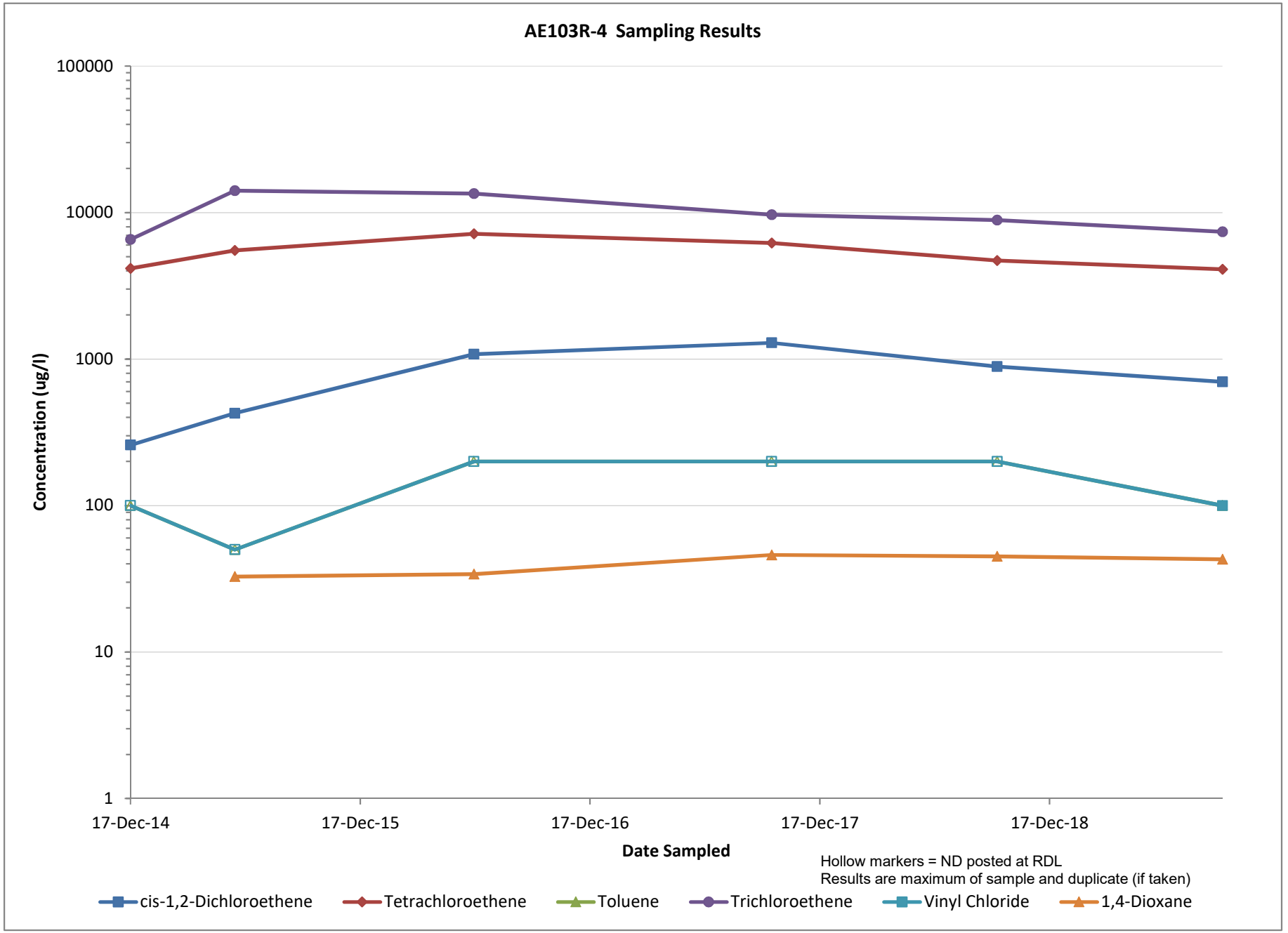

AE102RR-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

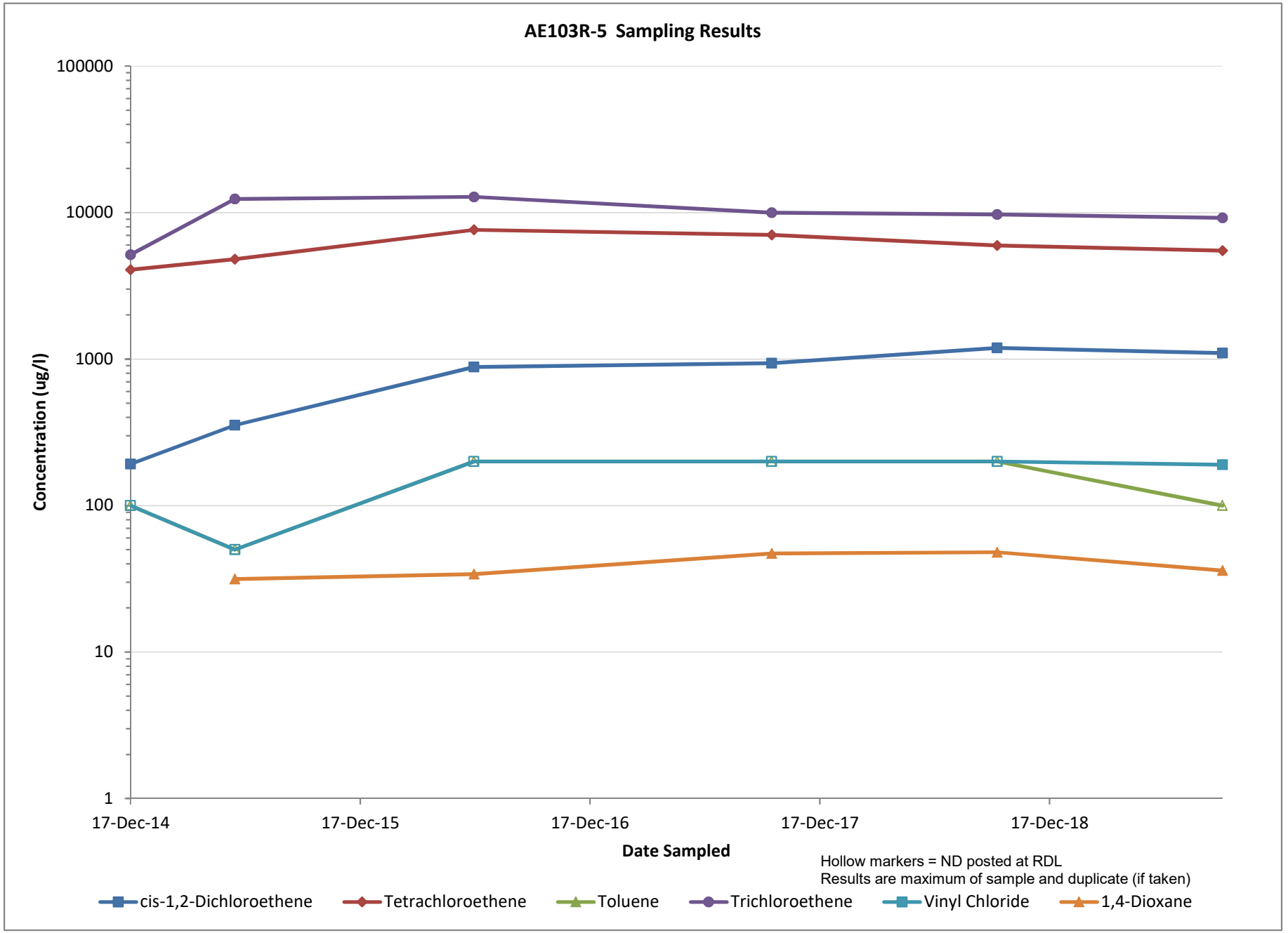

AE102RR-6 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

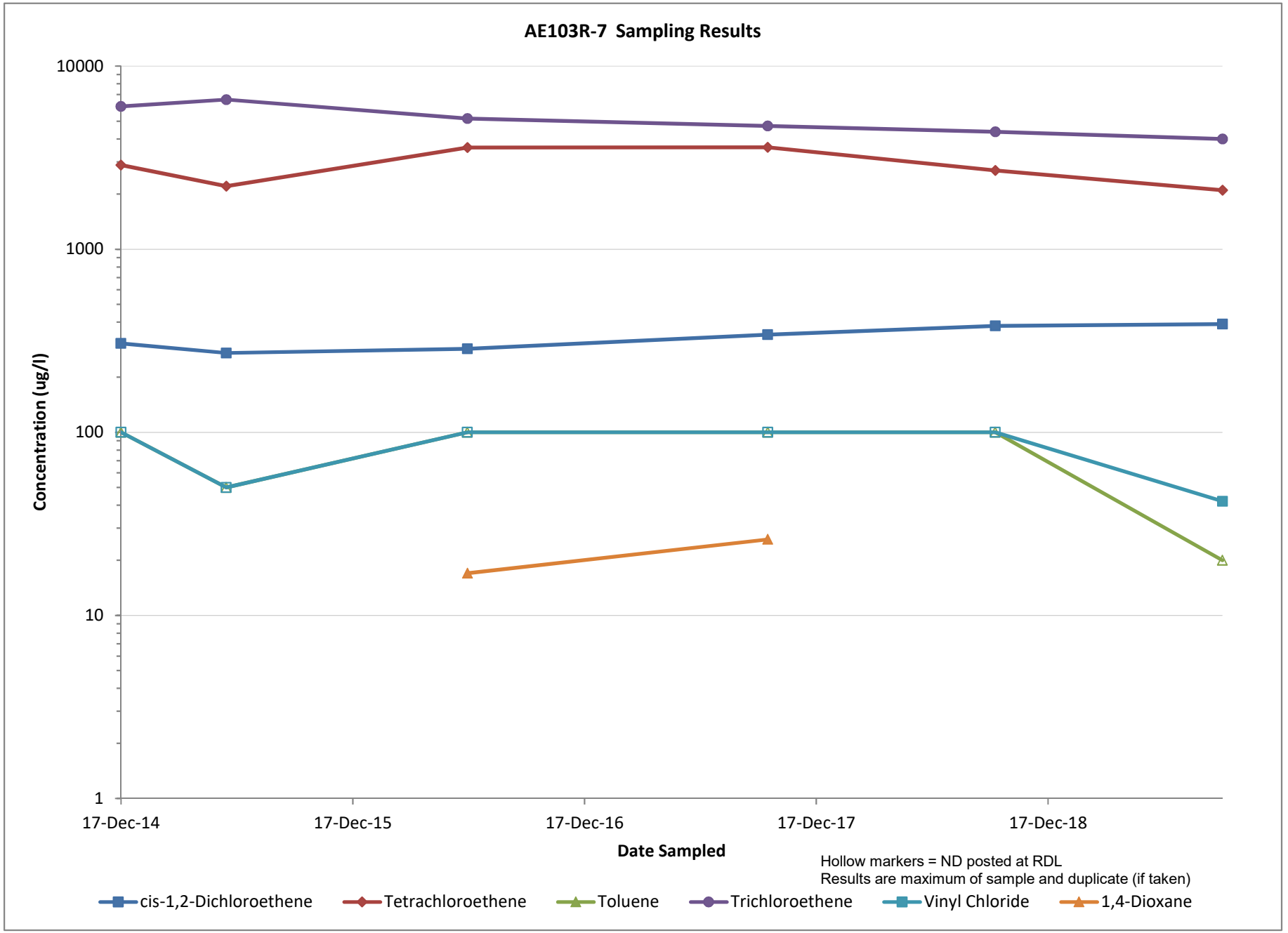

AE103D Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

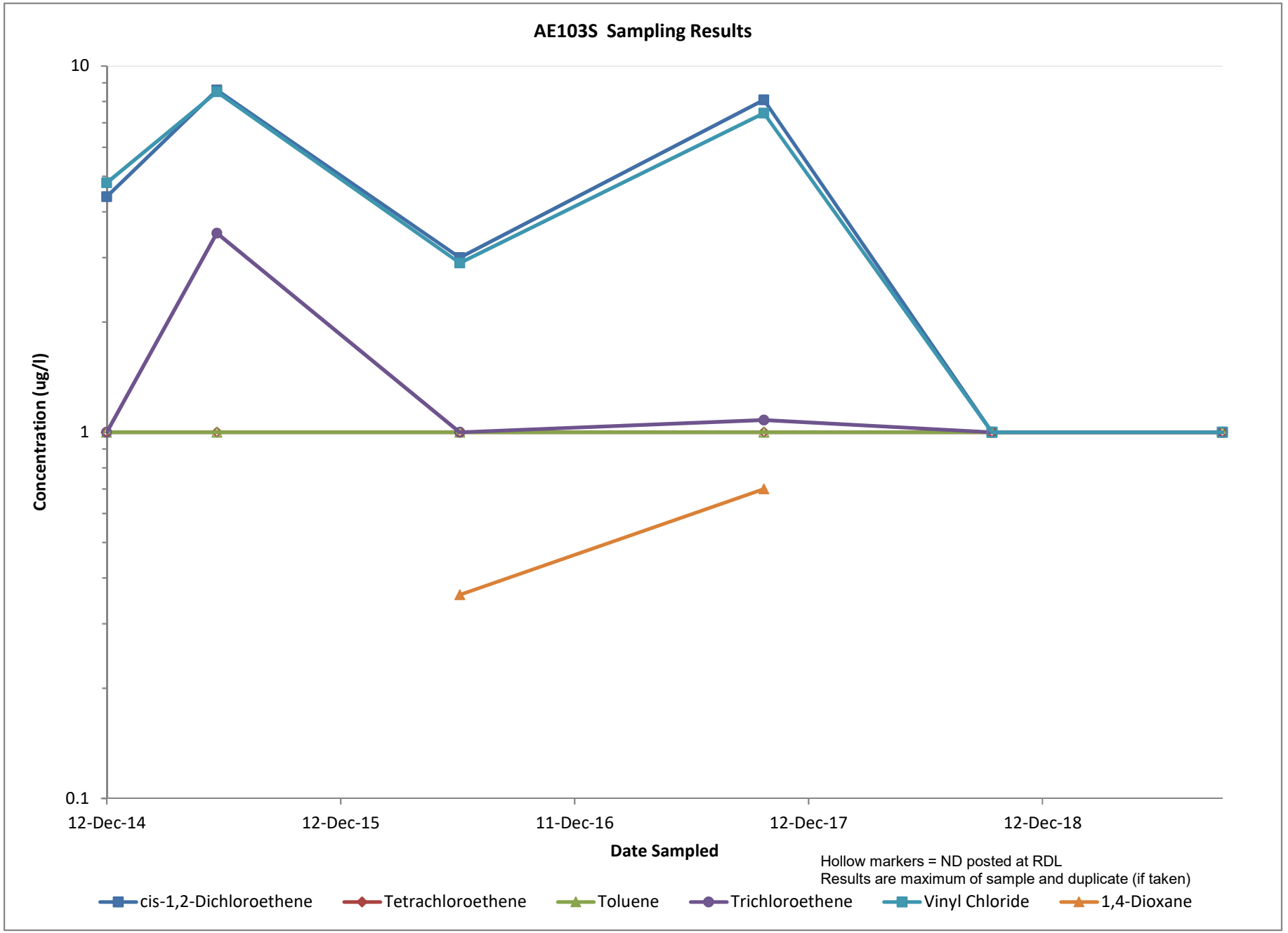

AE103R-1 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

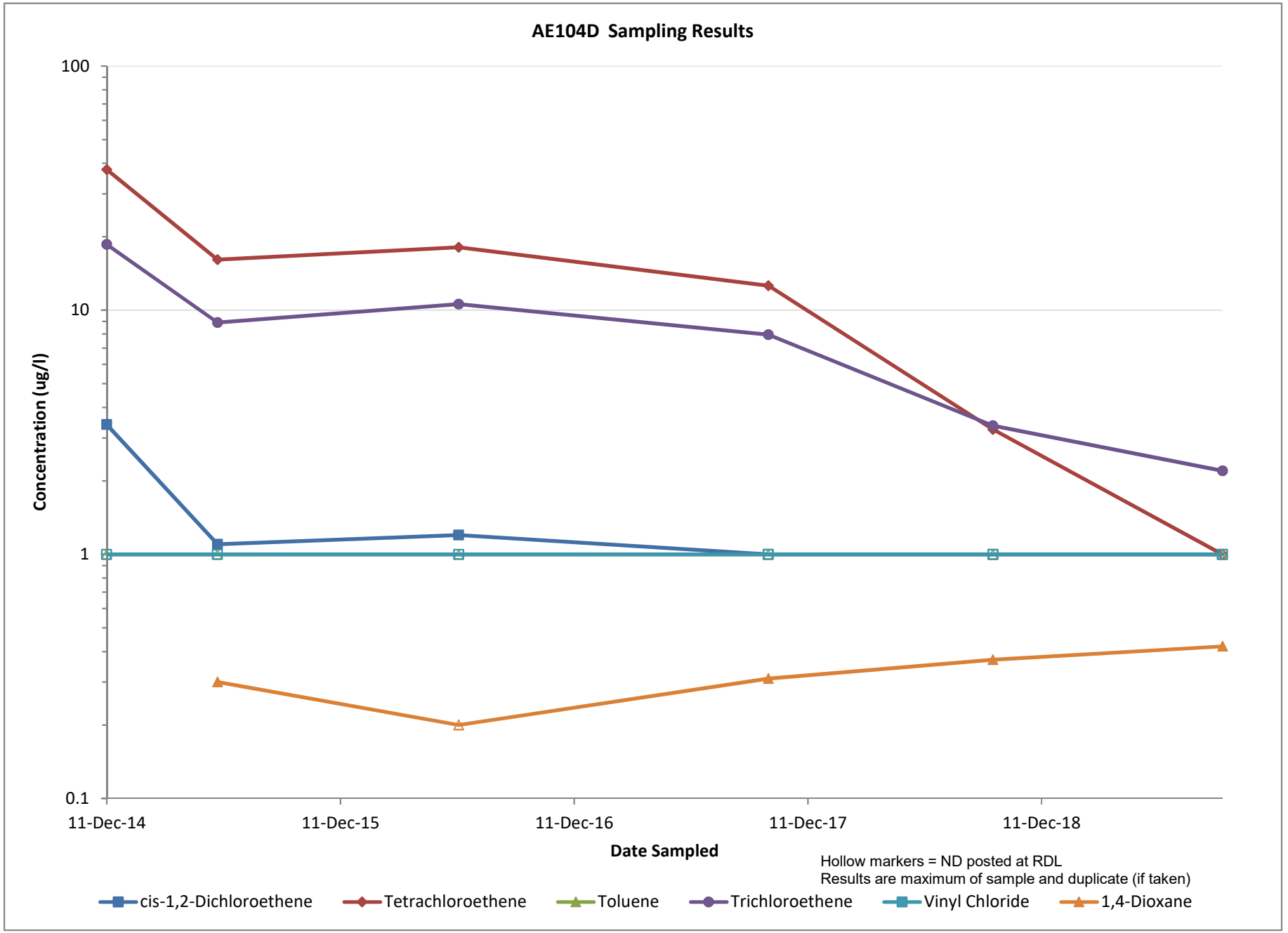

AE103R-3 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

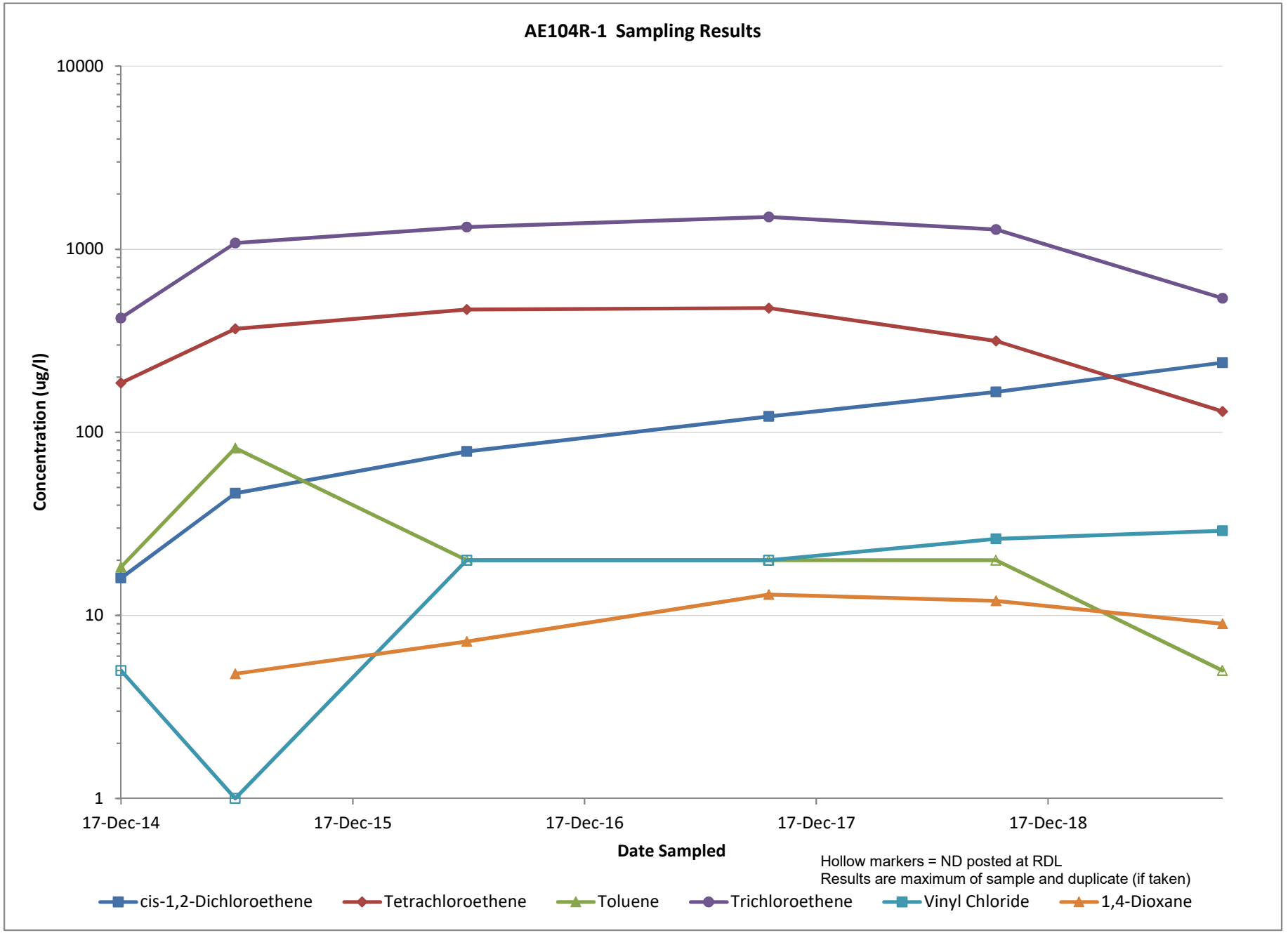

AE103R-4 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

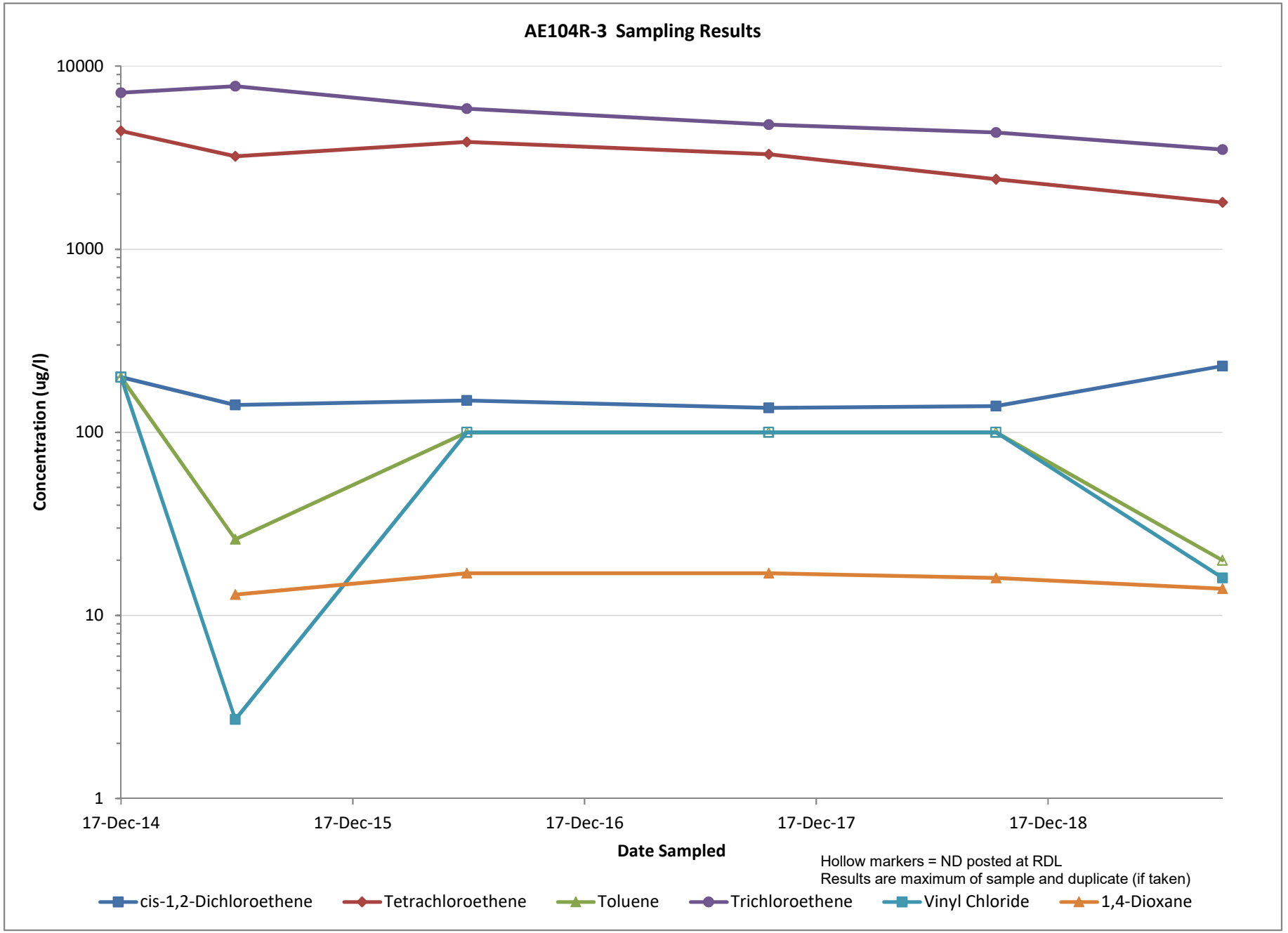

AE103R-5 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

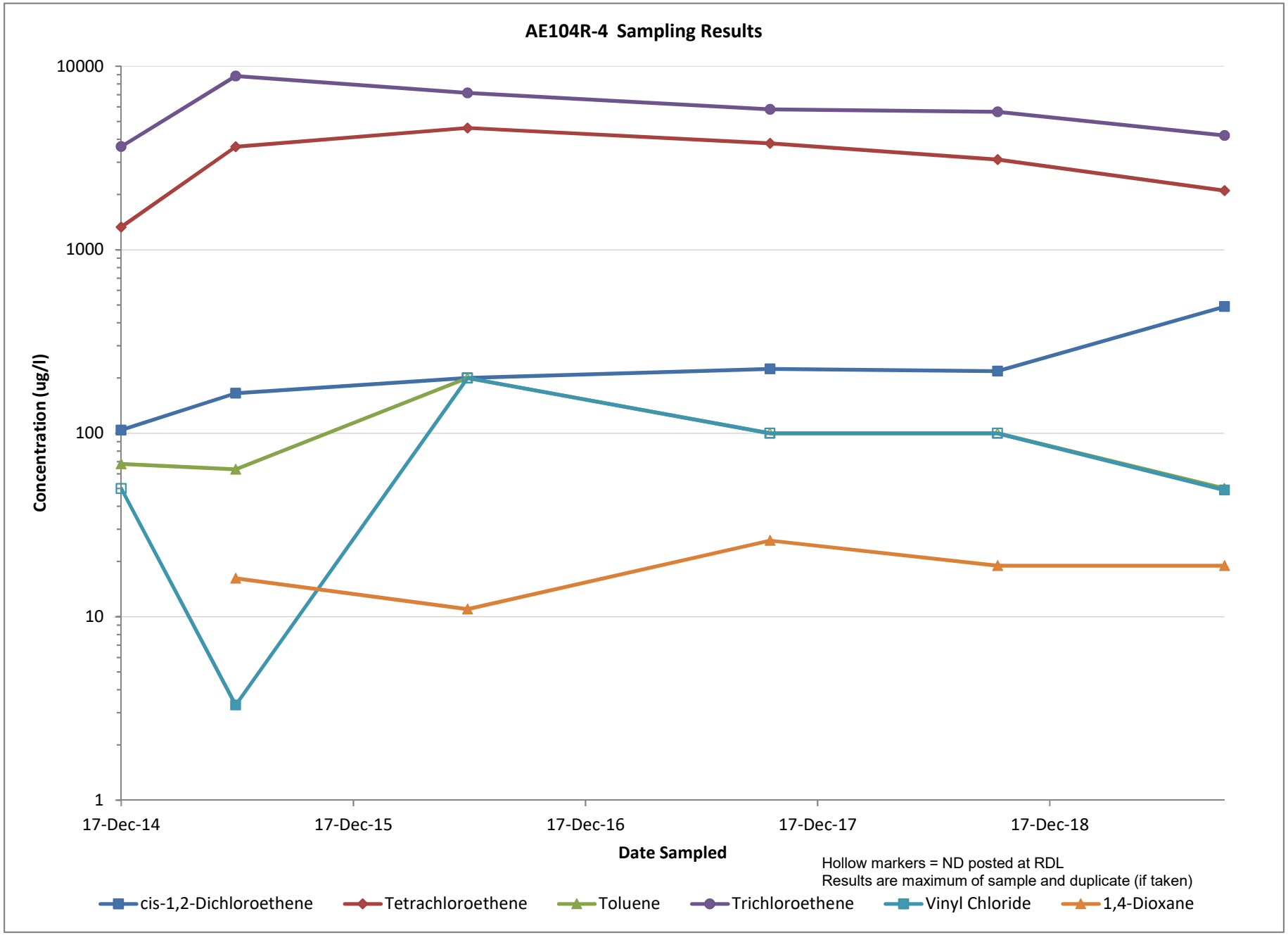

AE103R-7 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

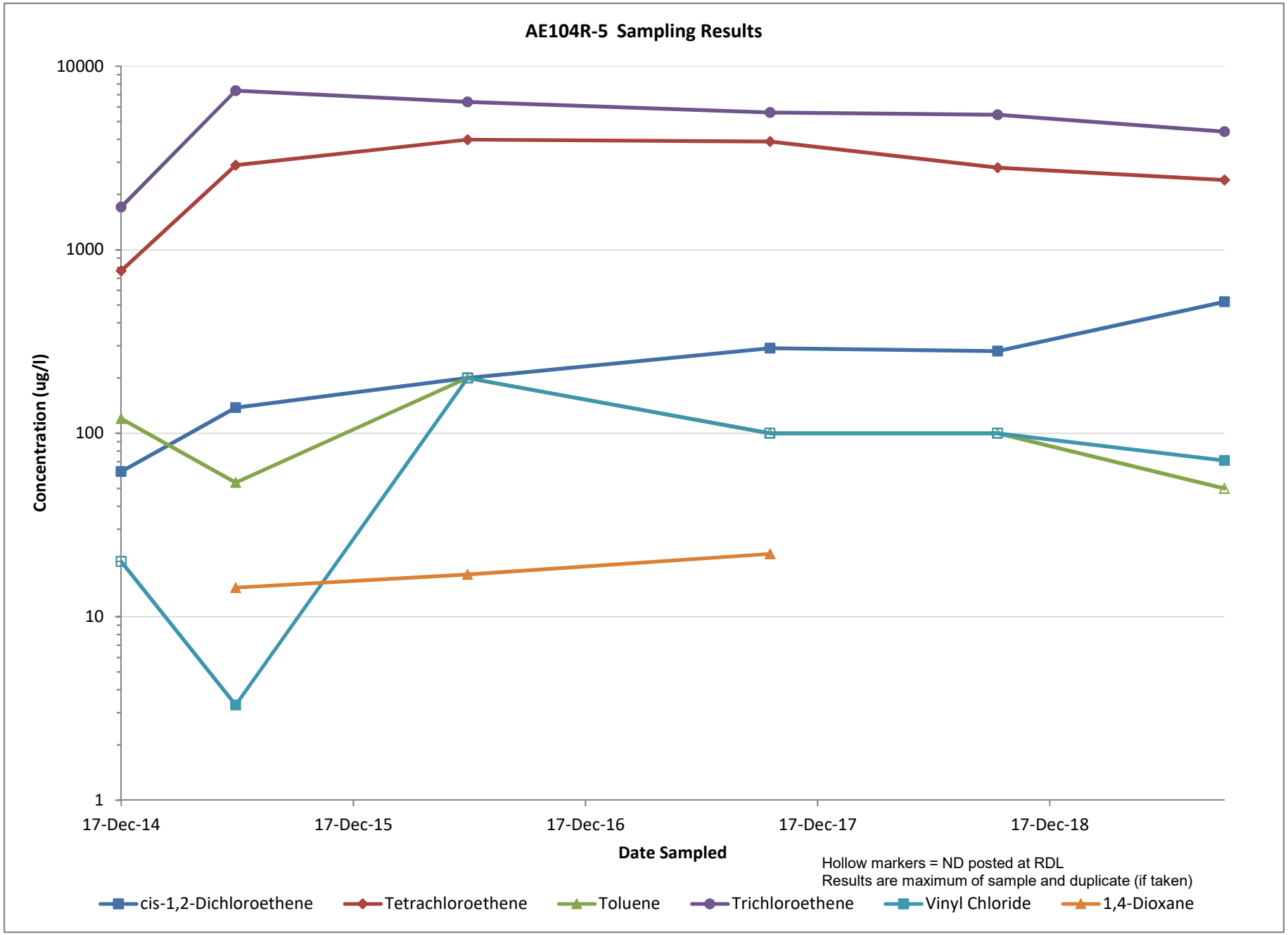

AE103S Sampling Results
10
1
0.1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

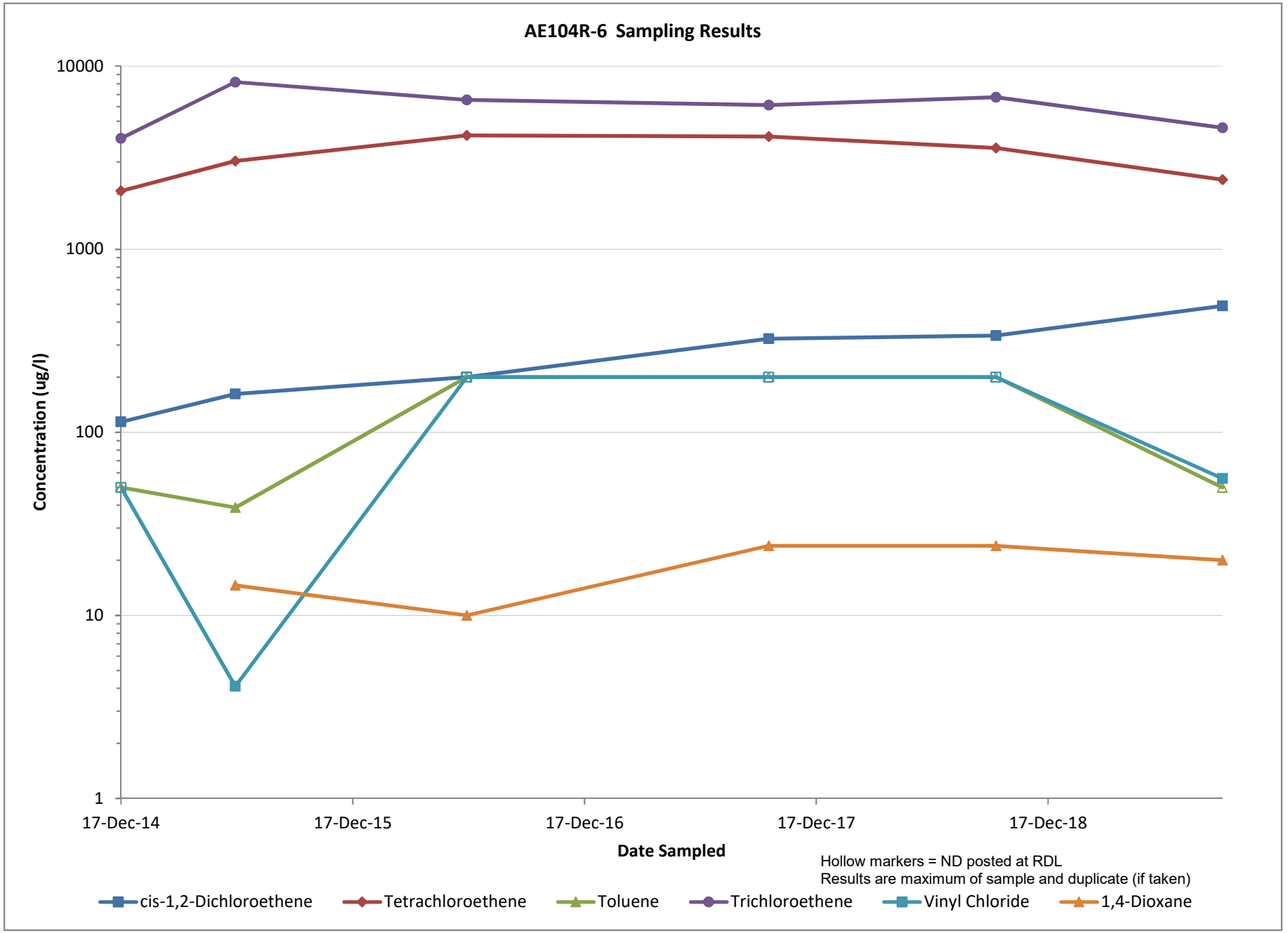

AE104D Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

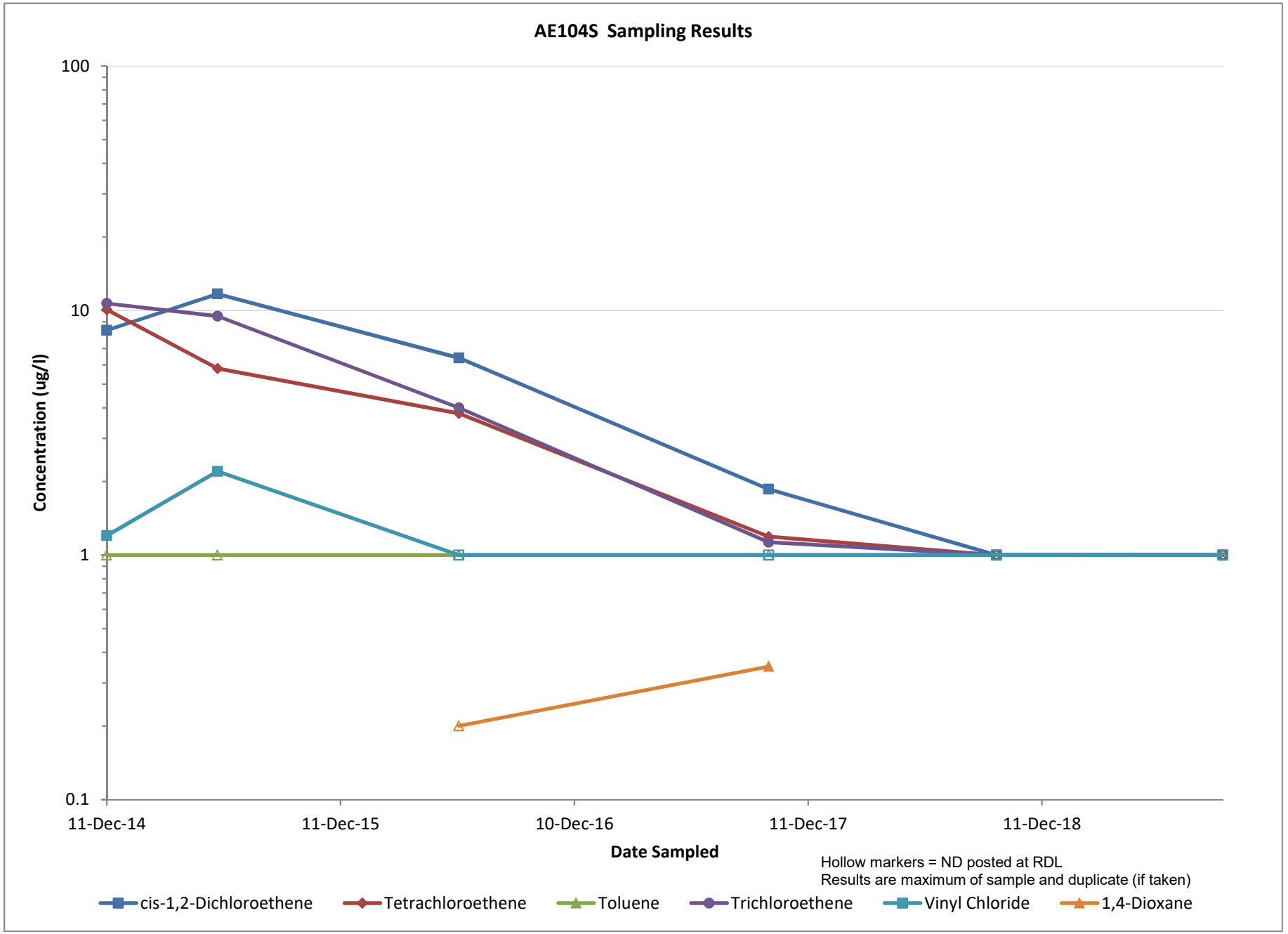

AE104R-1 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

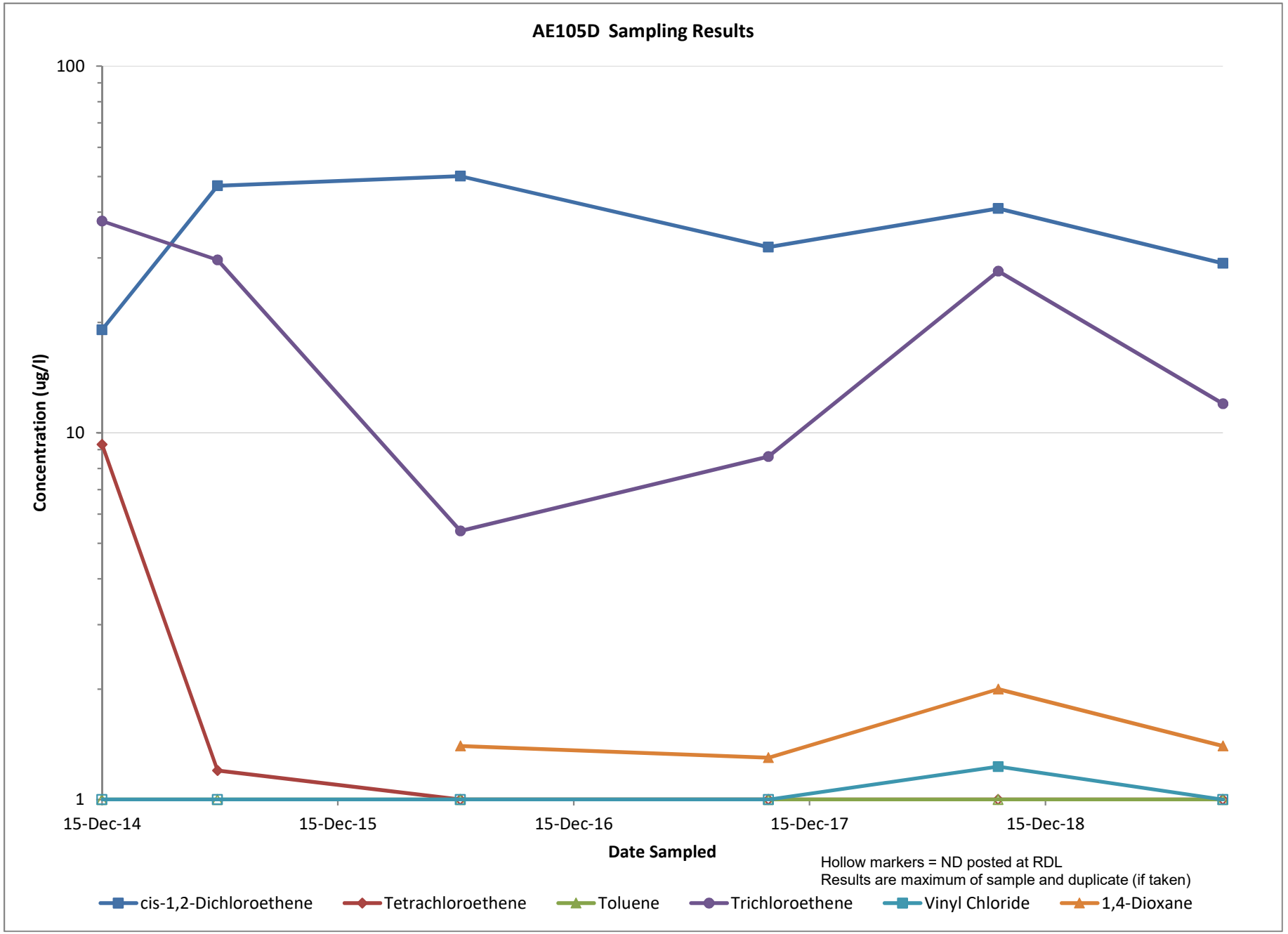

AE104R-3 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

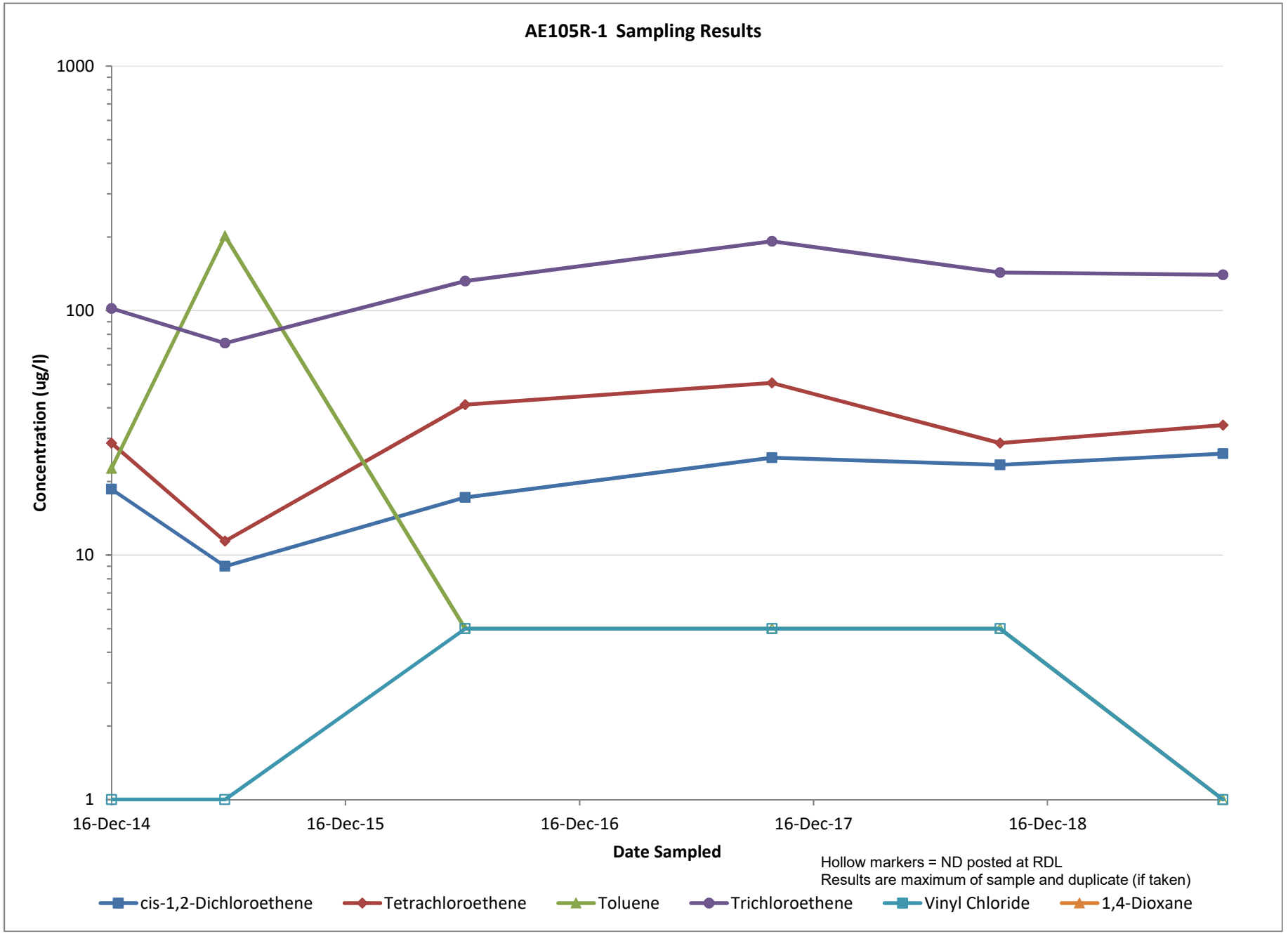

AE104R-4 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

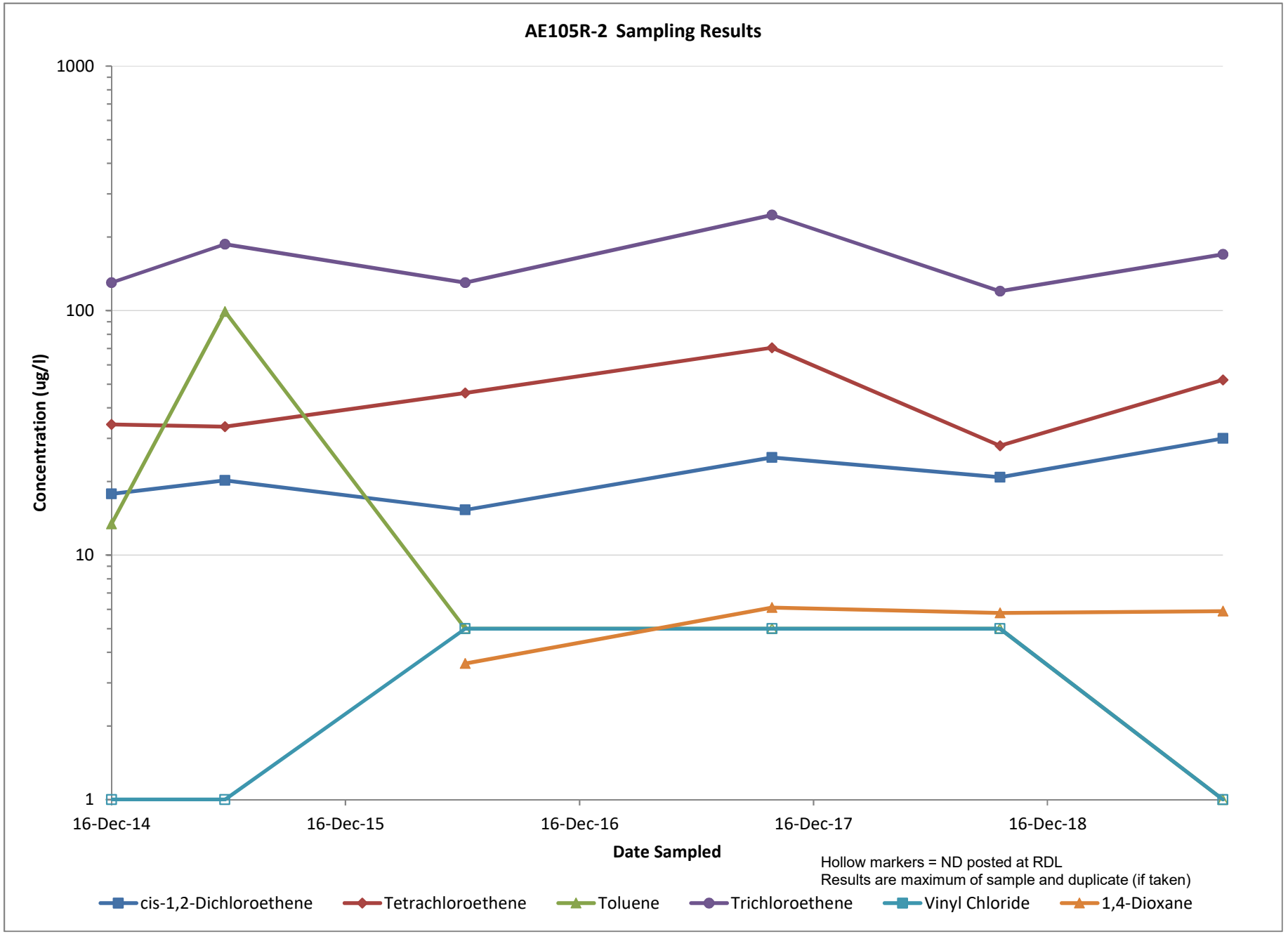

AE104R-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

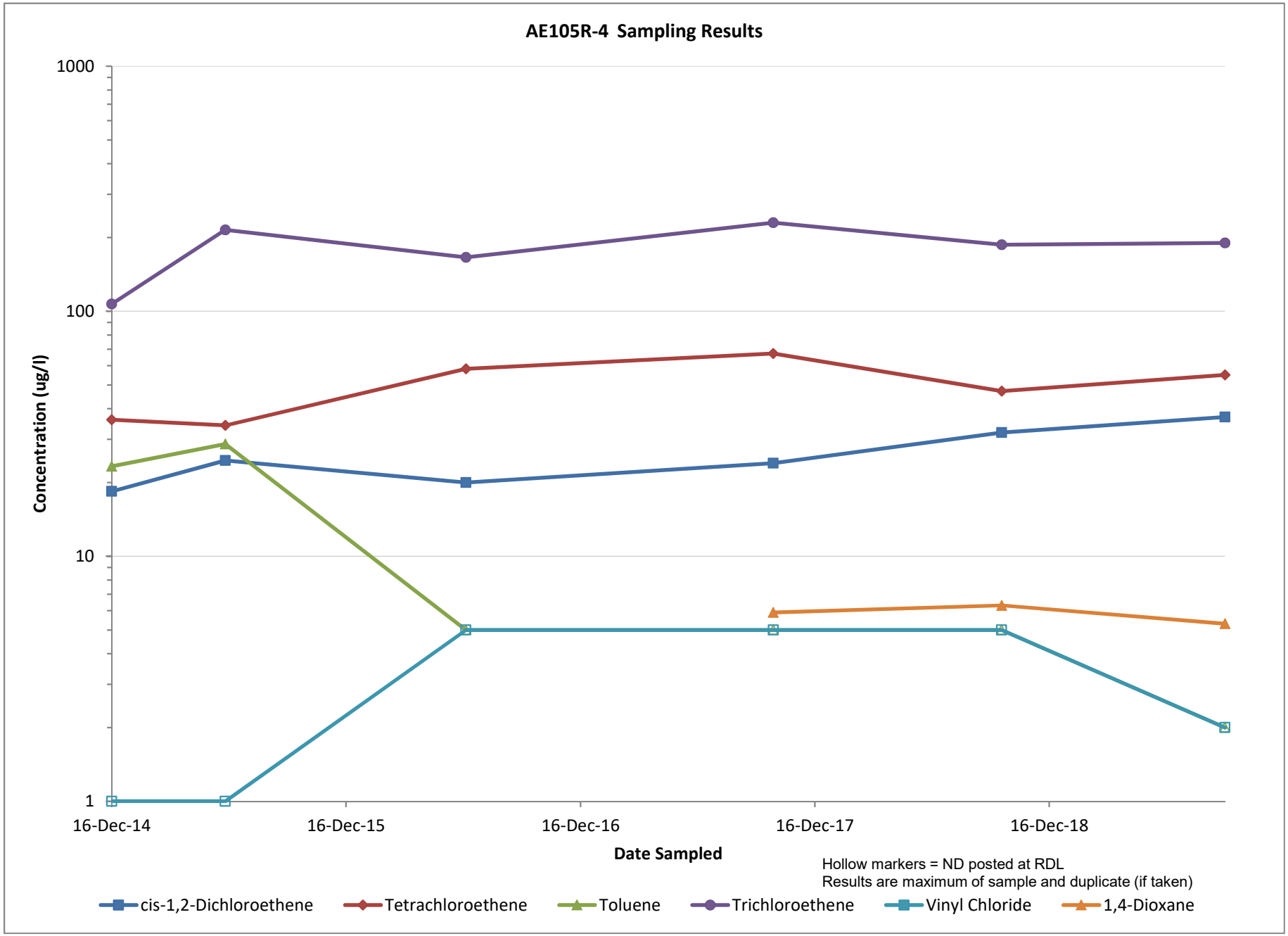

AE104R-6 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

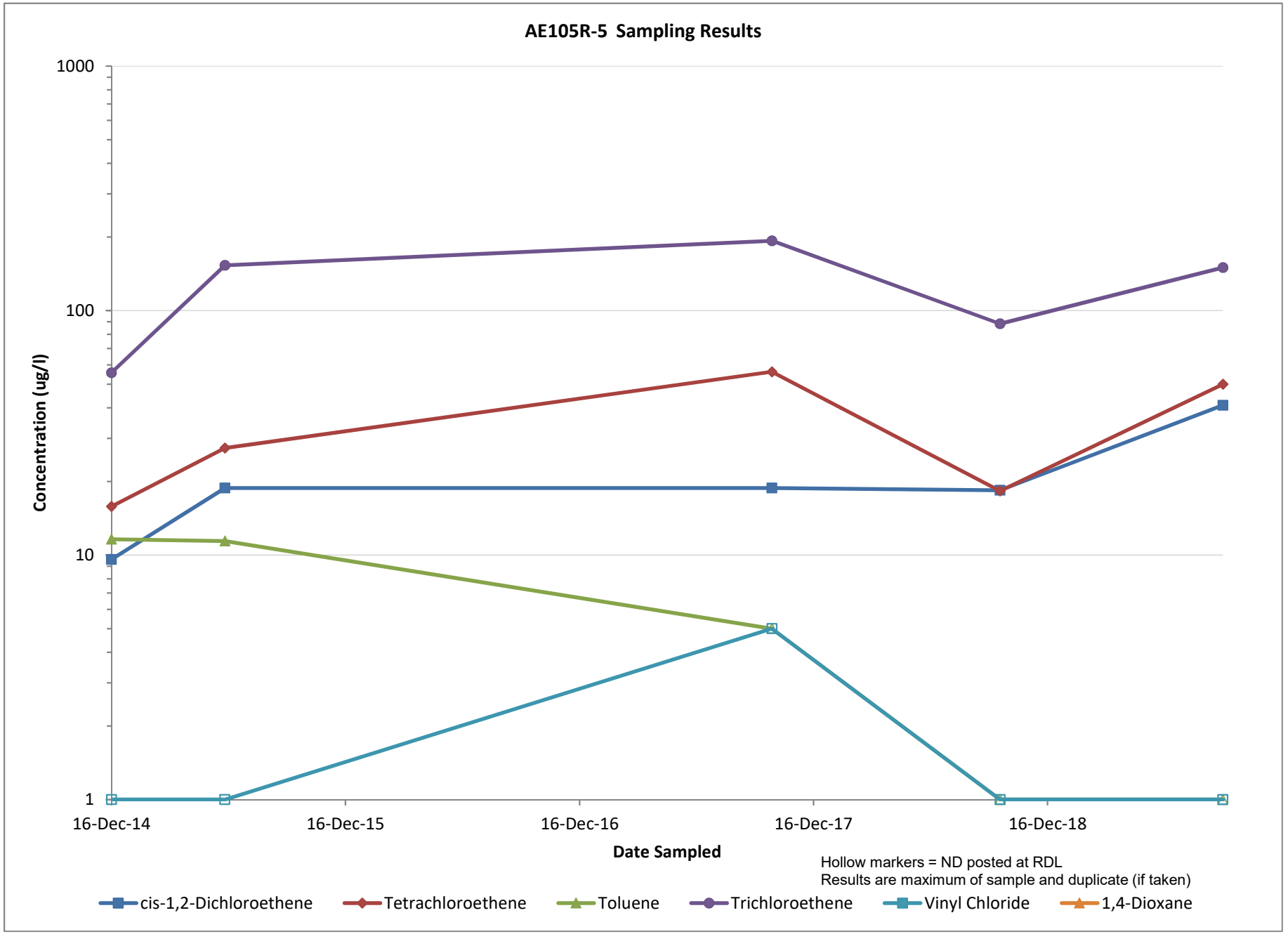

AE104S Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
10-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

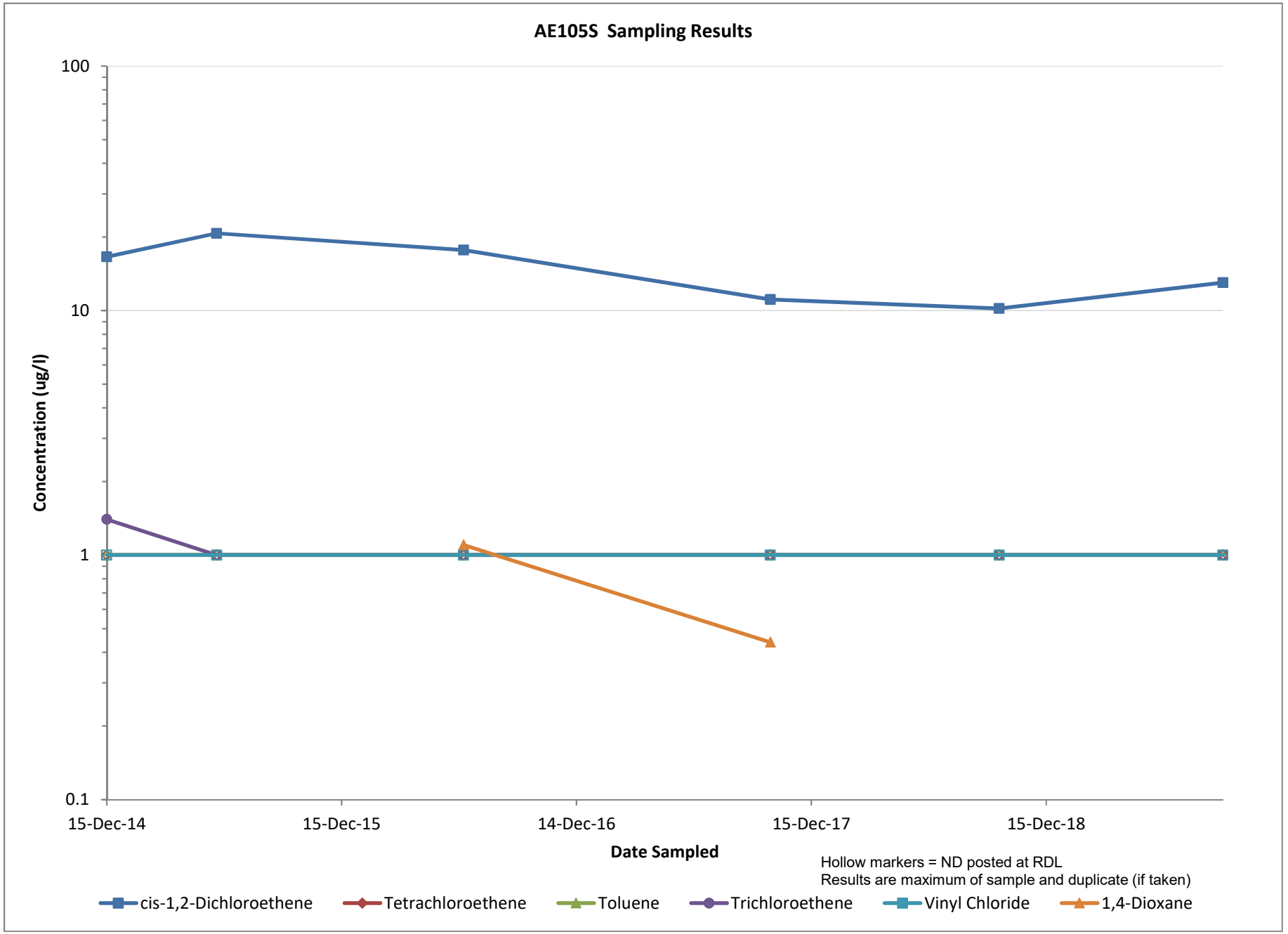

AE105D Sampling Results
100
10
1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

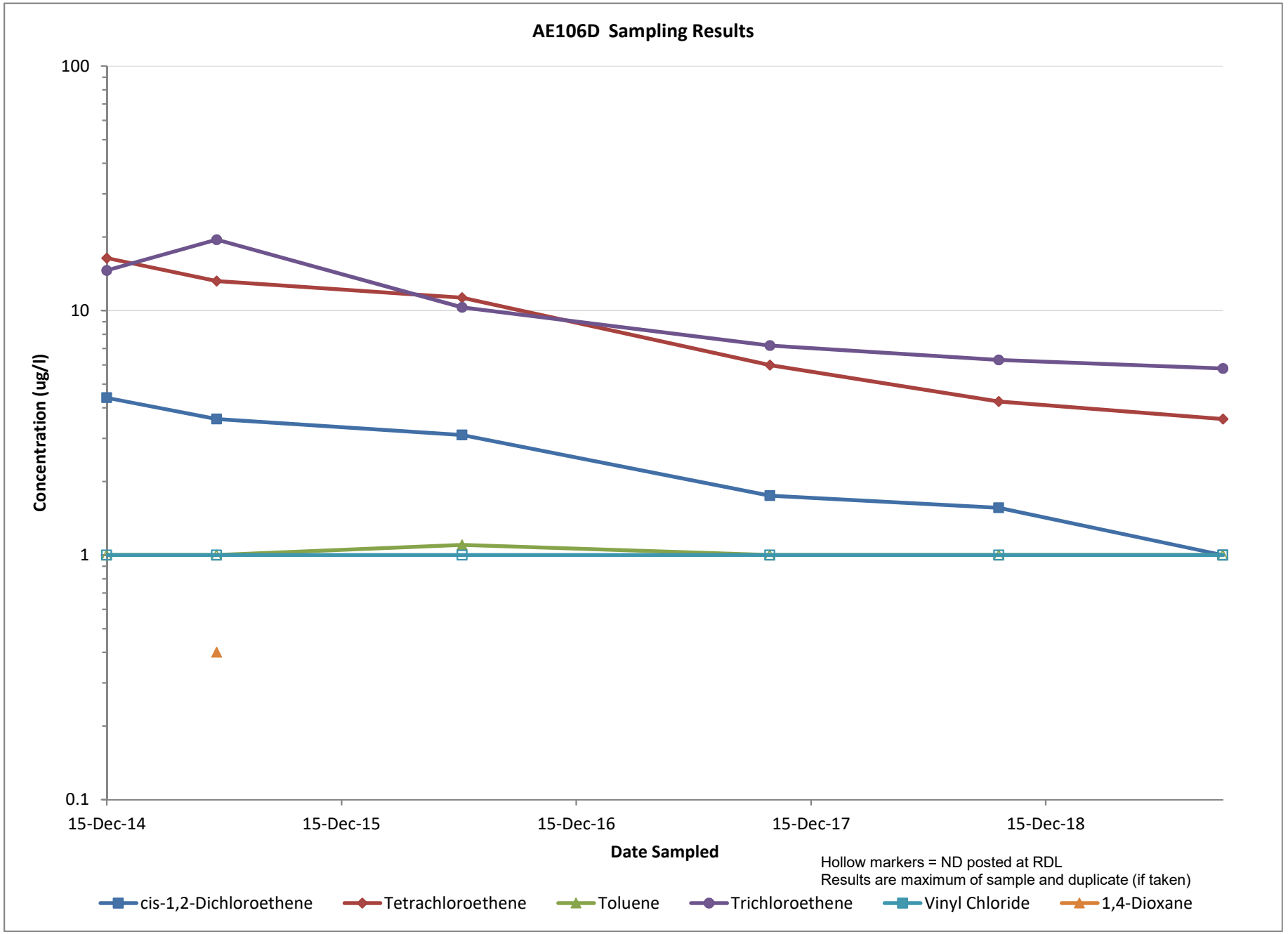

AE105R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

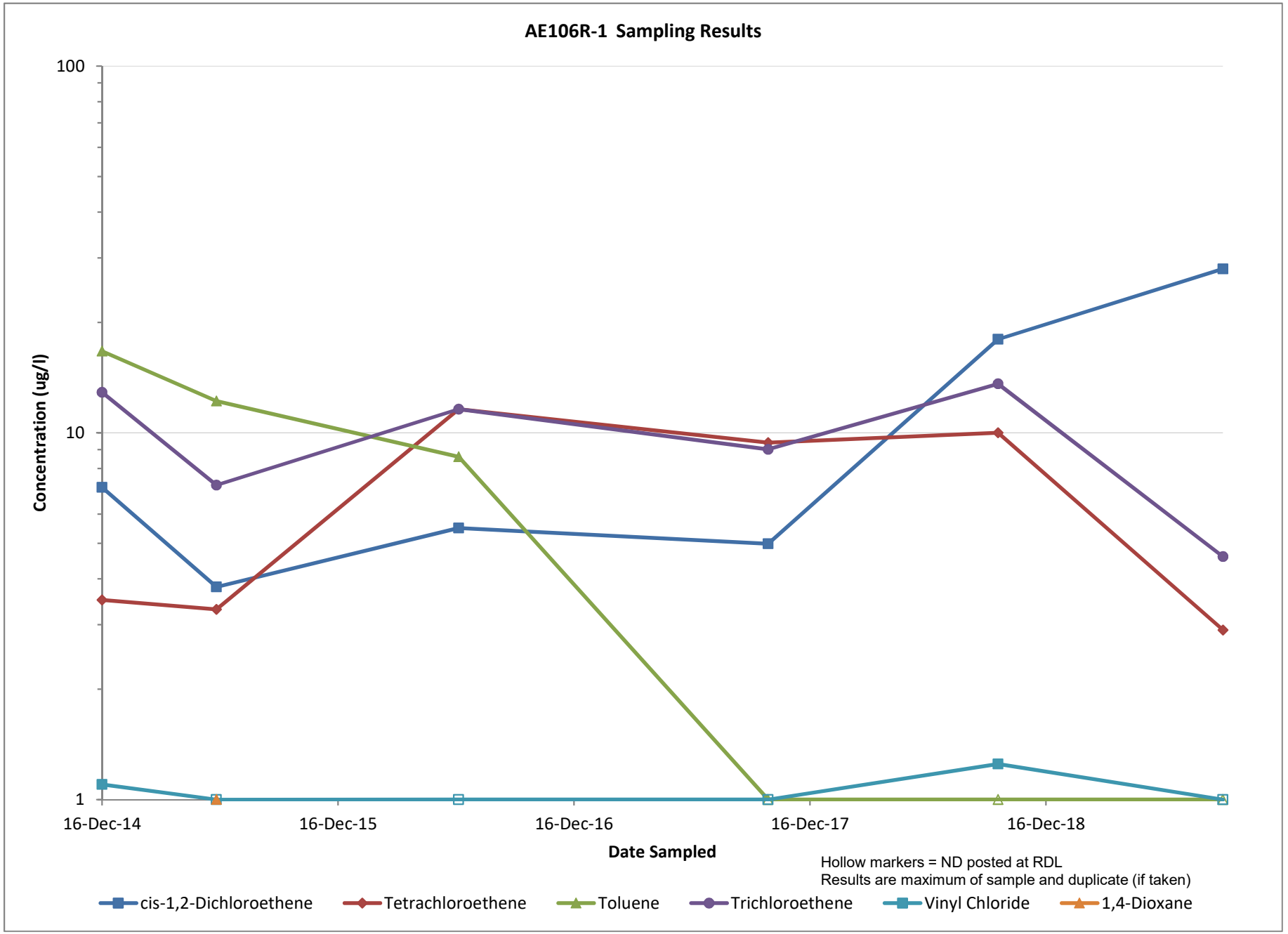

AE105R-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

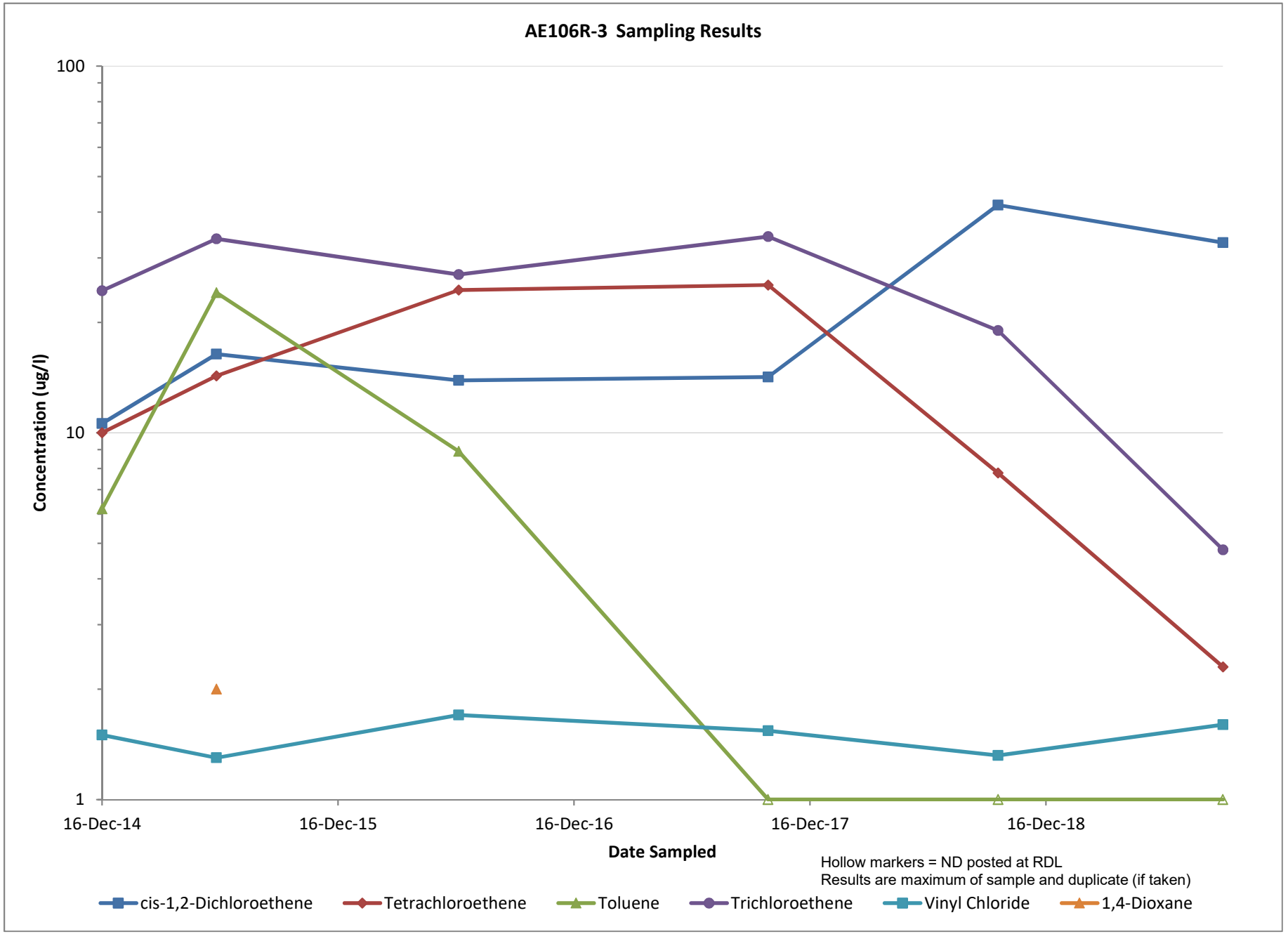

AE105R-4 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

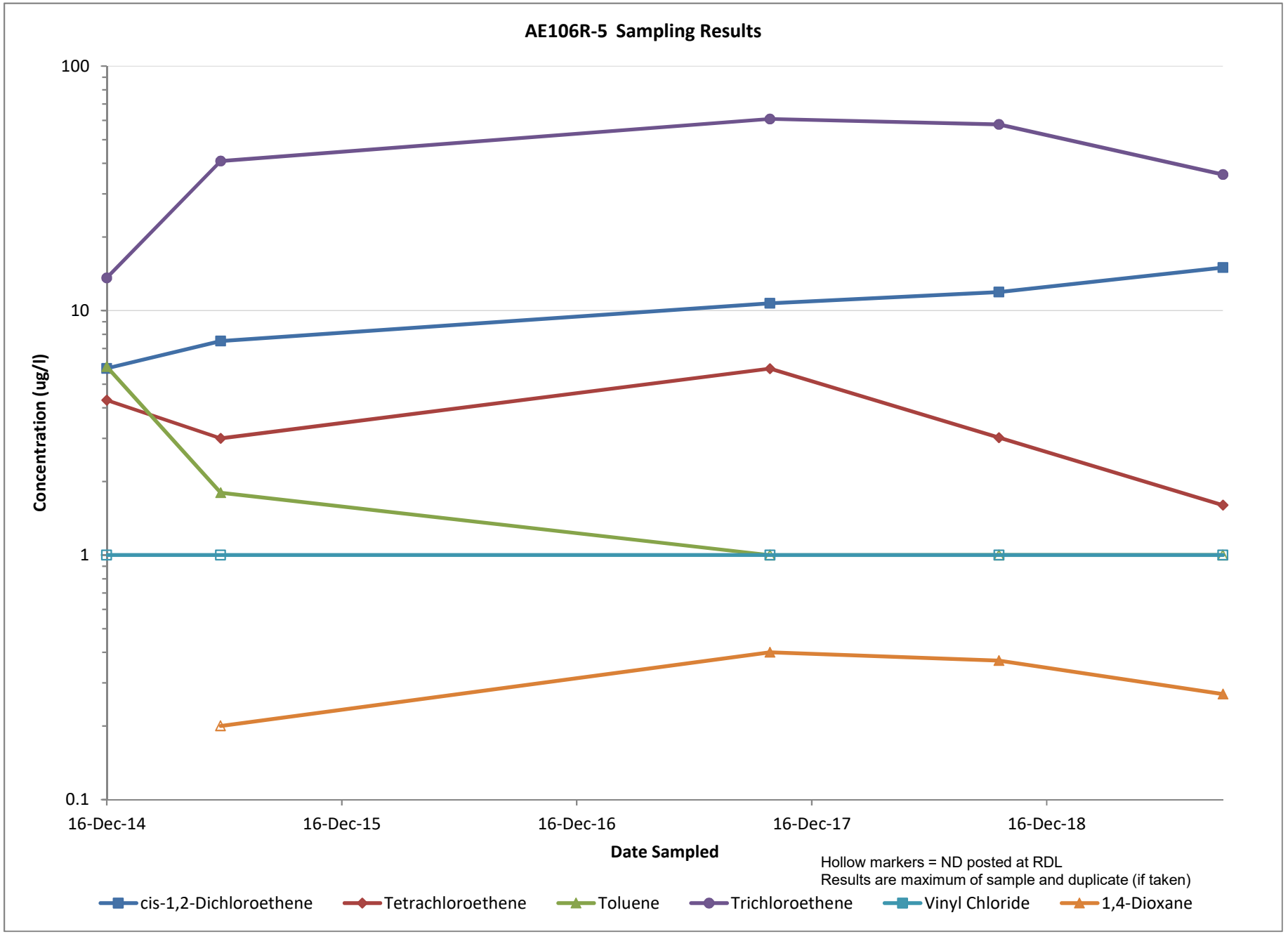

AE105R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

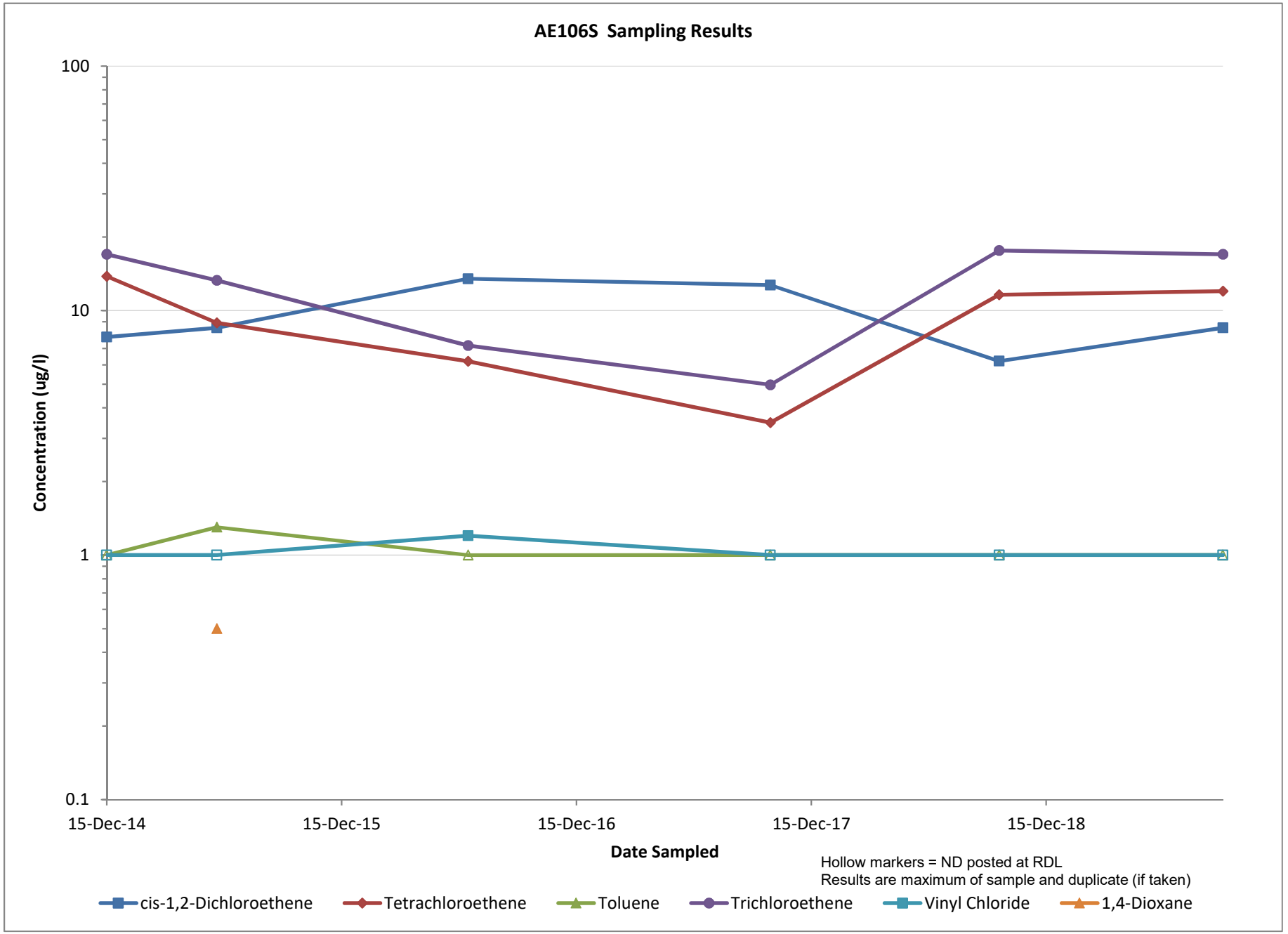

AE105S Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
14-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

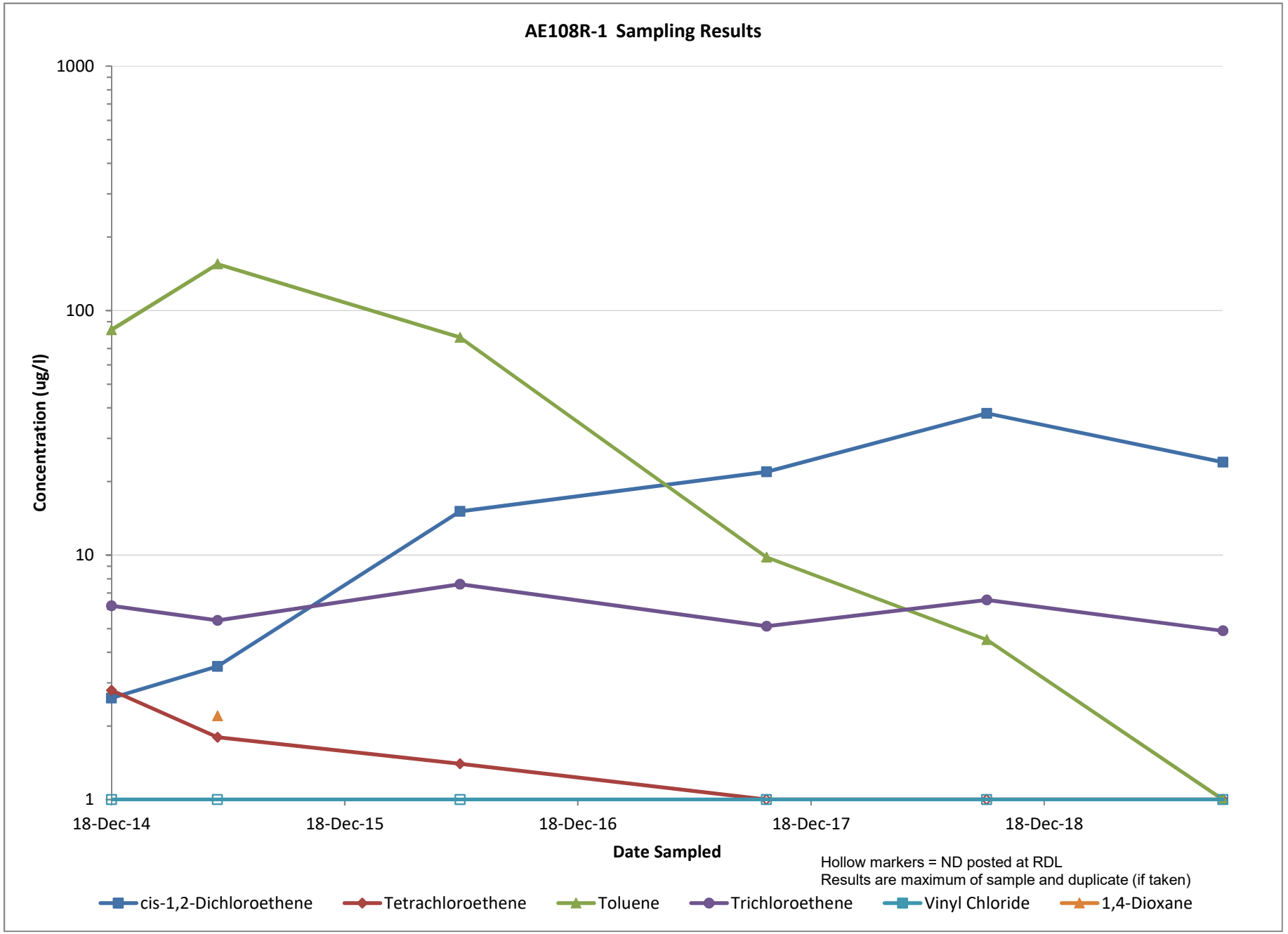

AE106D Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

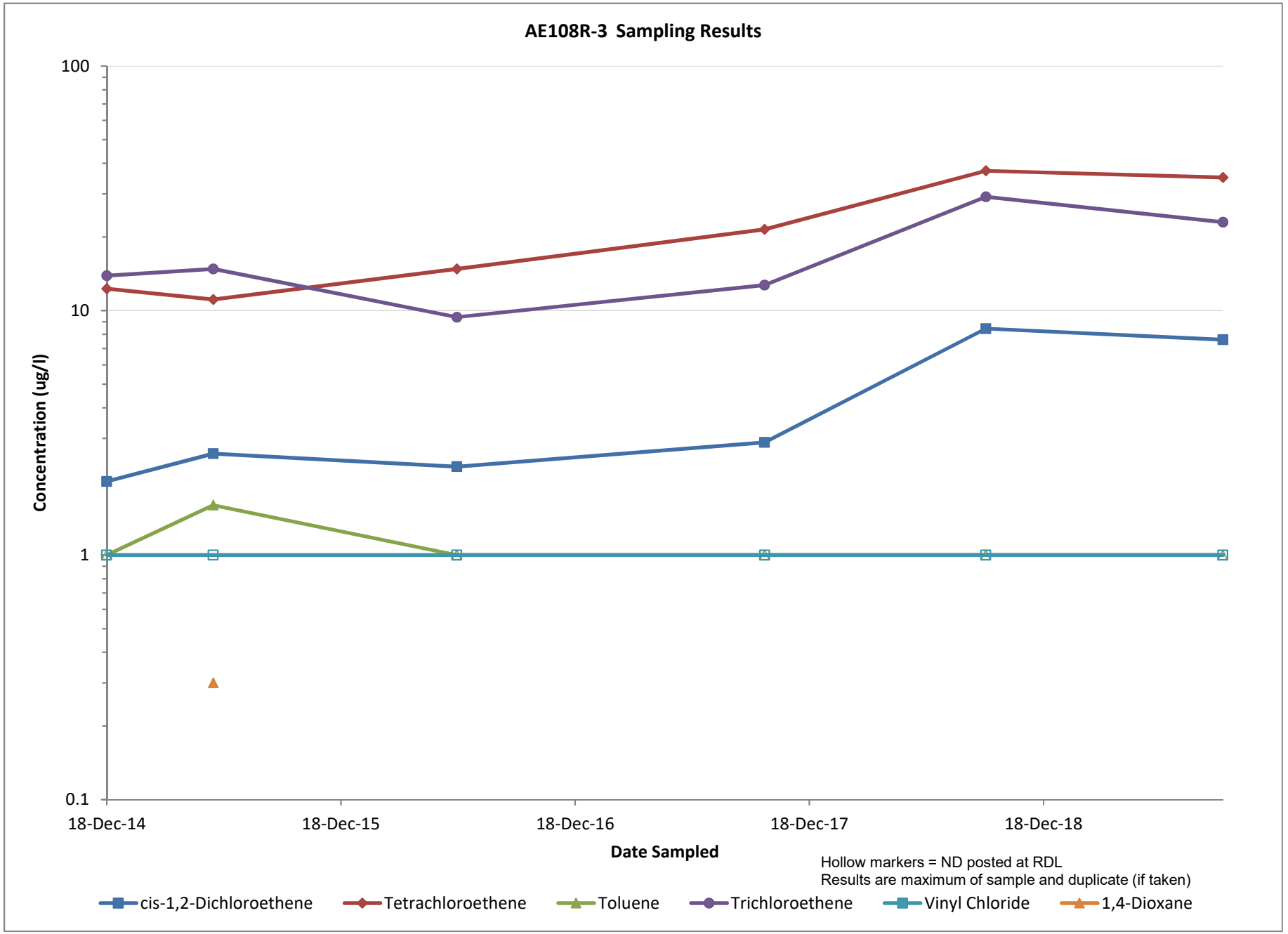

AE106R-1 Sampling Results
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

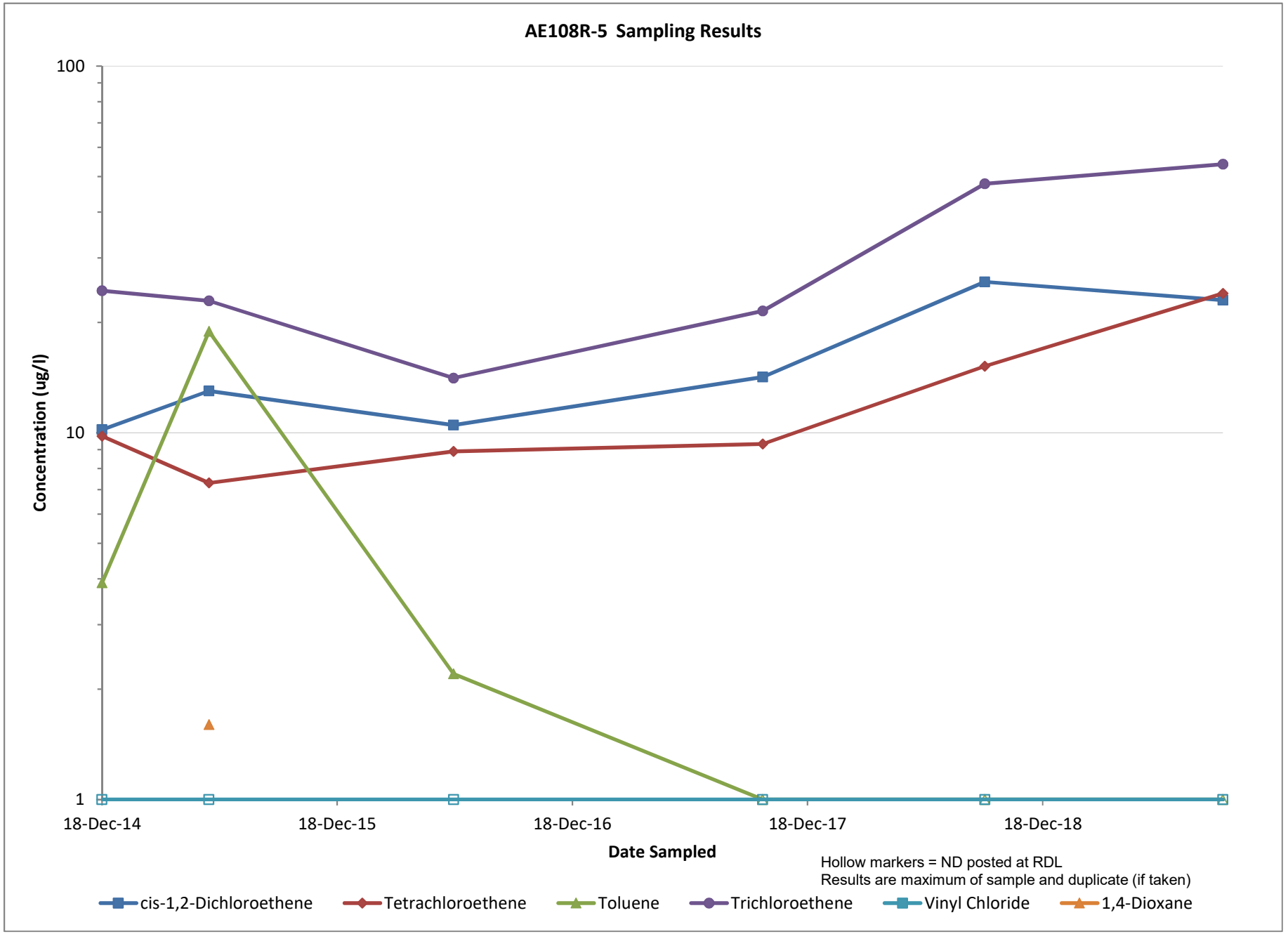

AE106R-3 Sampling Results
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

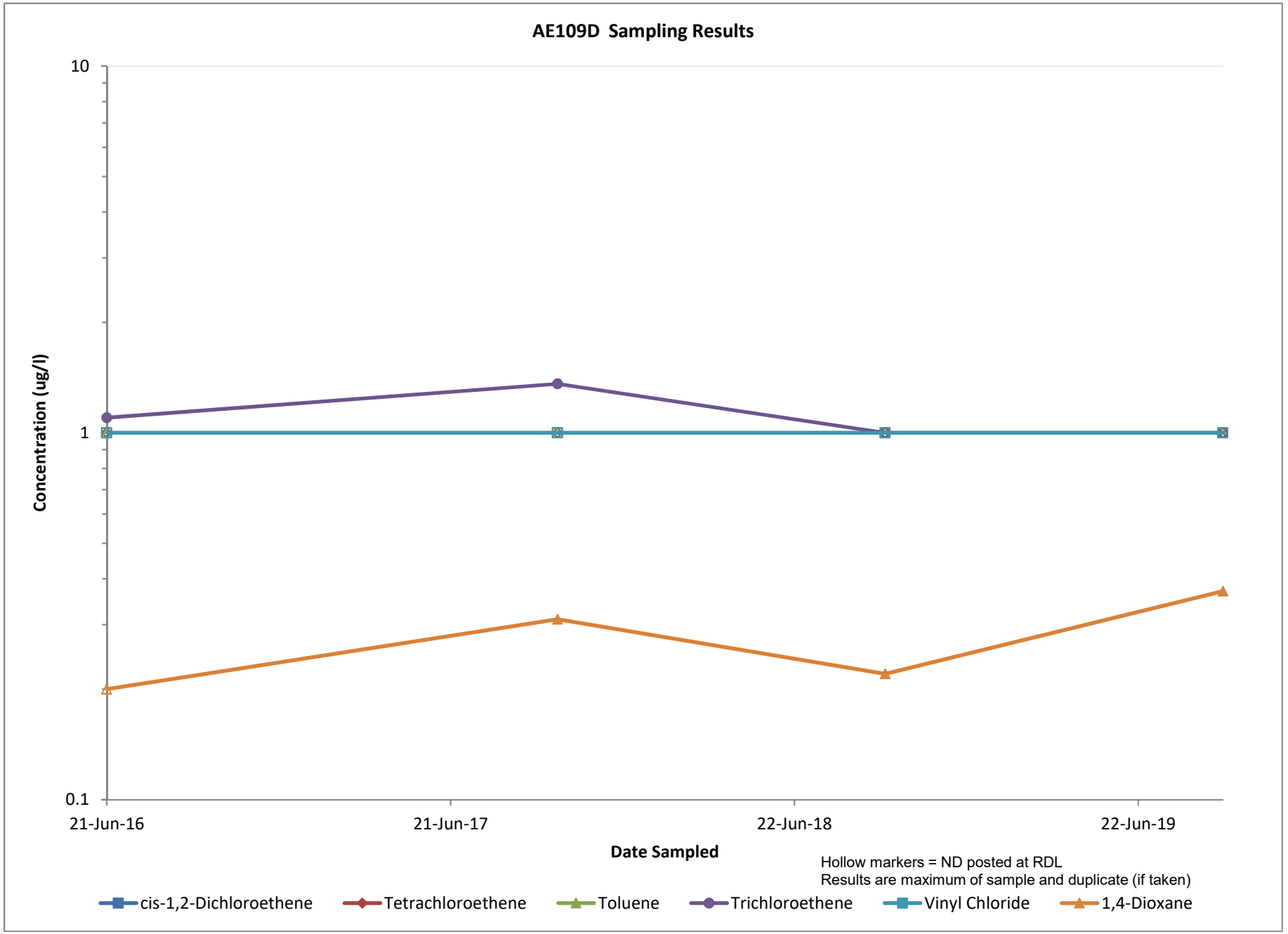

AE106R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

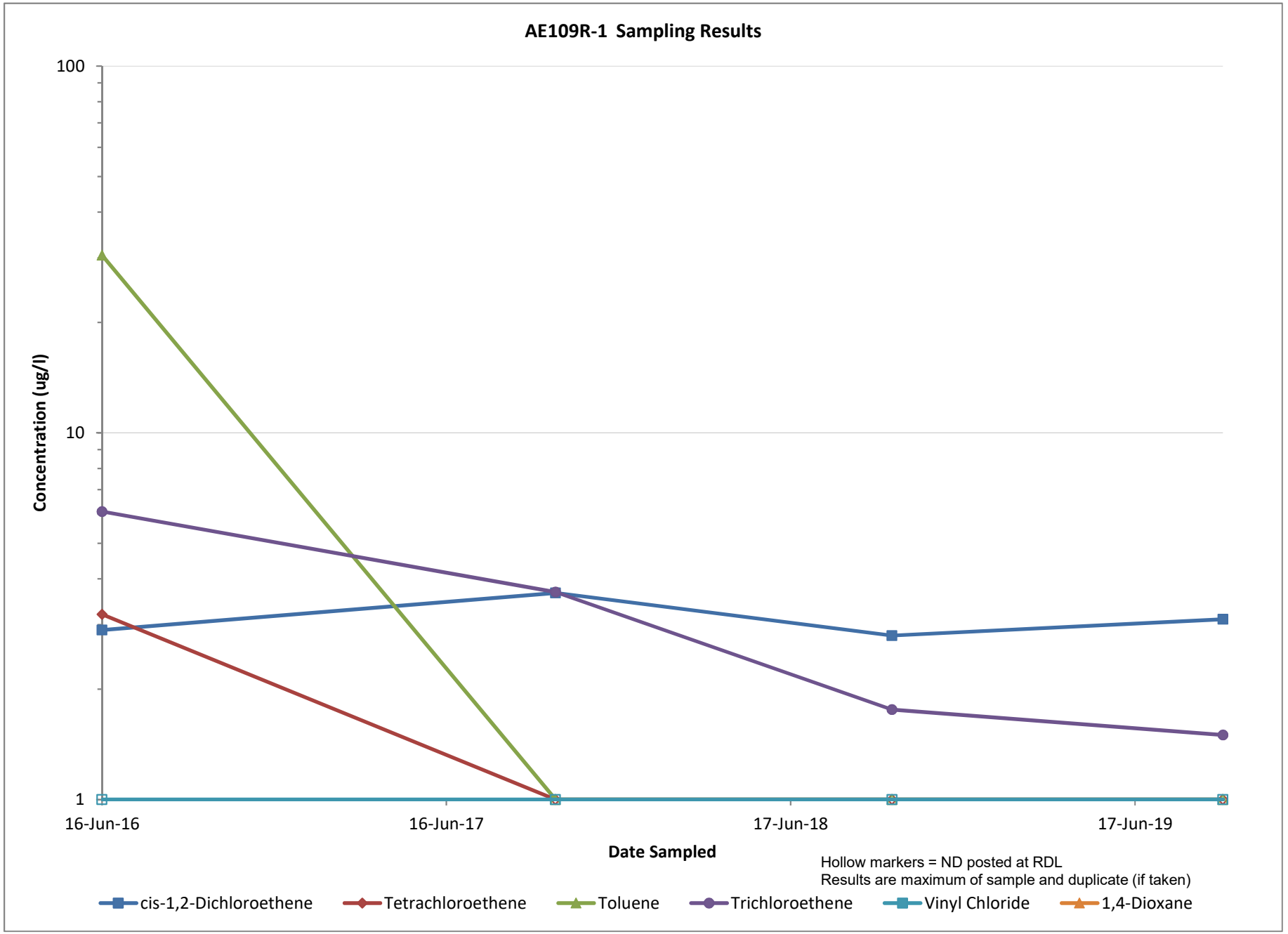

AE106S Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

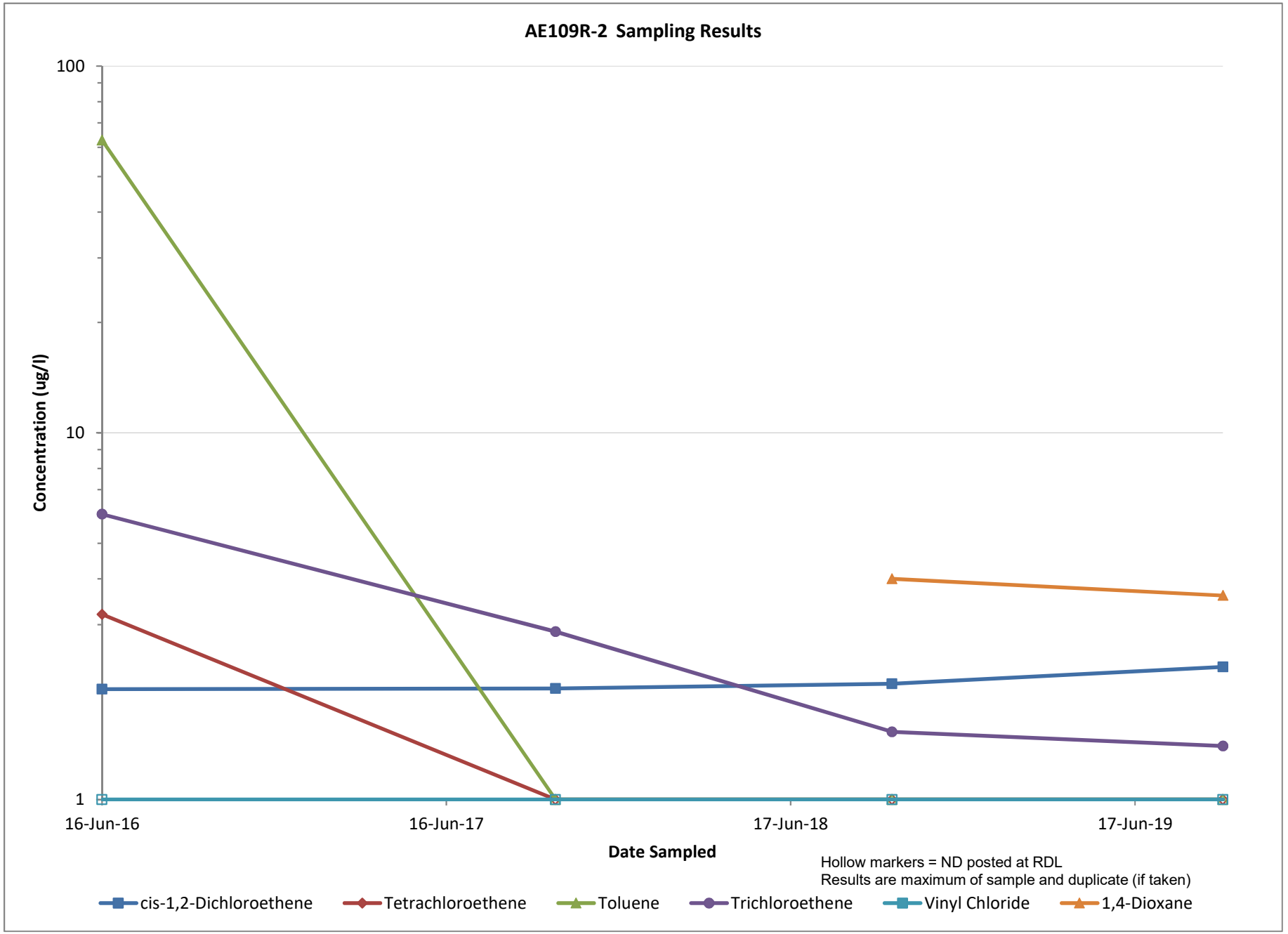

AE108R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

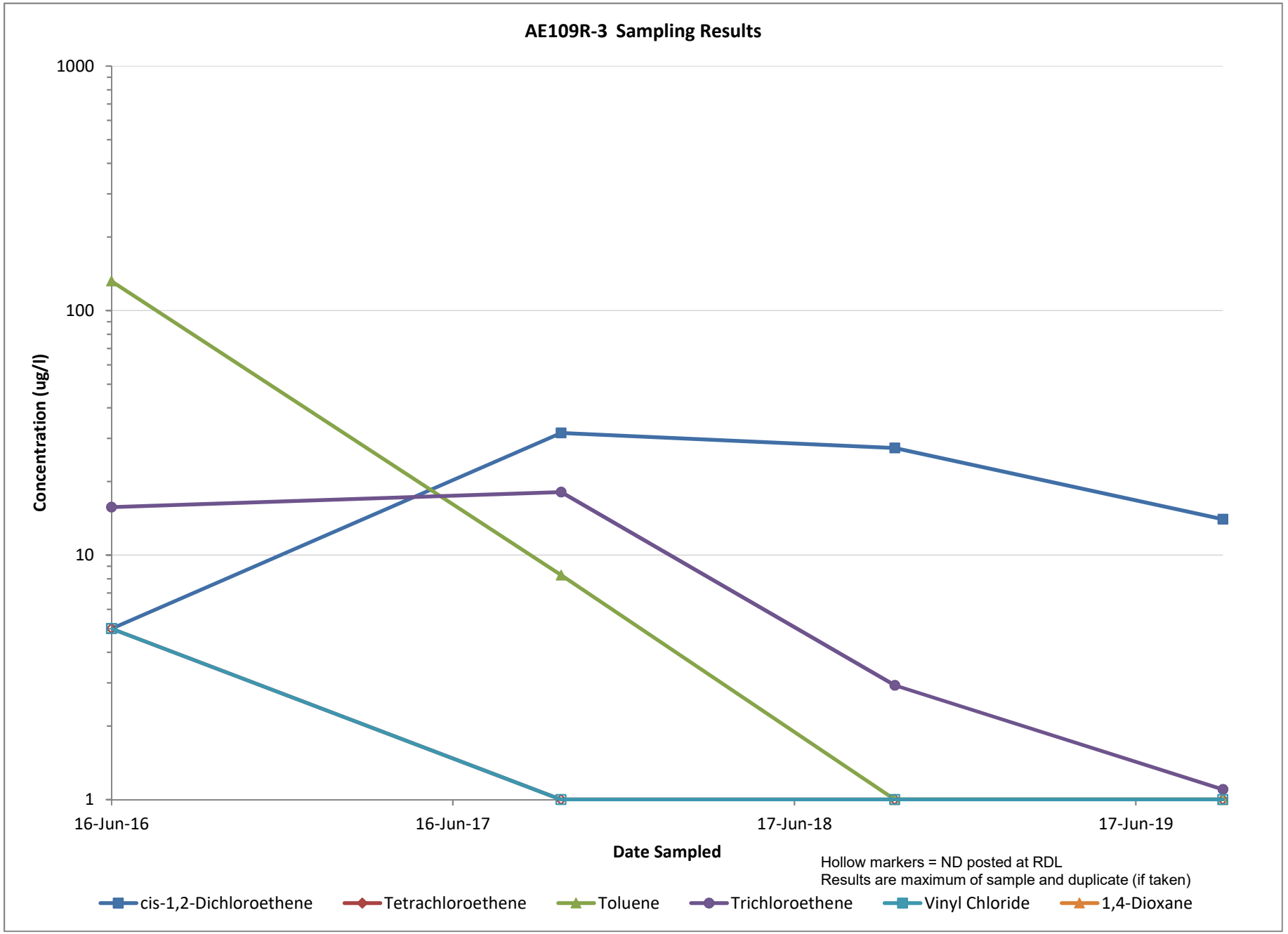

AE108R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

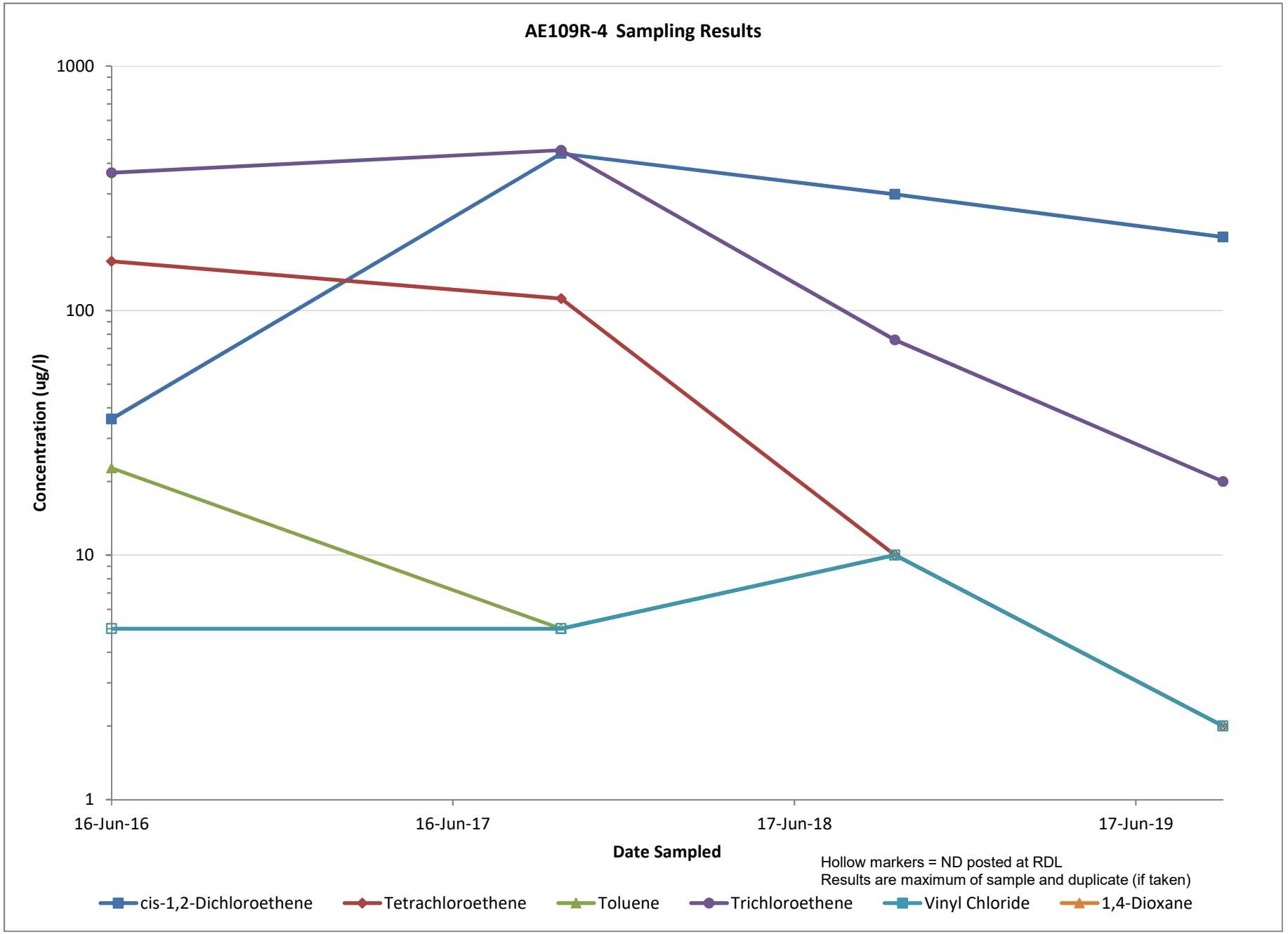

AE108R-5 Sampling Results
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

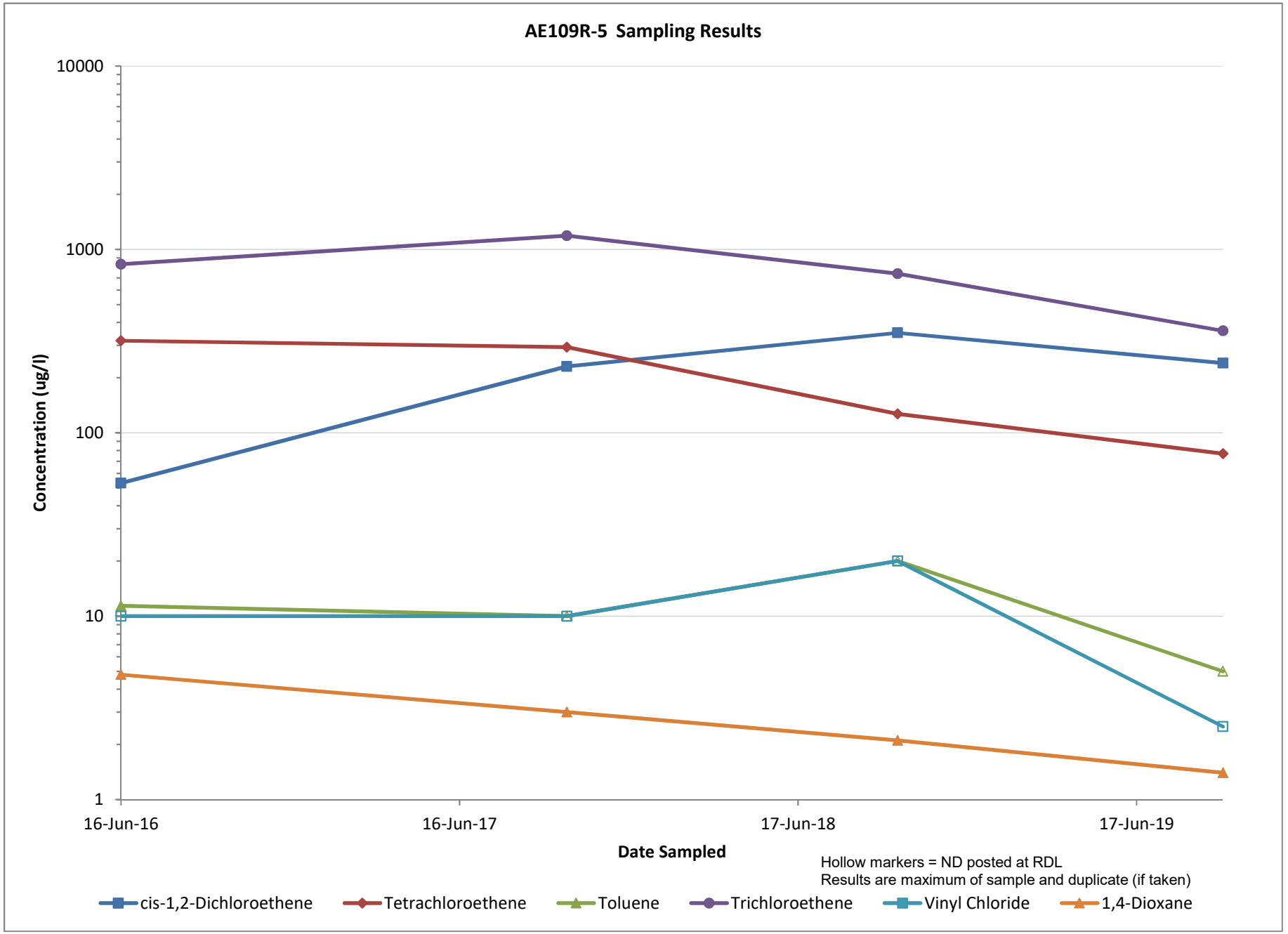

AE109D Sampling Results
10
1
0.1
Concentration (ug/l)
21-Jun-16
21-Jun-17
22-Jun-18
22-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

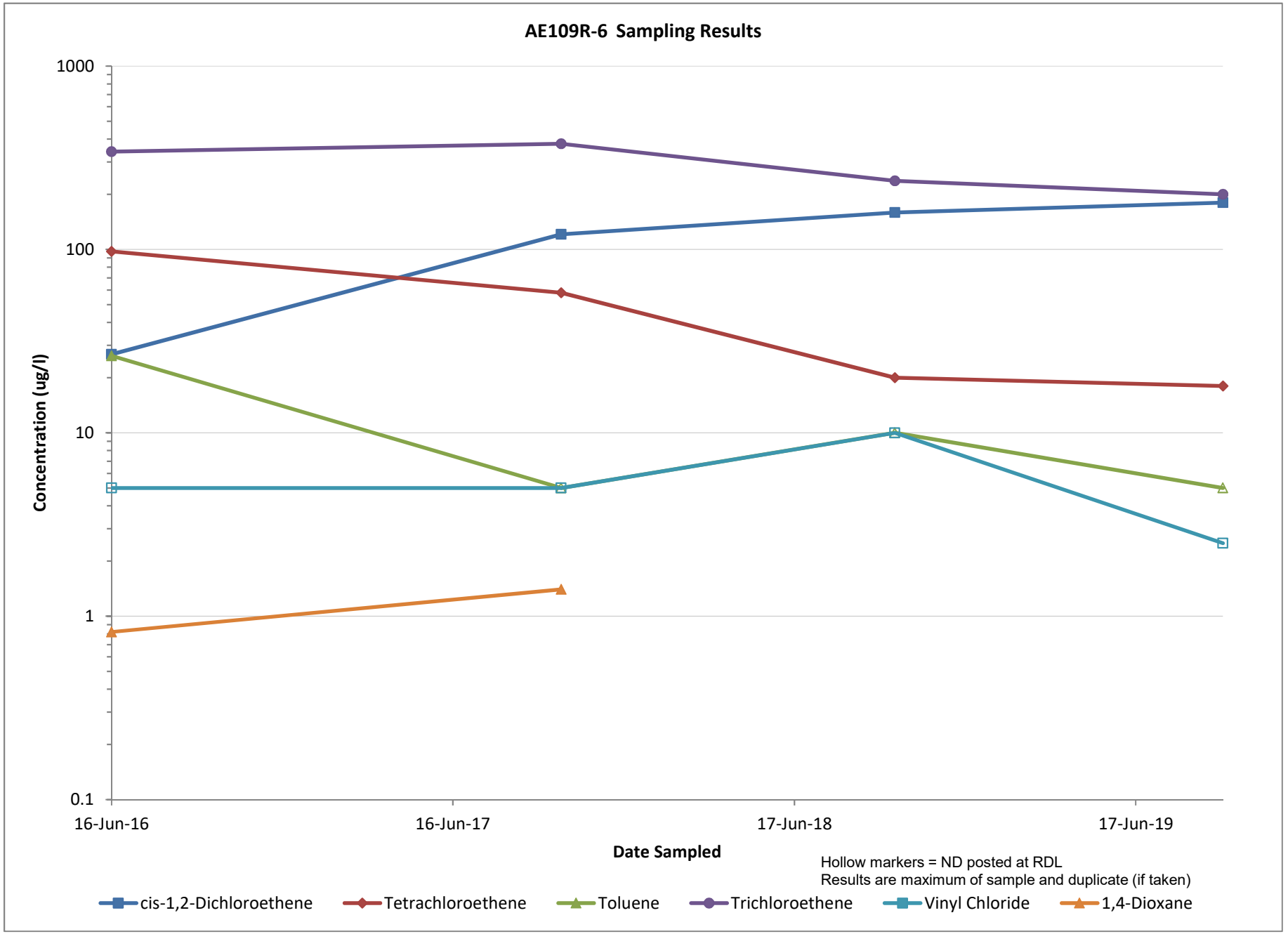

AE109R-1 Sampling Results
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

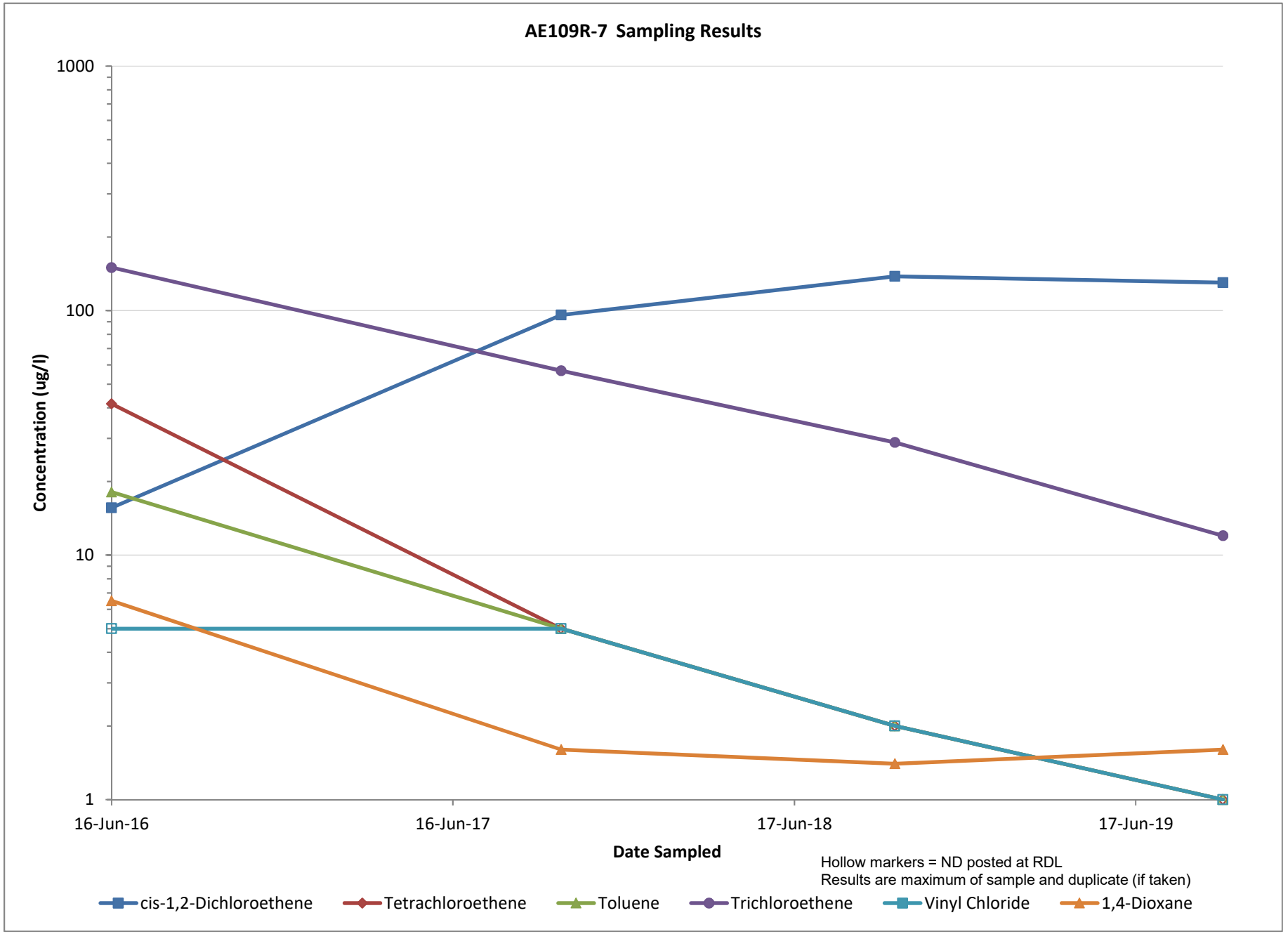

AE109R-2 Sampling Results
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

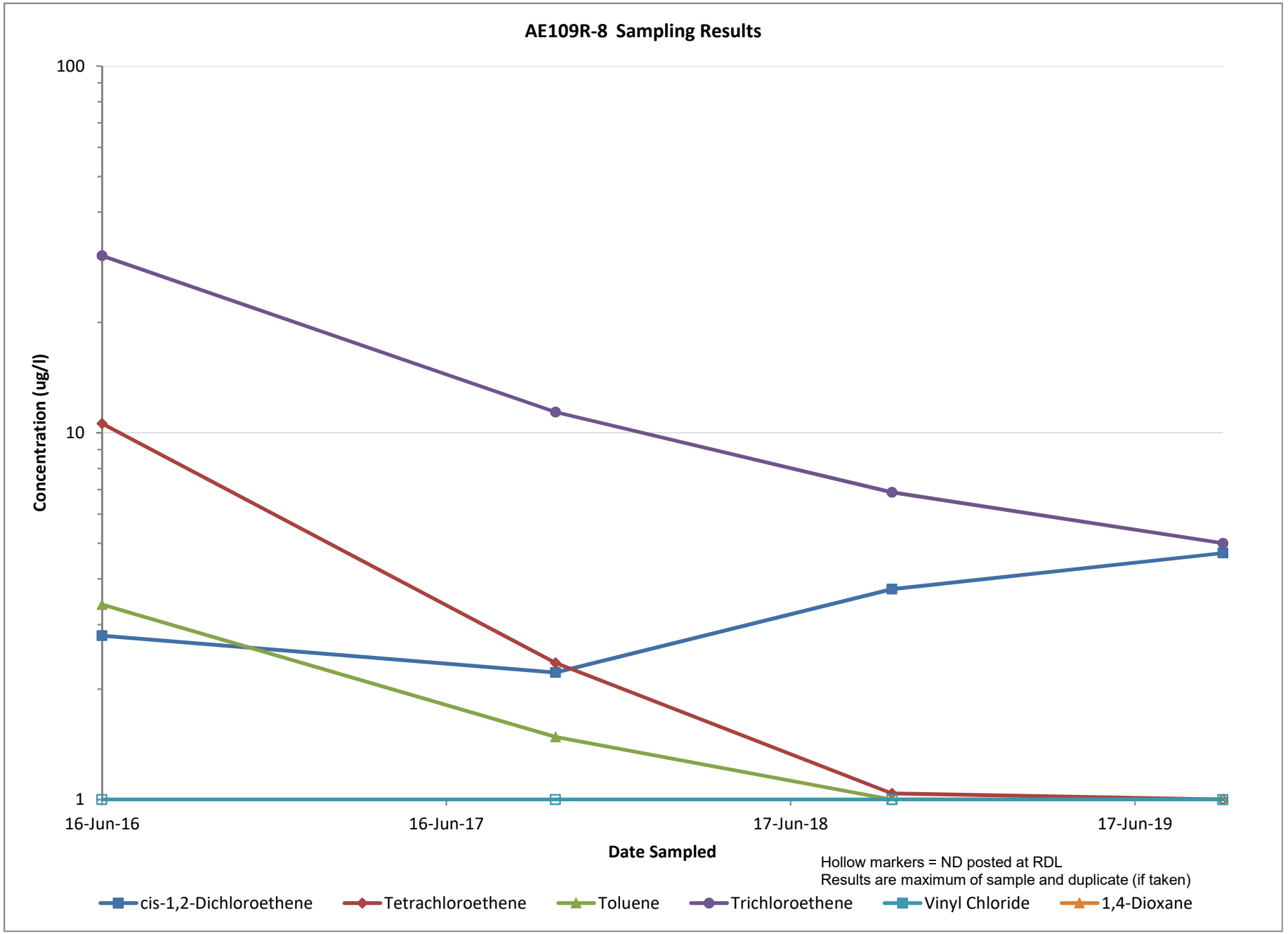

AE109R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

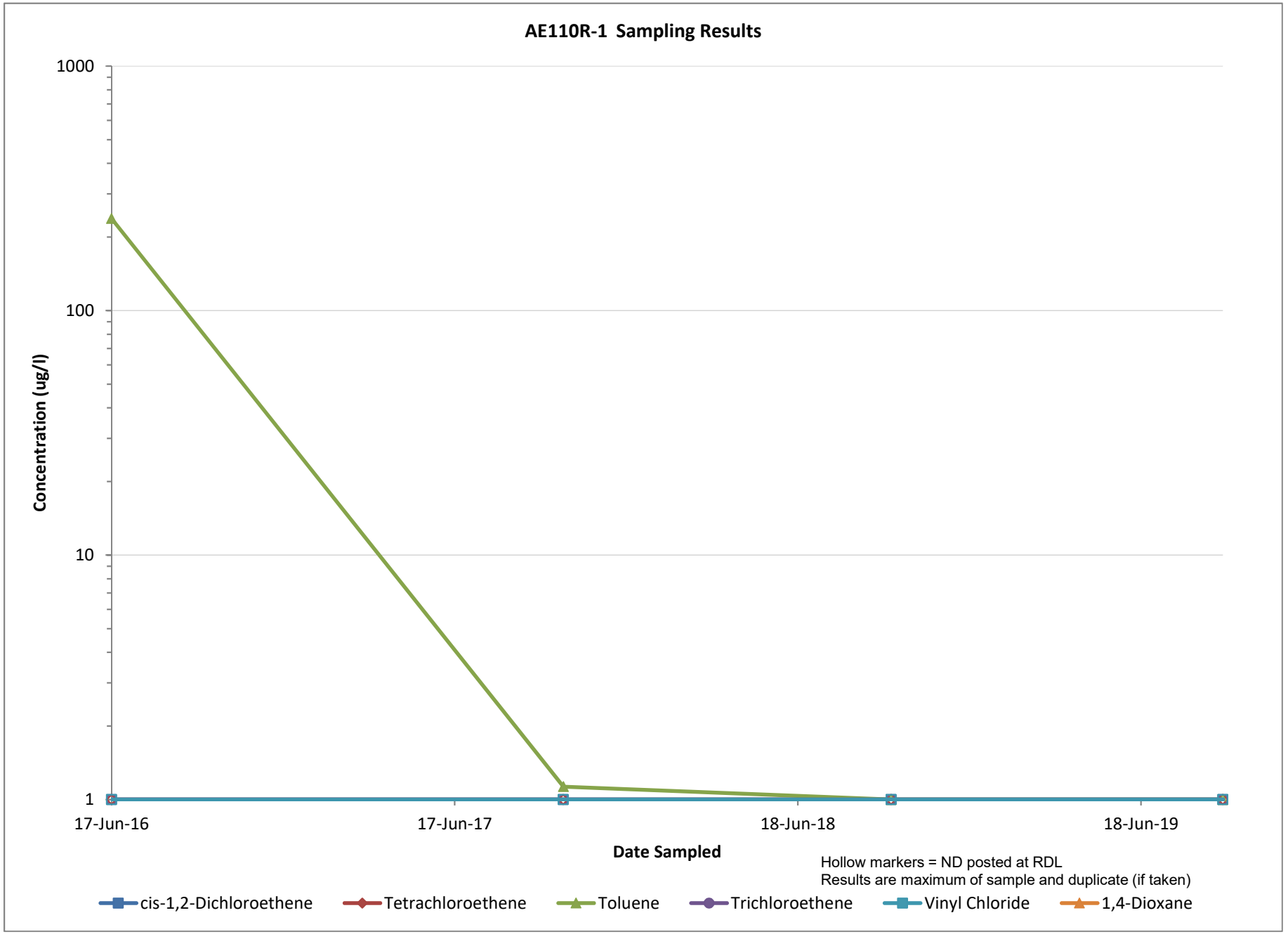

AE109R-4 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

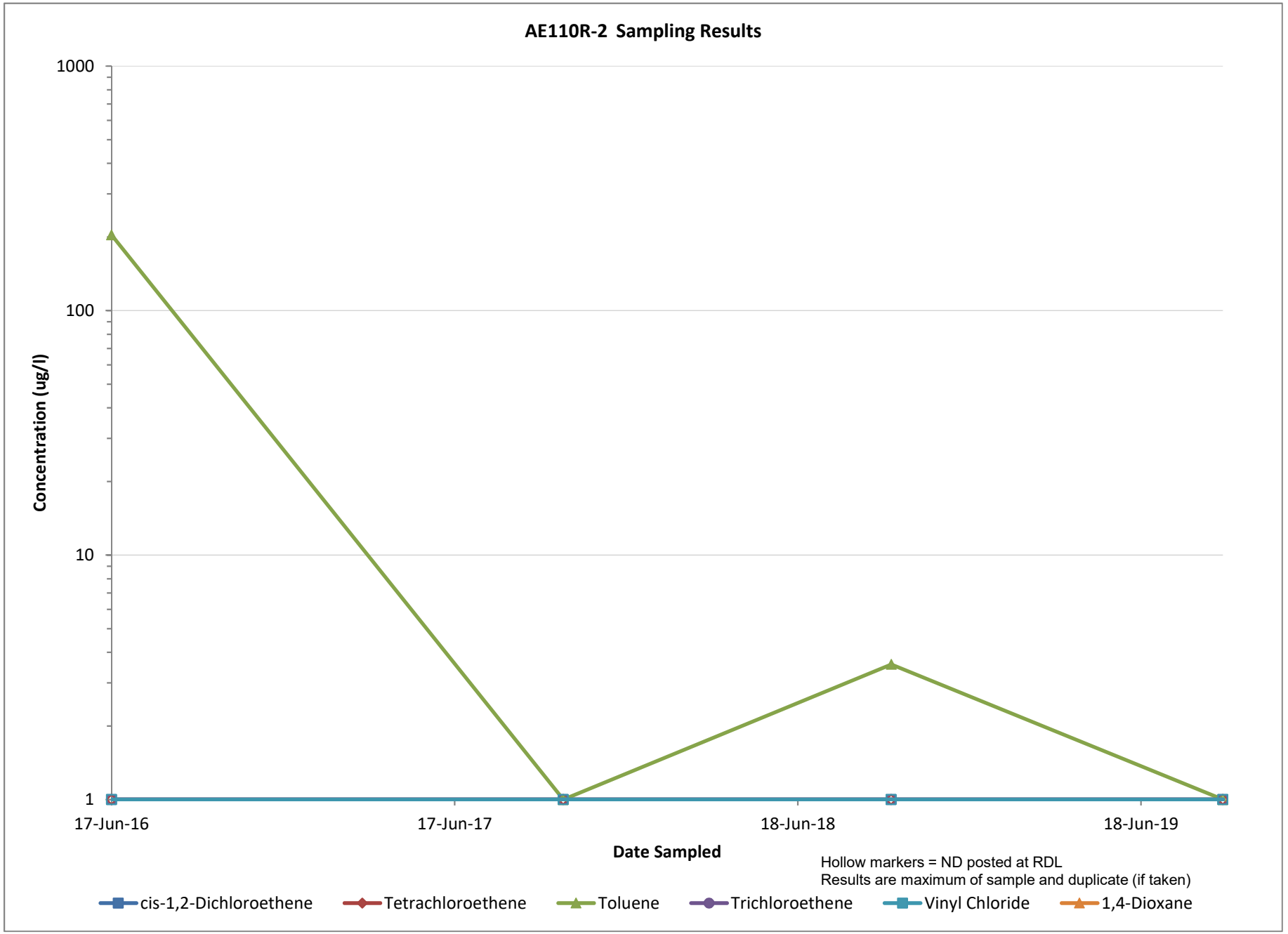

AE109R-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

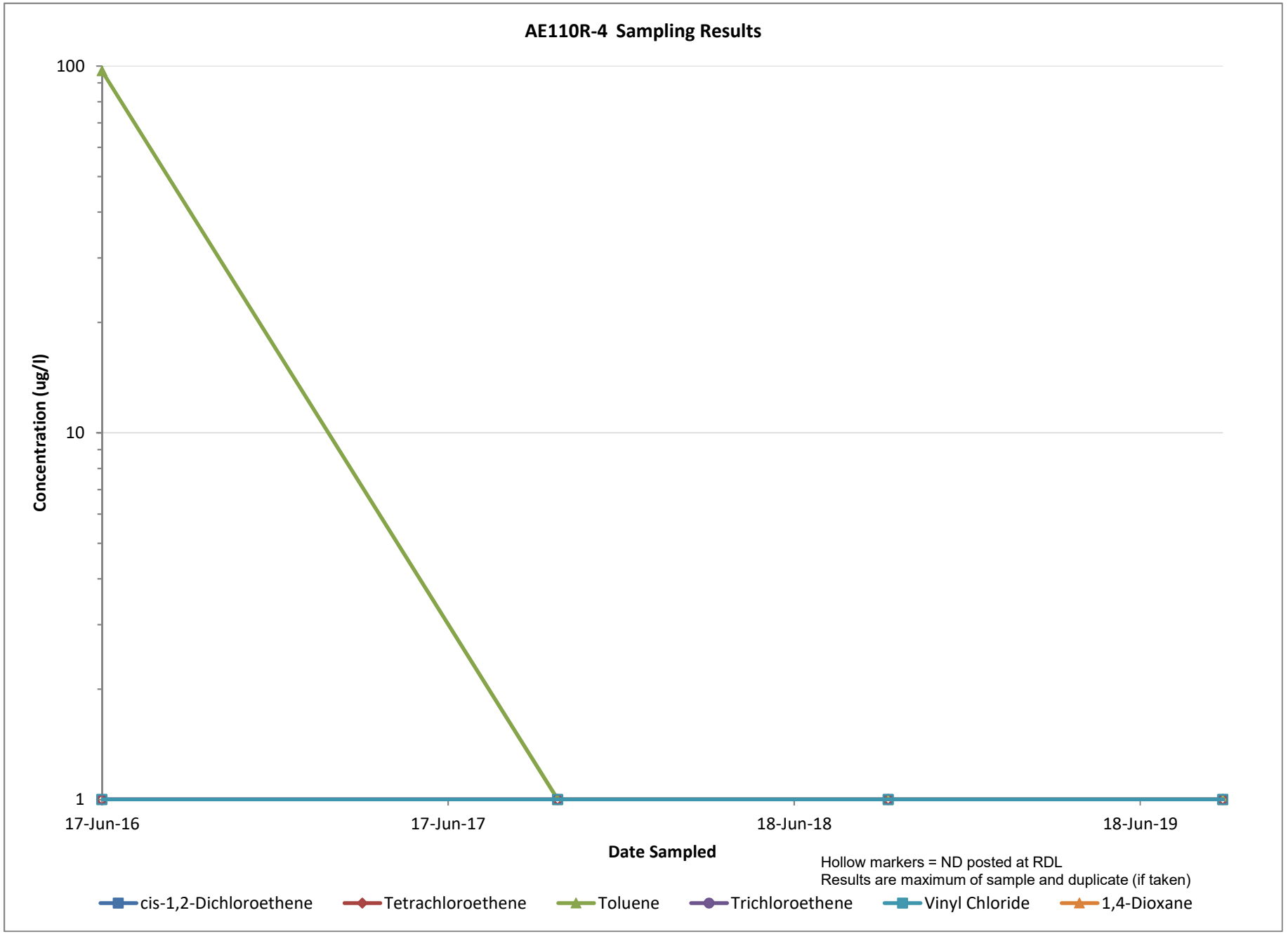

AE109R-6 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

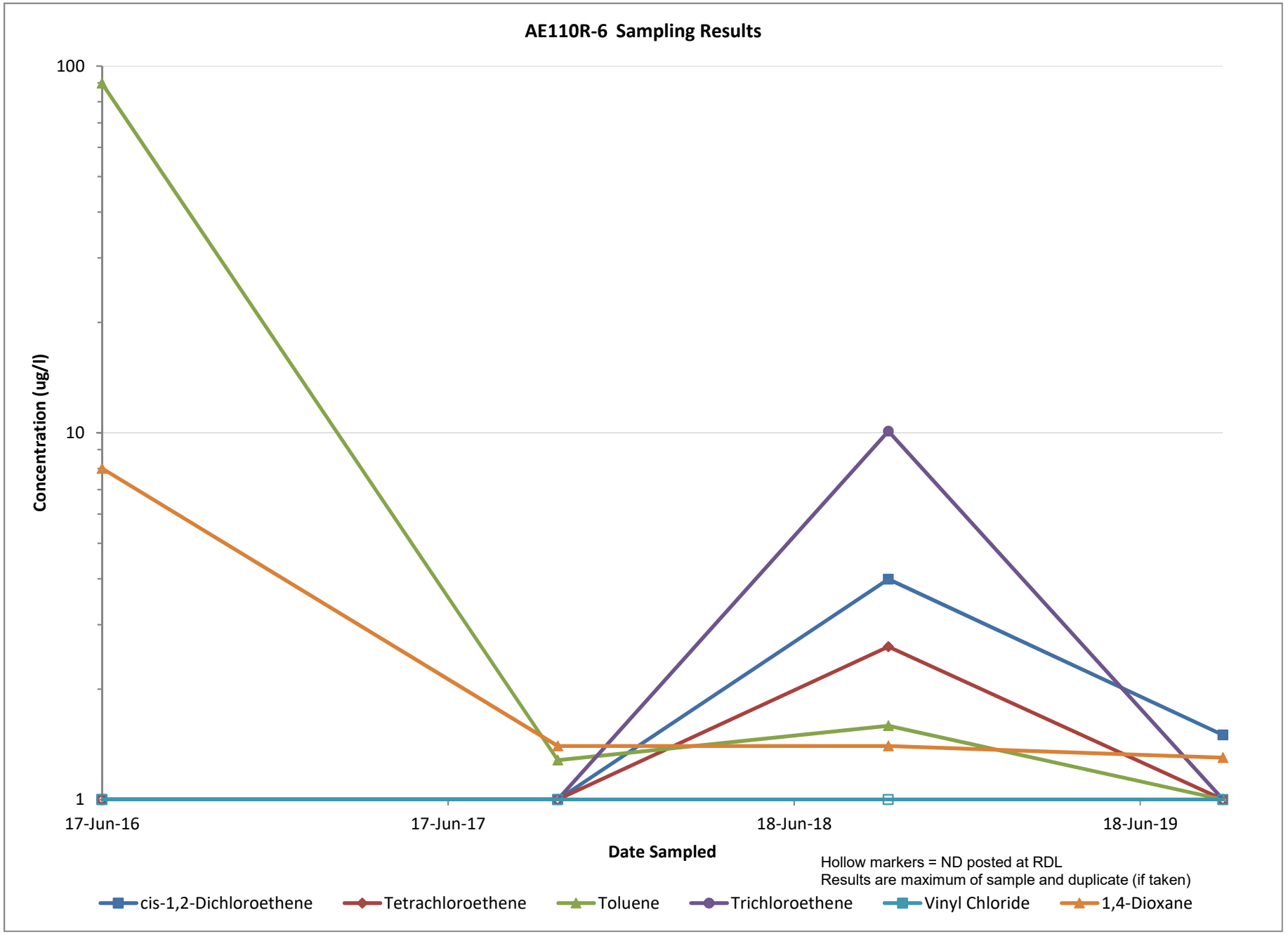

AE109R-7 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

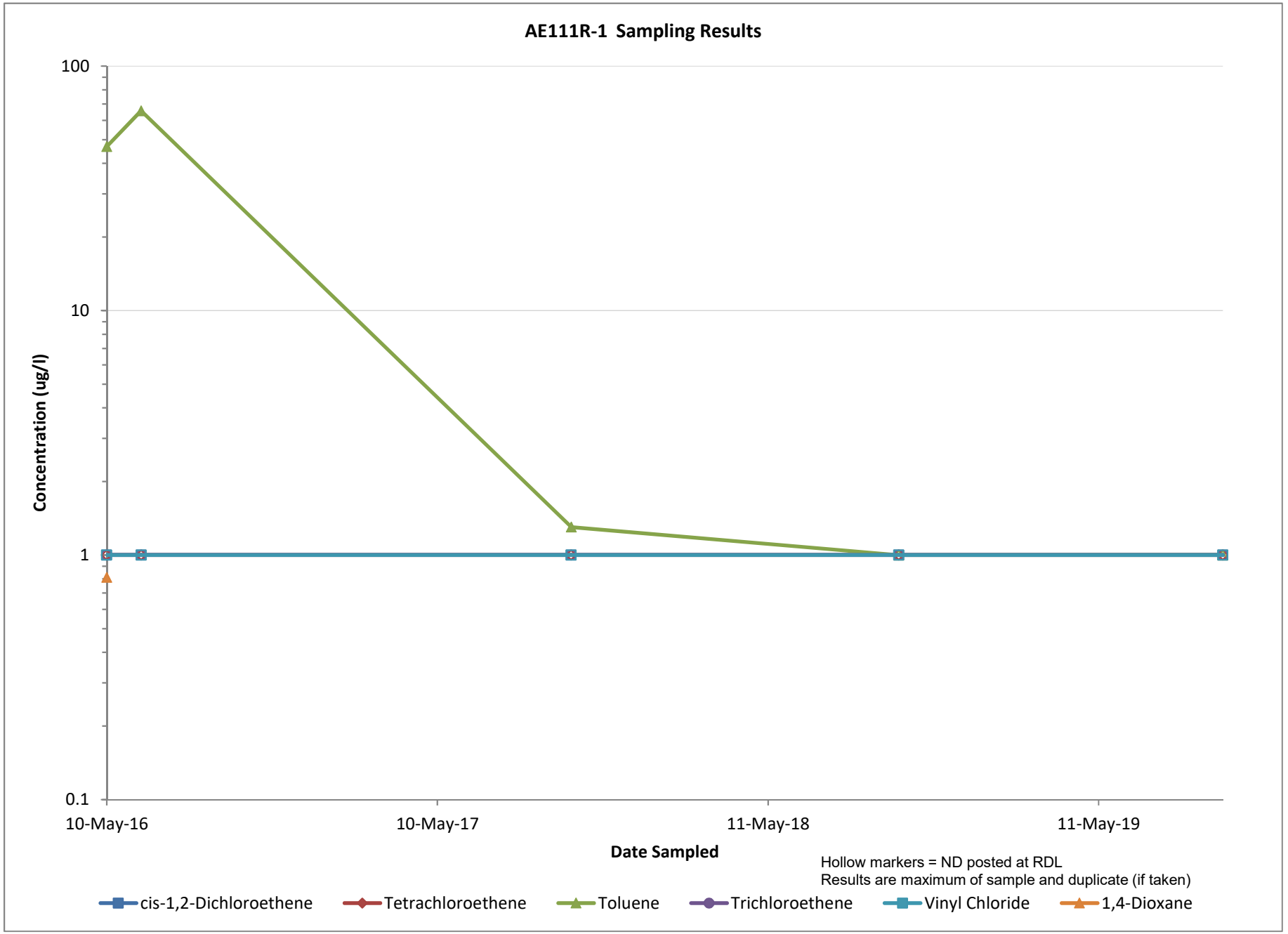

AE109R-8 Sampling Results
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

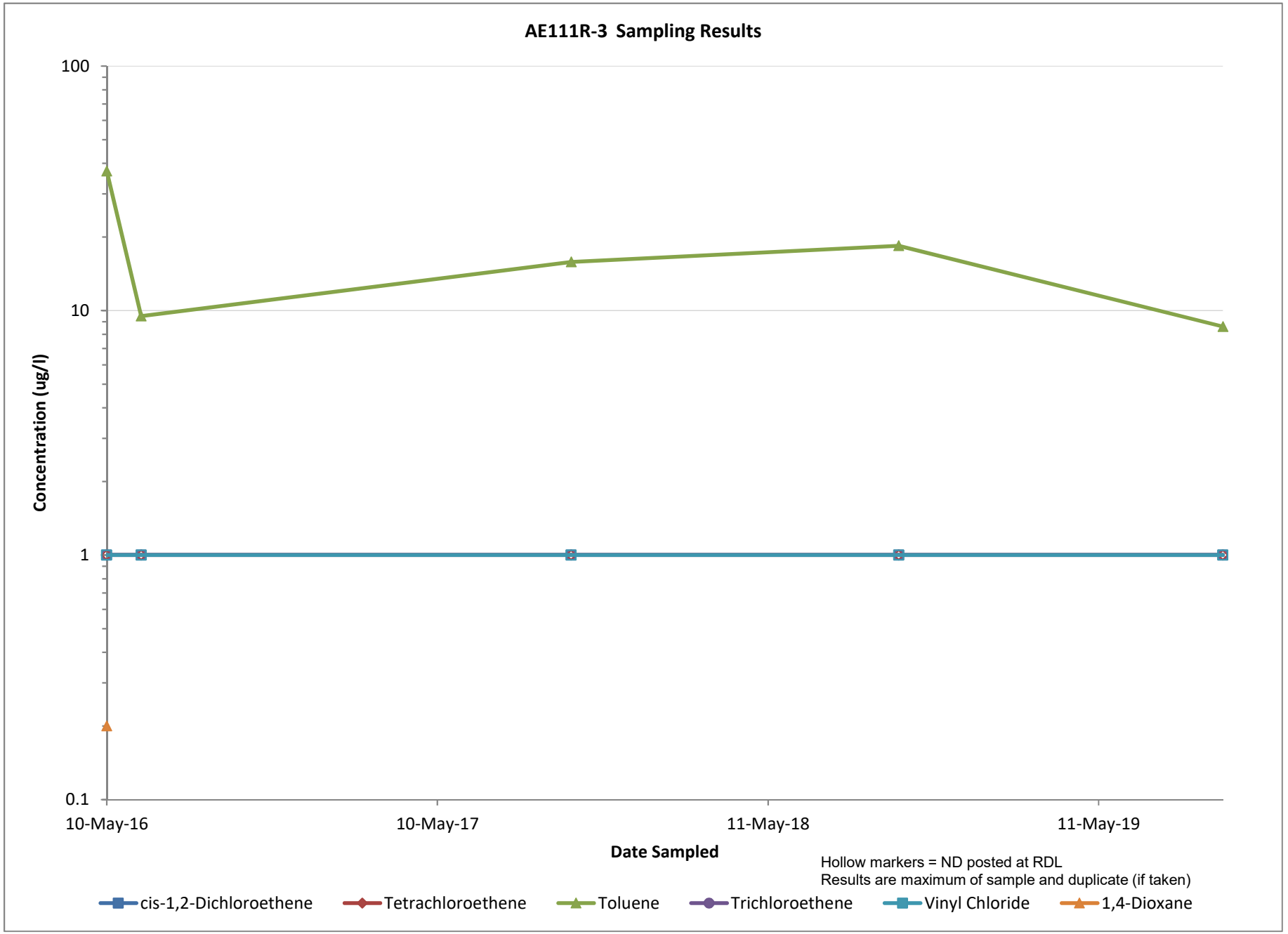

AE110R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

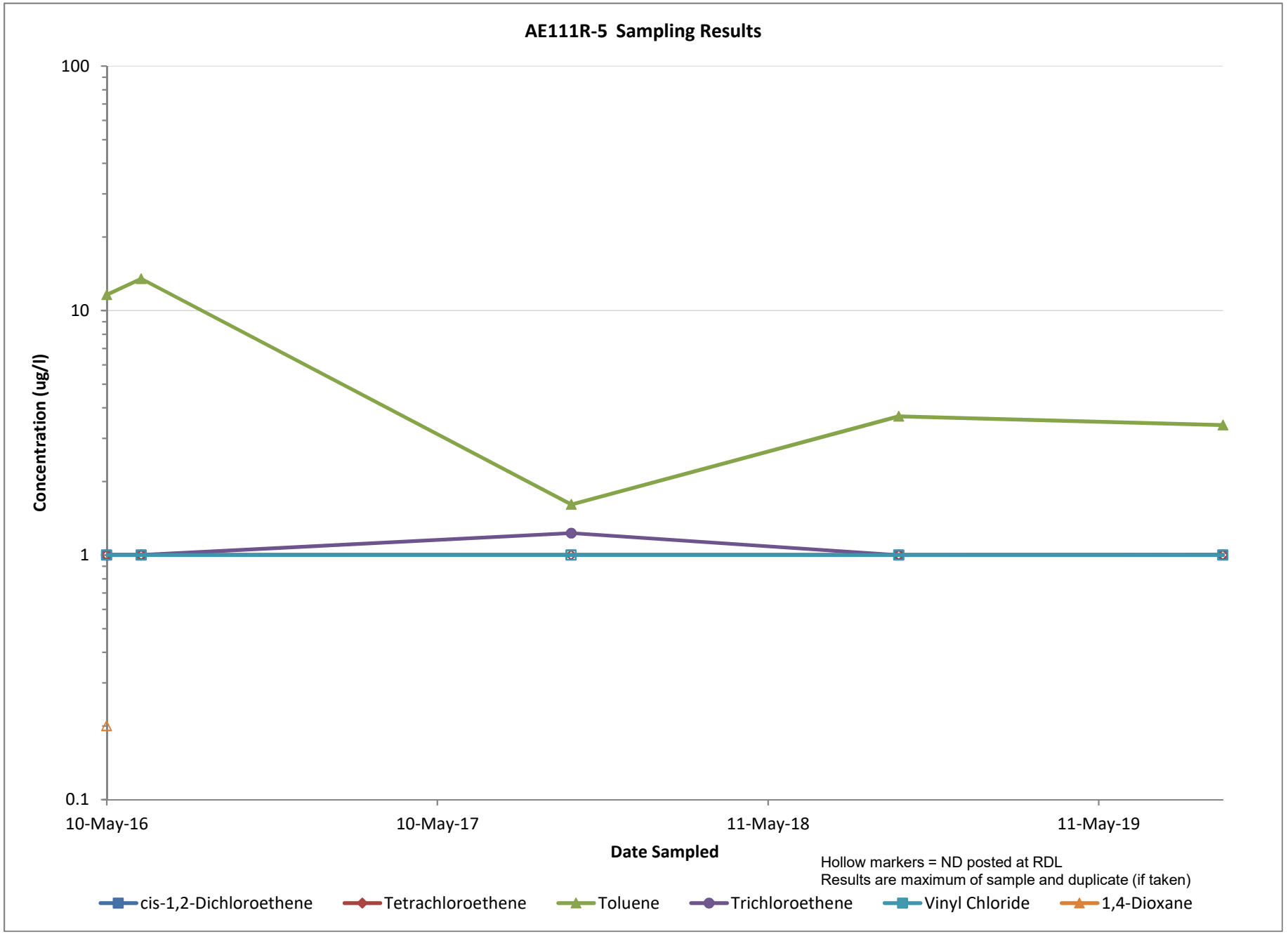

AE110R-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

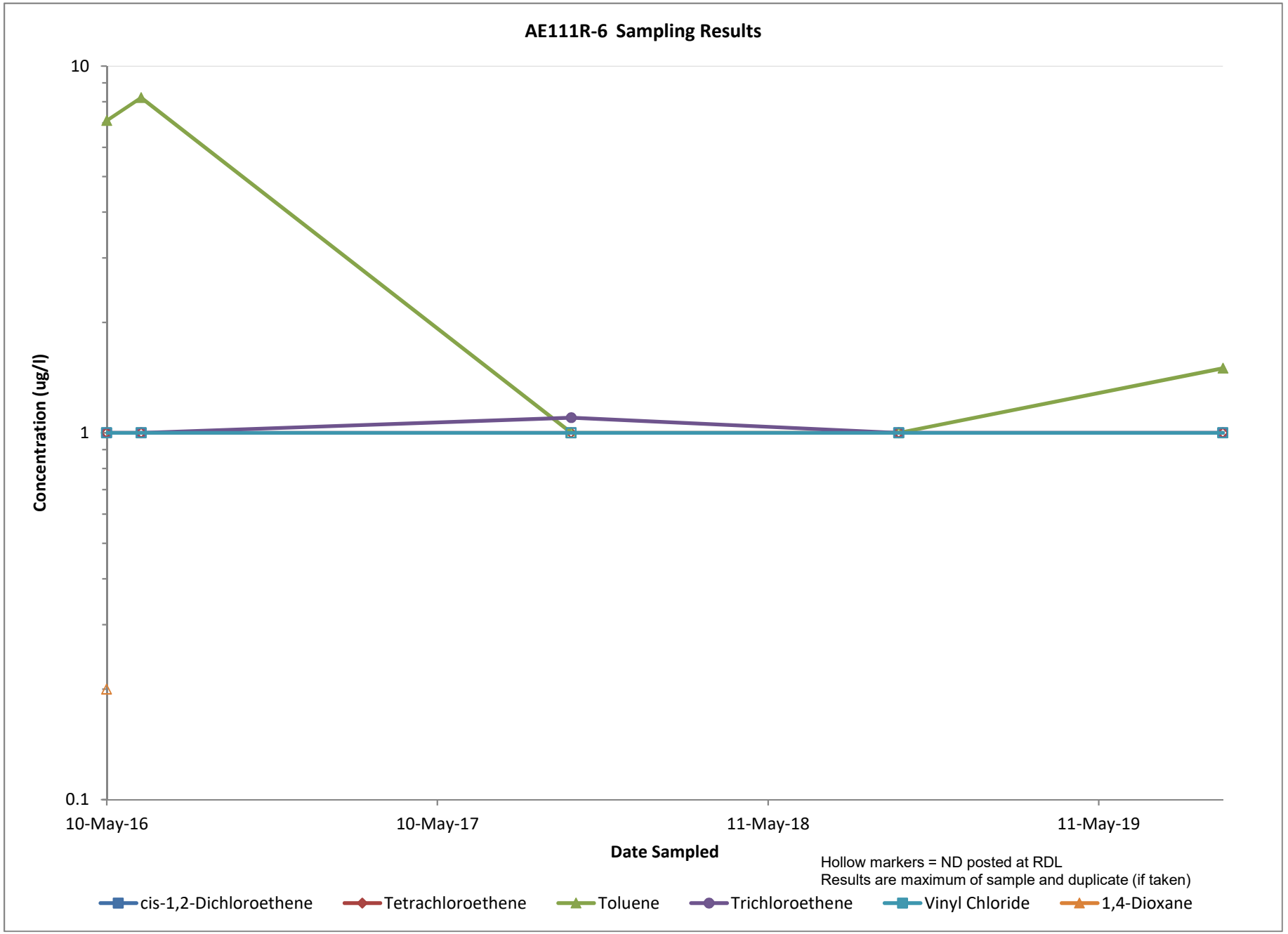

AE110R-4 Sampling Results
100
10
1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

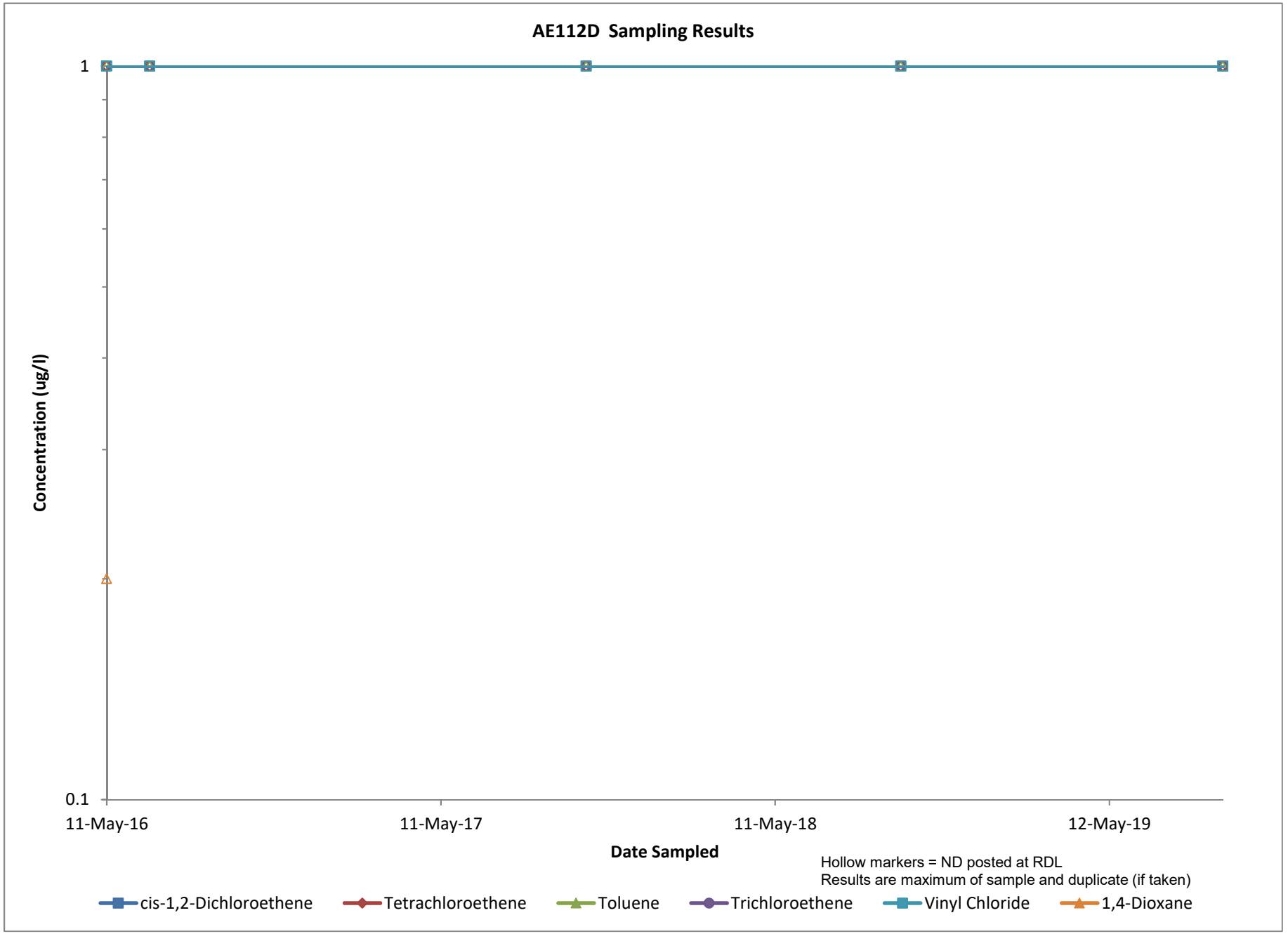

AE110R-6 Sampling Results
100
10
1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

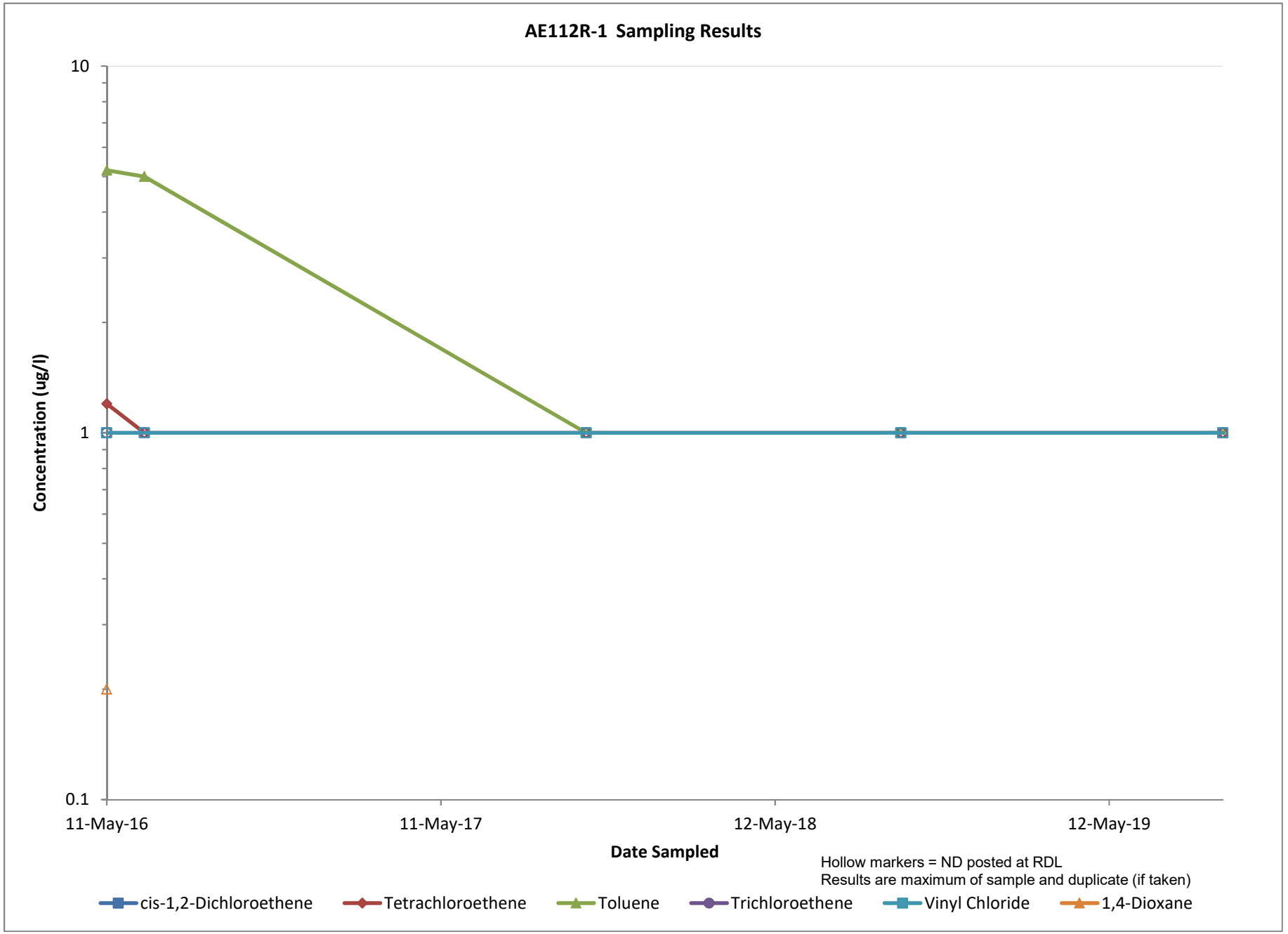

AE111R-1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

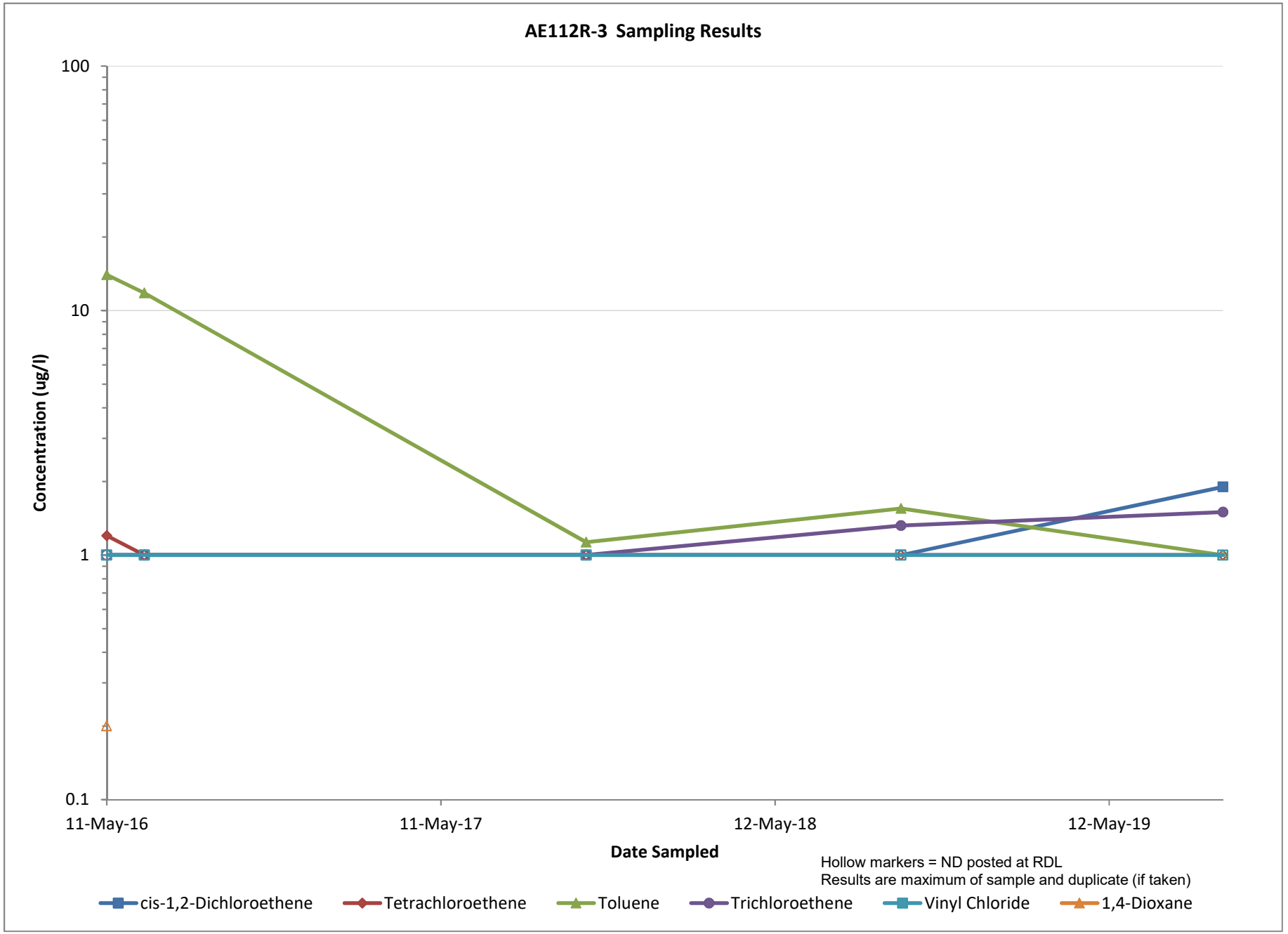

AE111R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

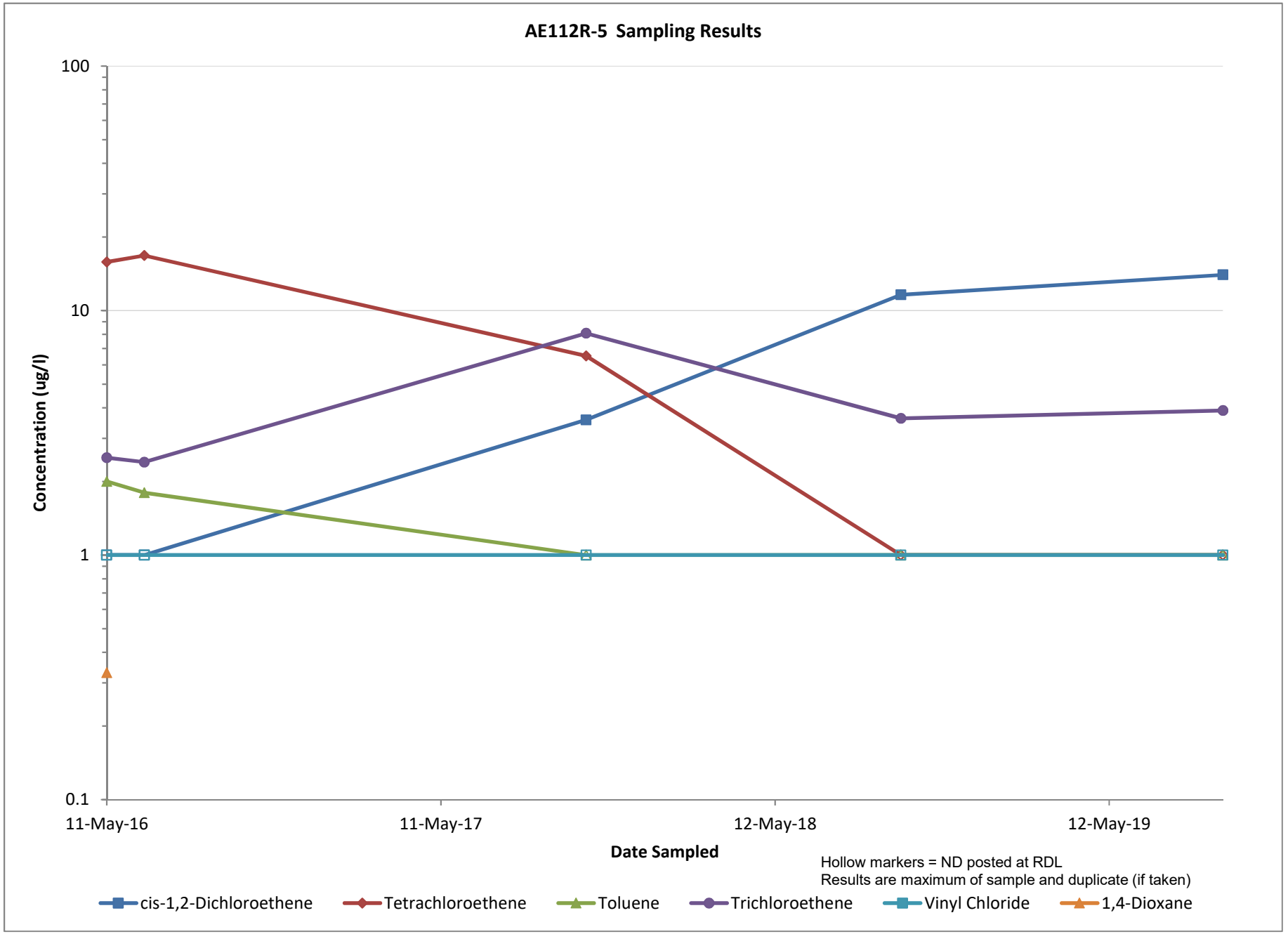

AE111R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

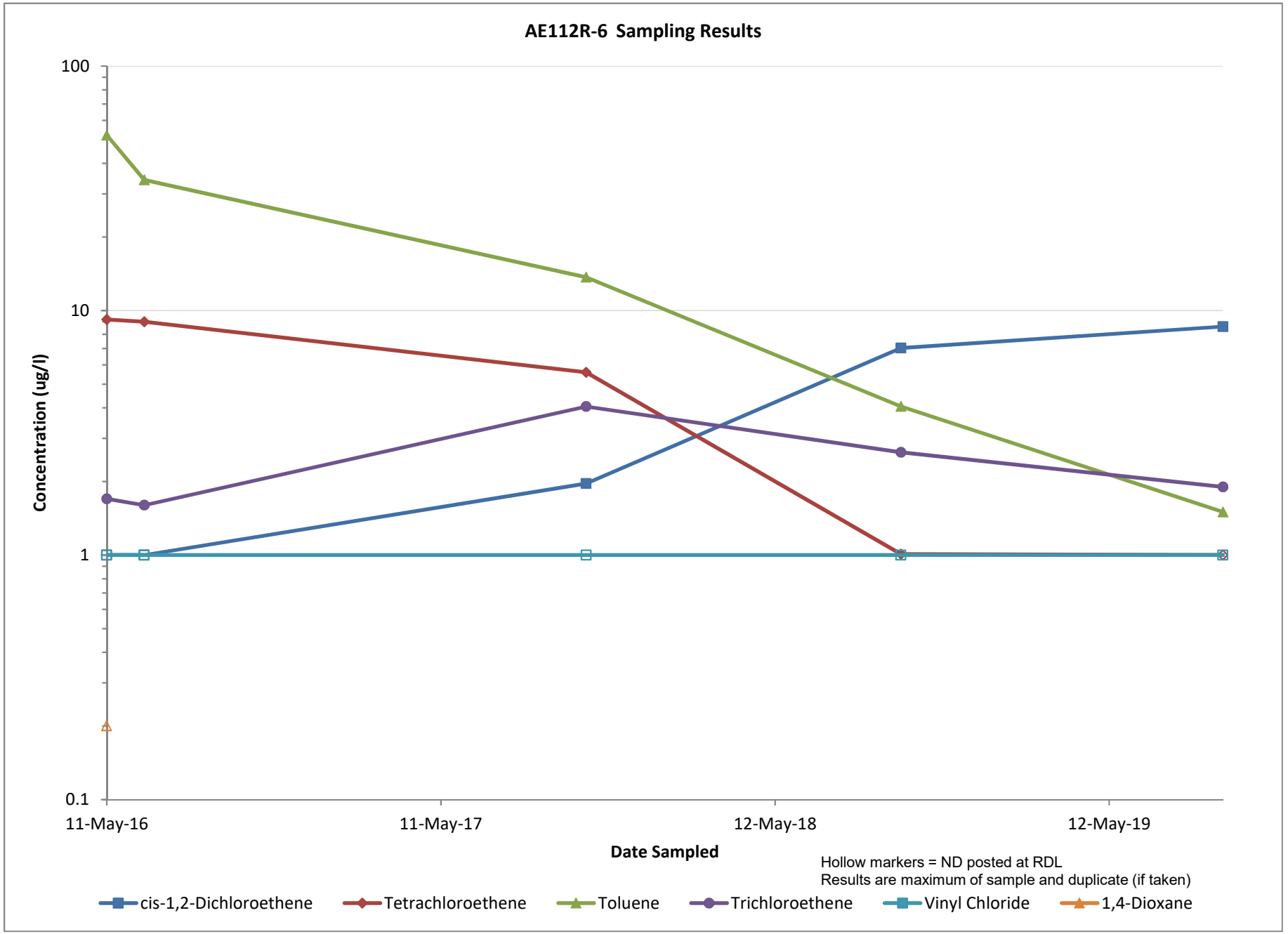

AE111R-6 Sampling Results
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

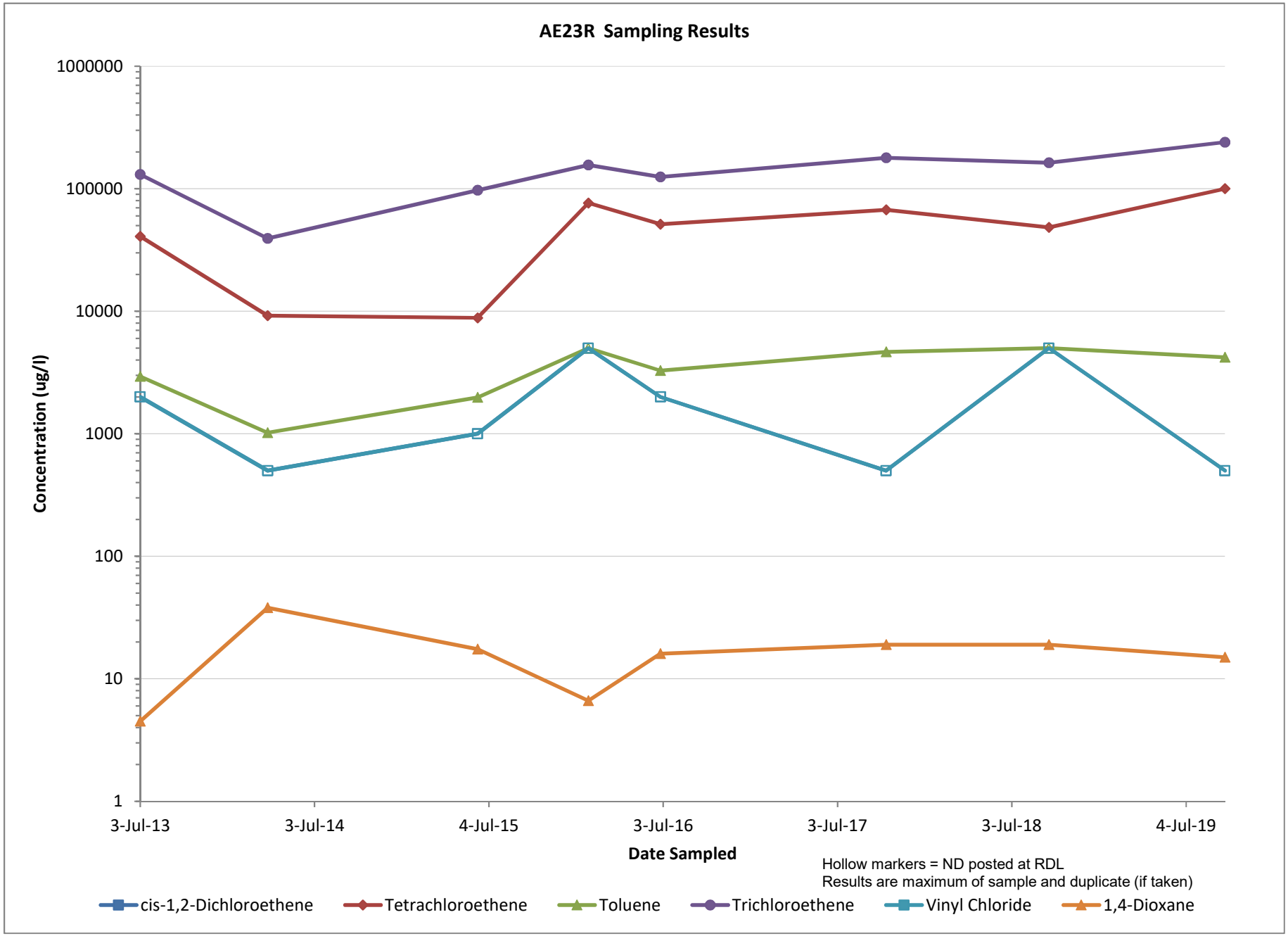

AE112D Sampling Results
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
11-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

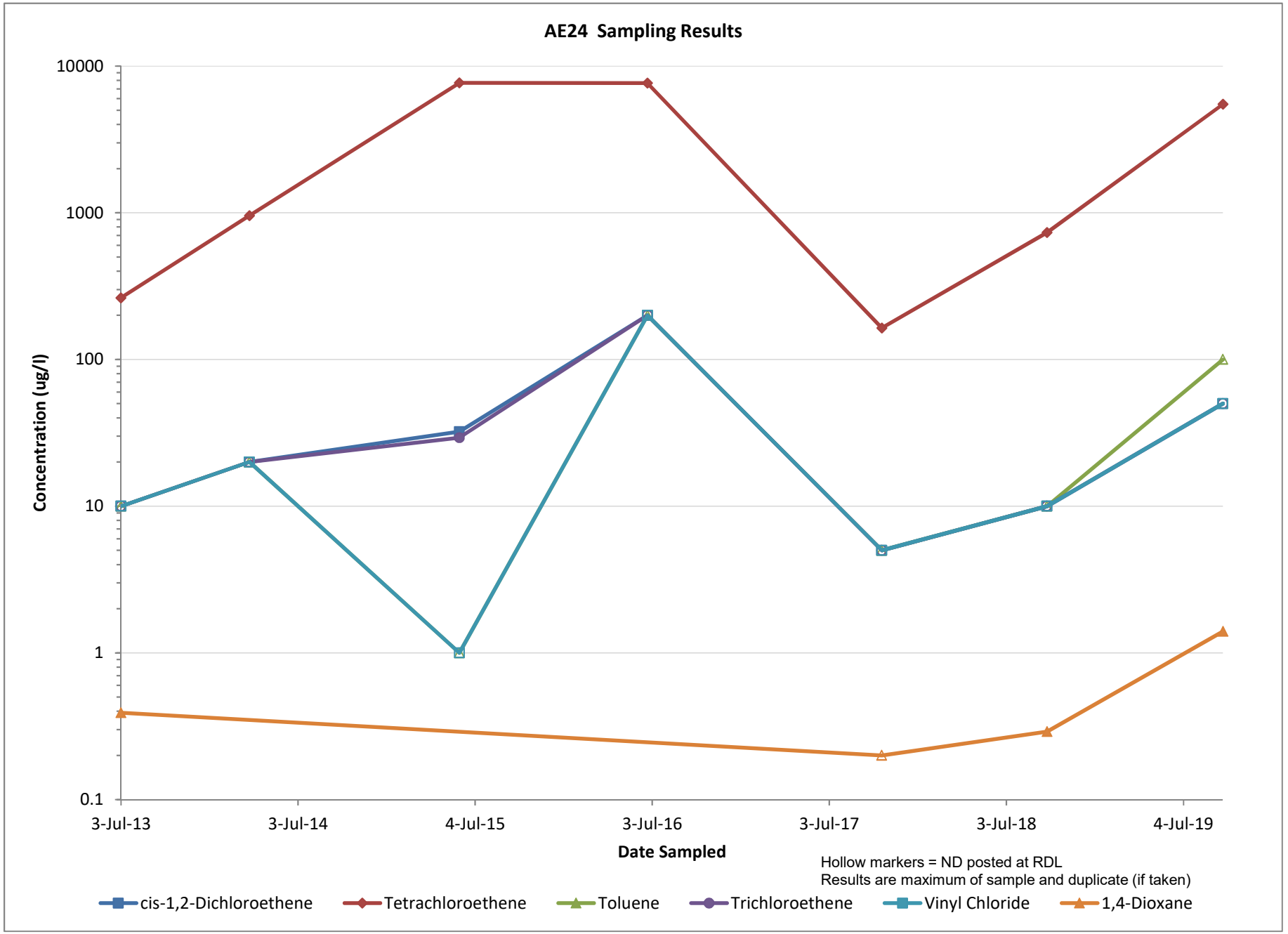

AE112R-1 Sampling Results
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

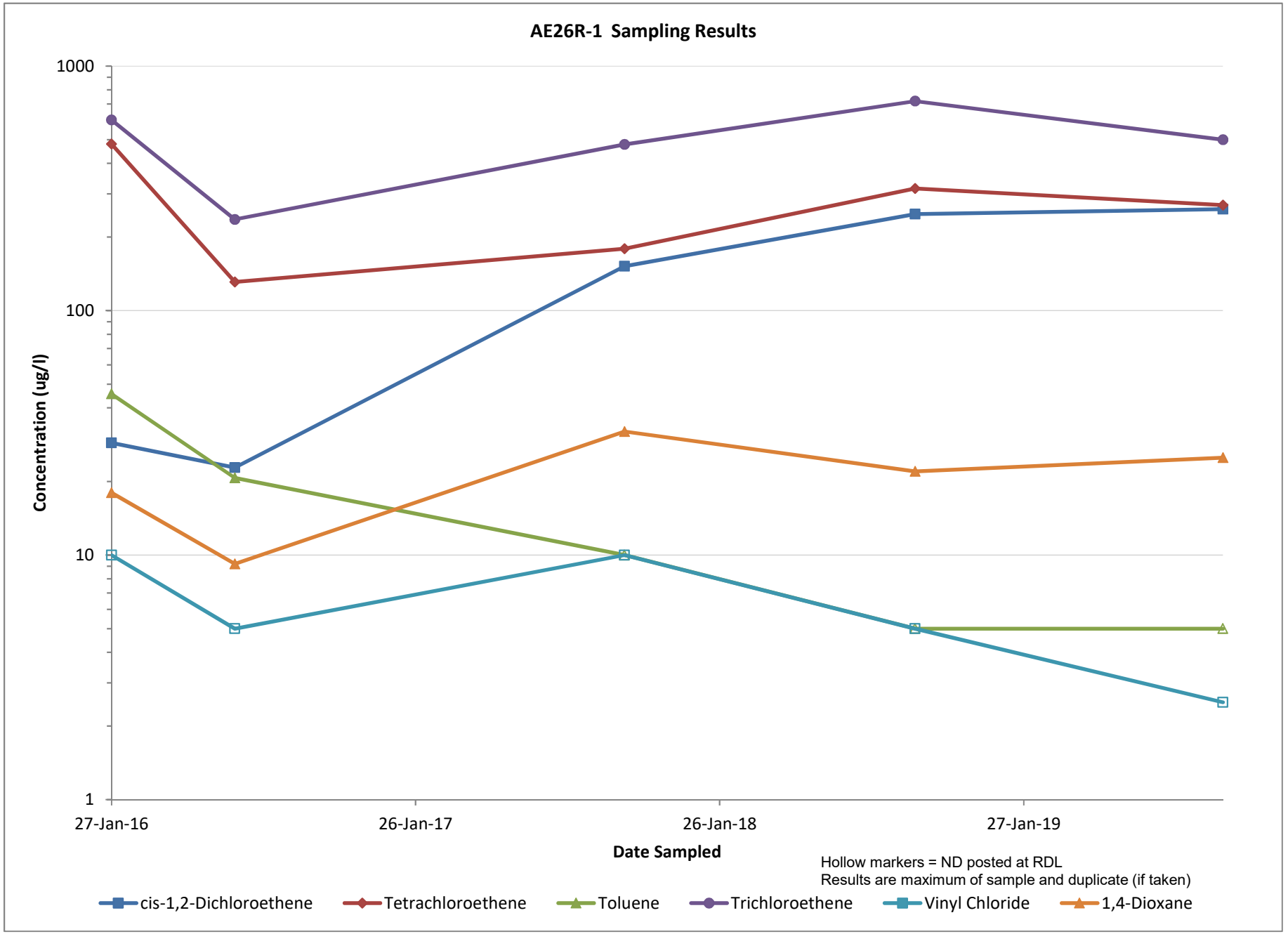

AE112R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

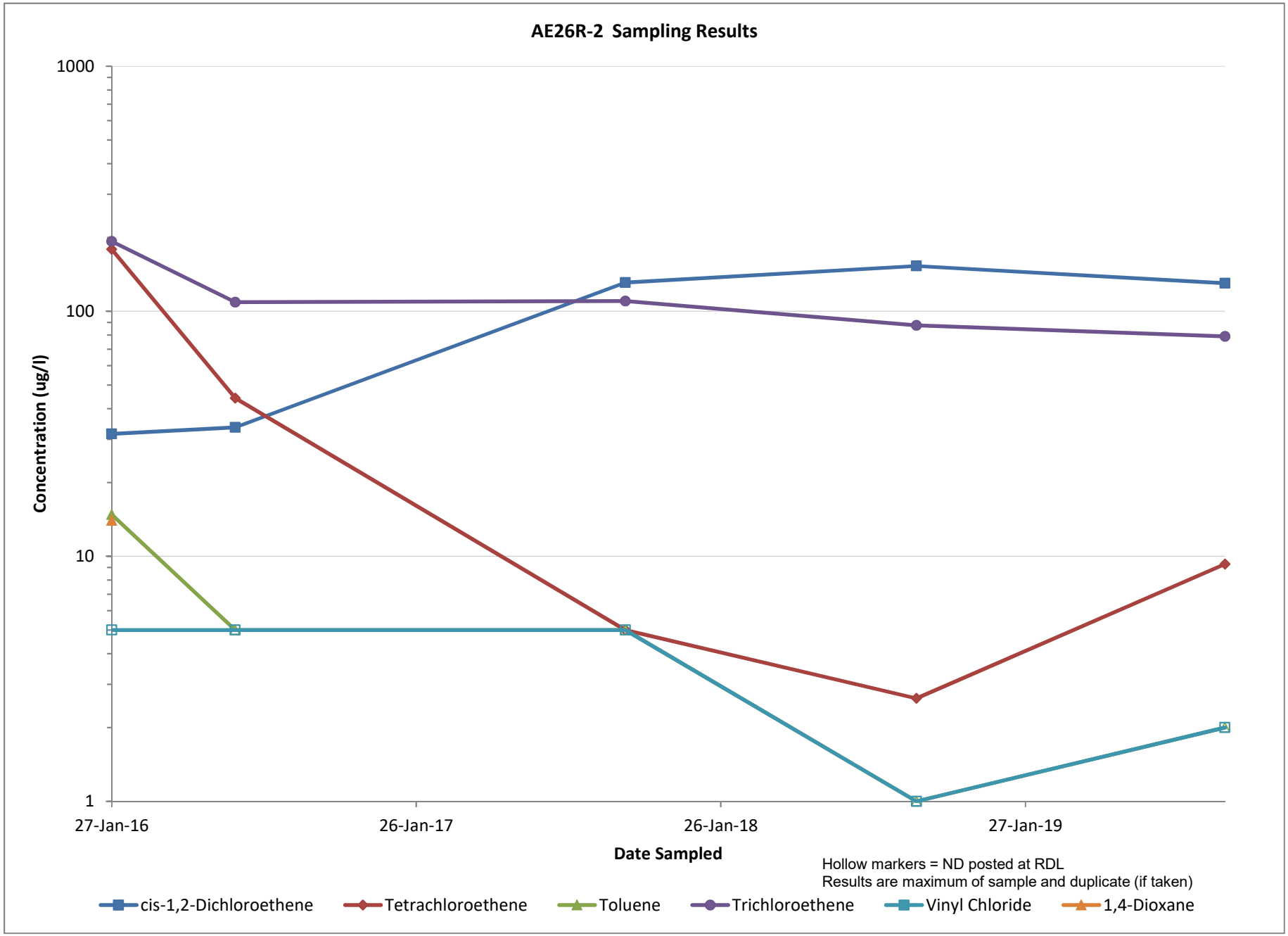

AE112R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

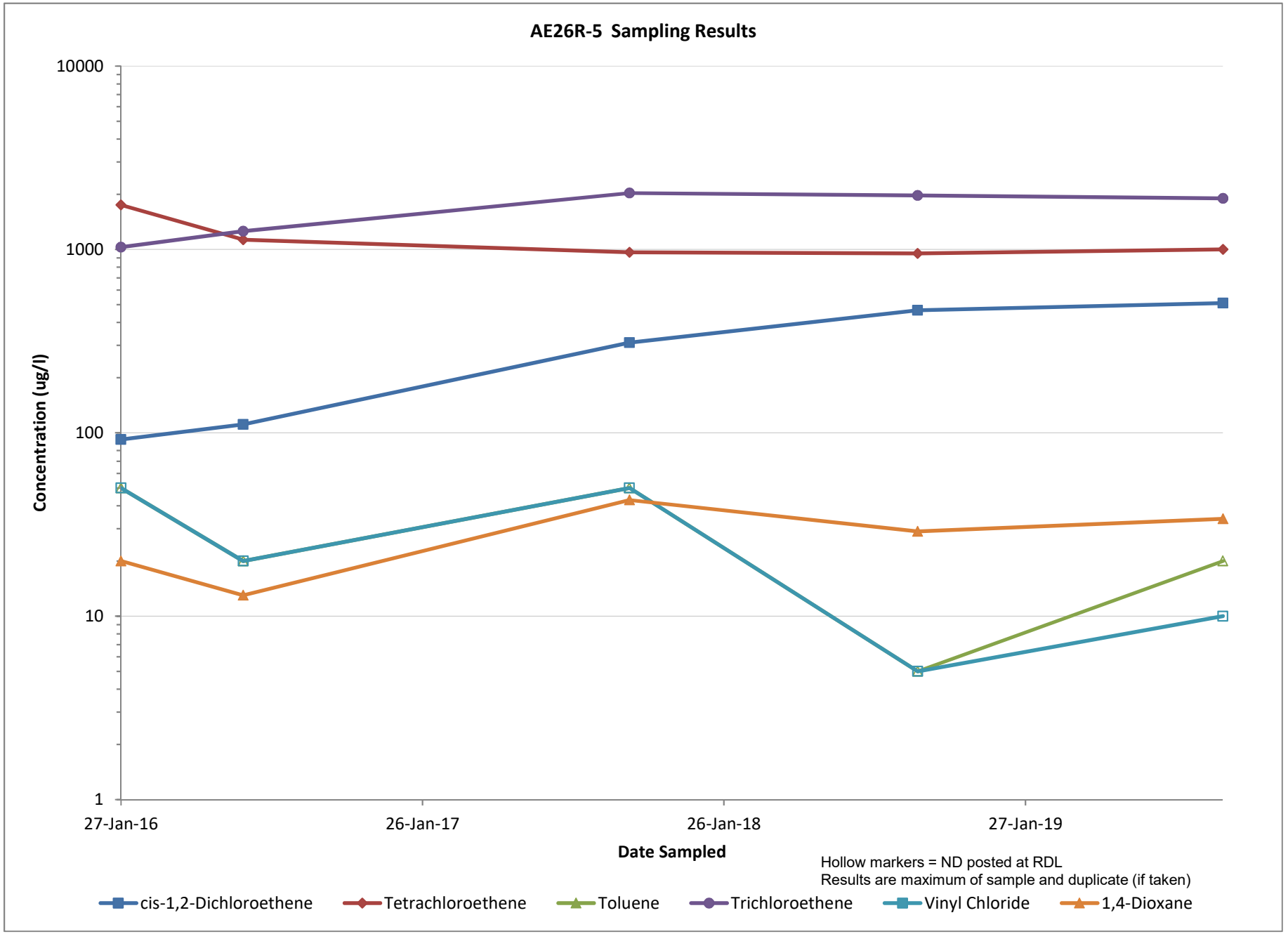

AE112R-6 Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

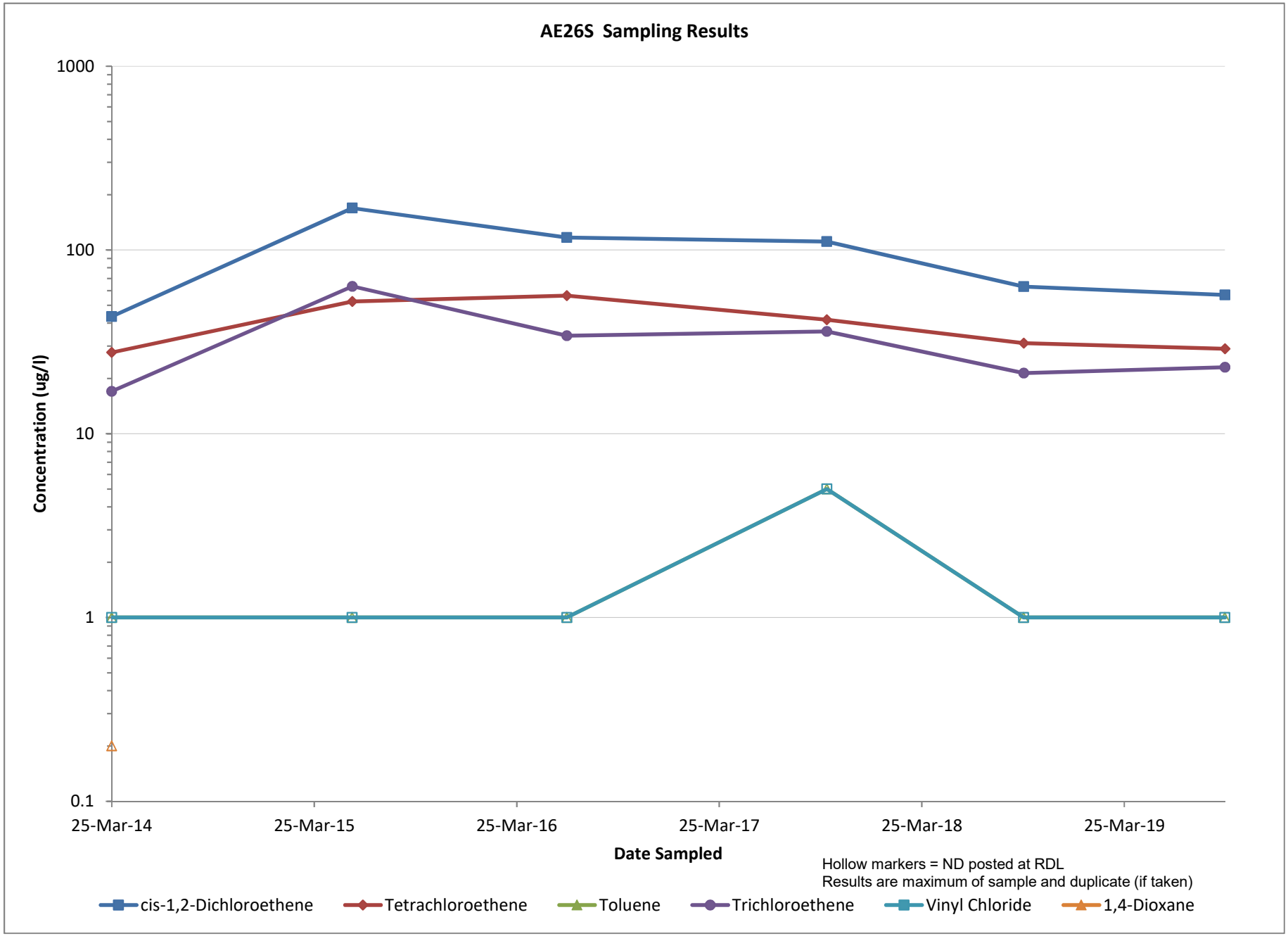

AE23R Sampling Results
1000000
100000
10000
1000
100
10
1
Concentration (ug/l)
3-Jul-13
3-Jul-14
4-Jul-15
3-Jul-16
3-Jul-17
3-Jul-18
4-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

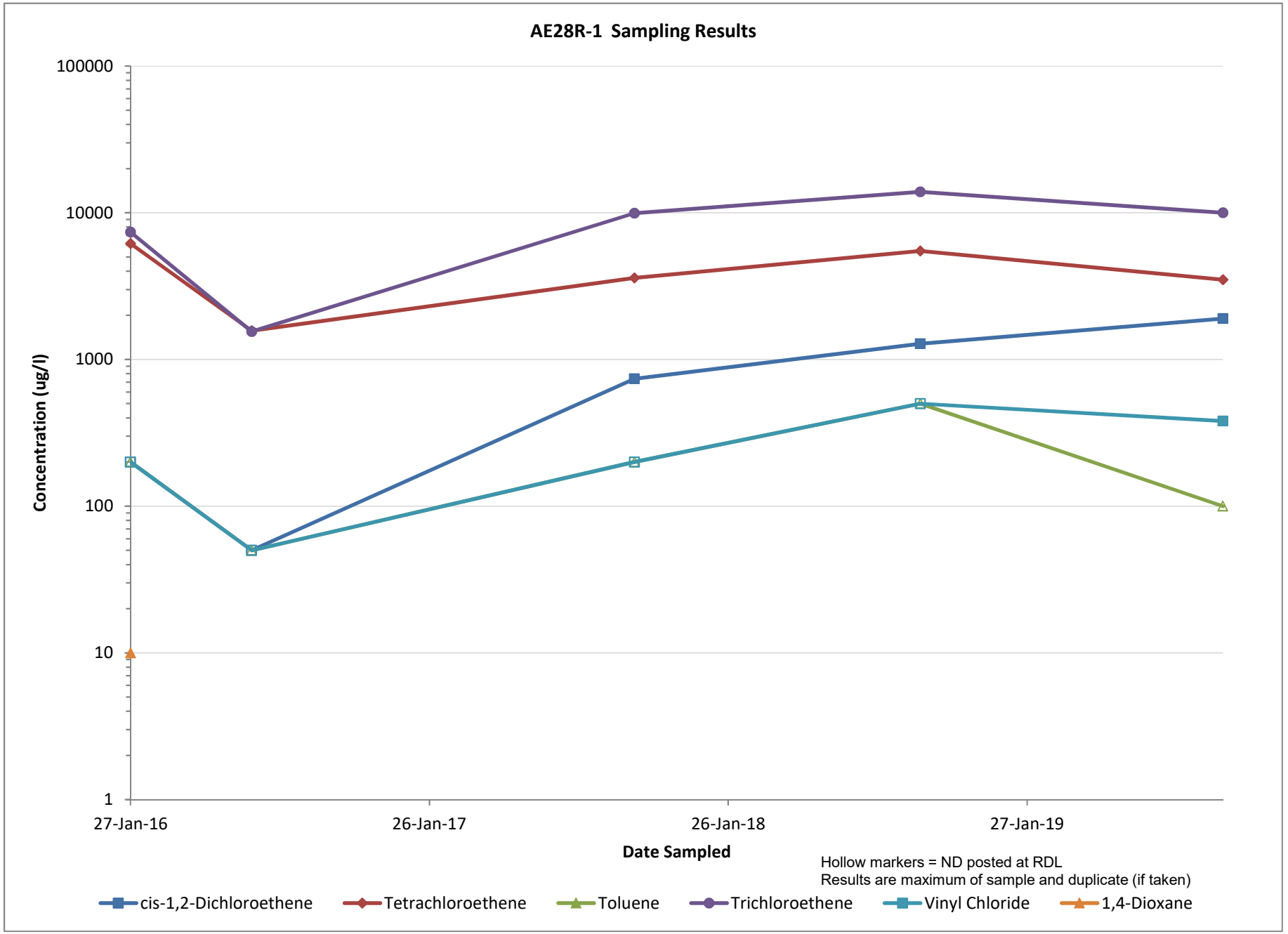

AE24 Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
3-Jul-13
3-Jul-14
4-Jul-15
3-Jul-16
3-Jul-17
3-Jul-18
4-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

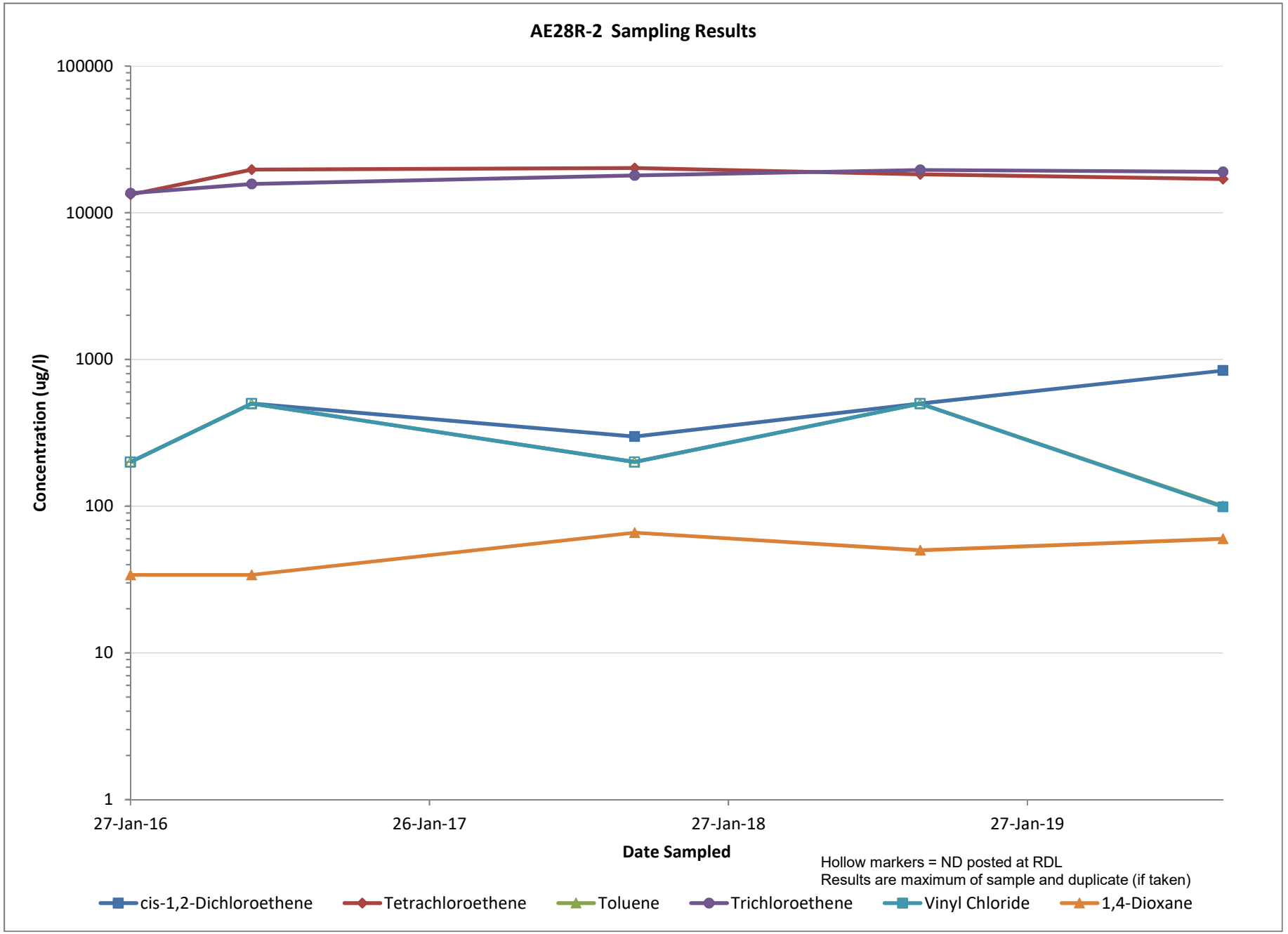

AE26R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

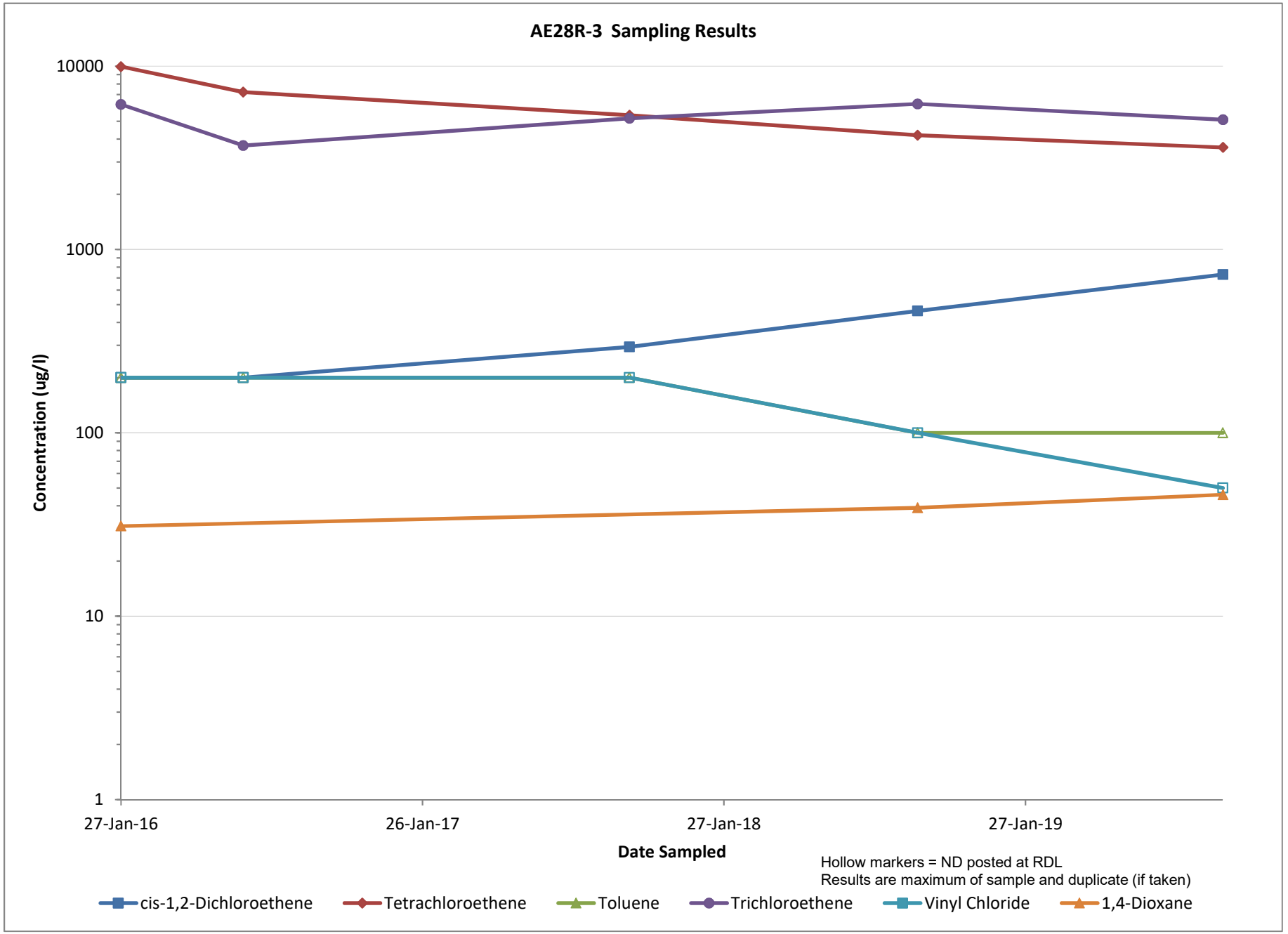

AE26R-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

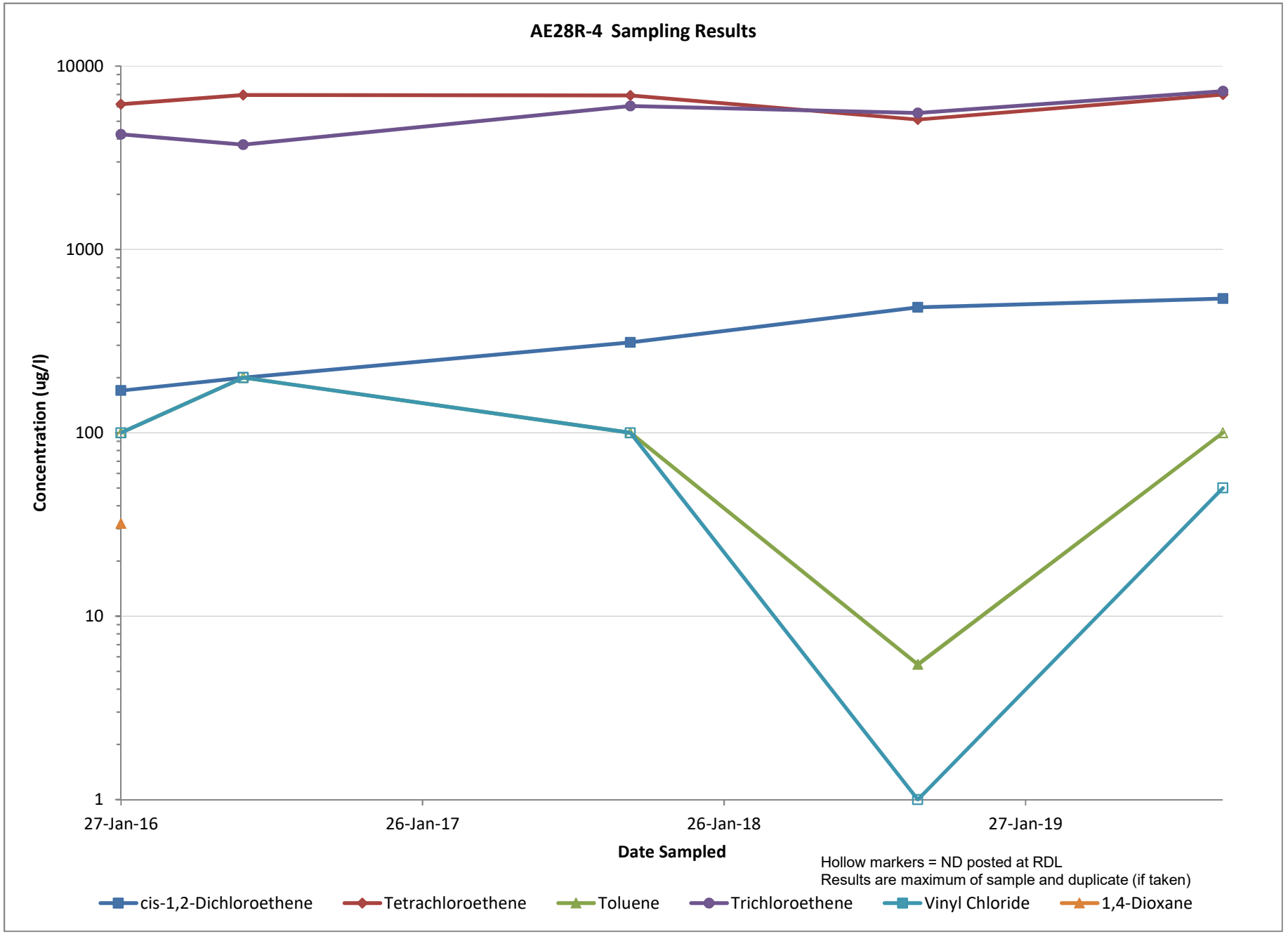

AE26R-5 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

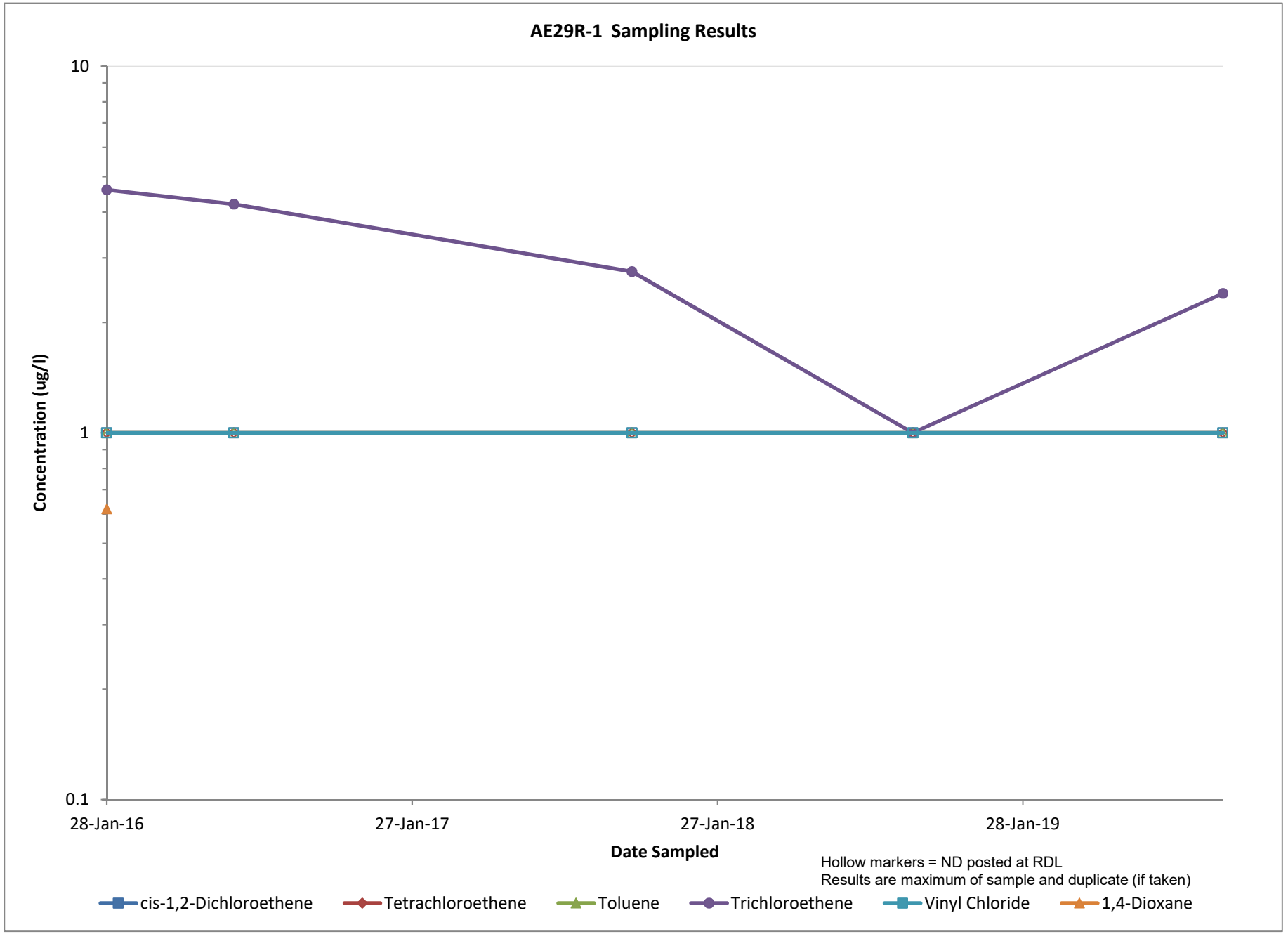

AE26S Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
25-Mar-14
25-Mar-15
25-Mar-16
25-Mar-17
25-Mar-18
25-Mar-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

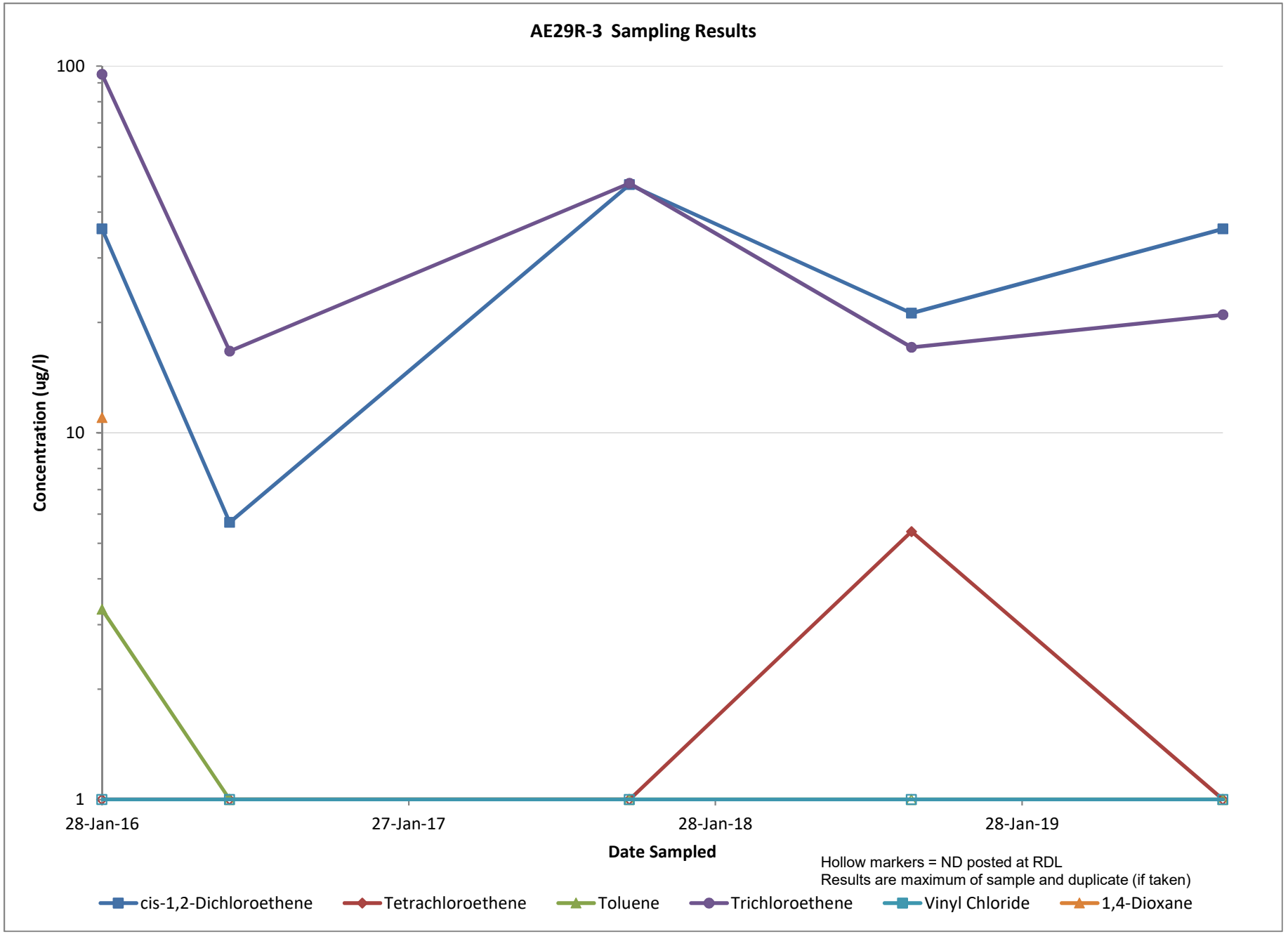

AE28R-1 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

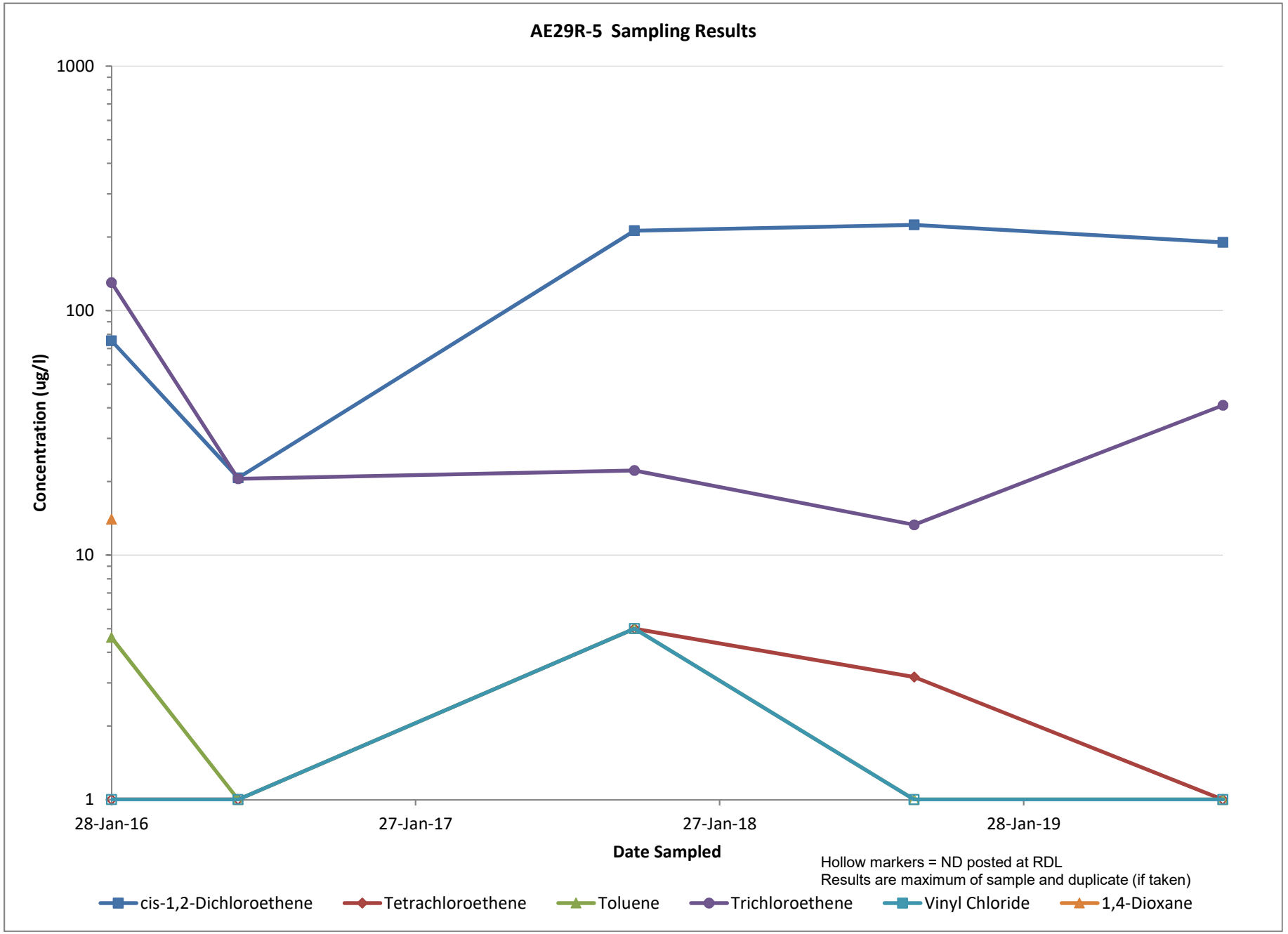

AE28R-2 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
27-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

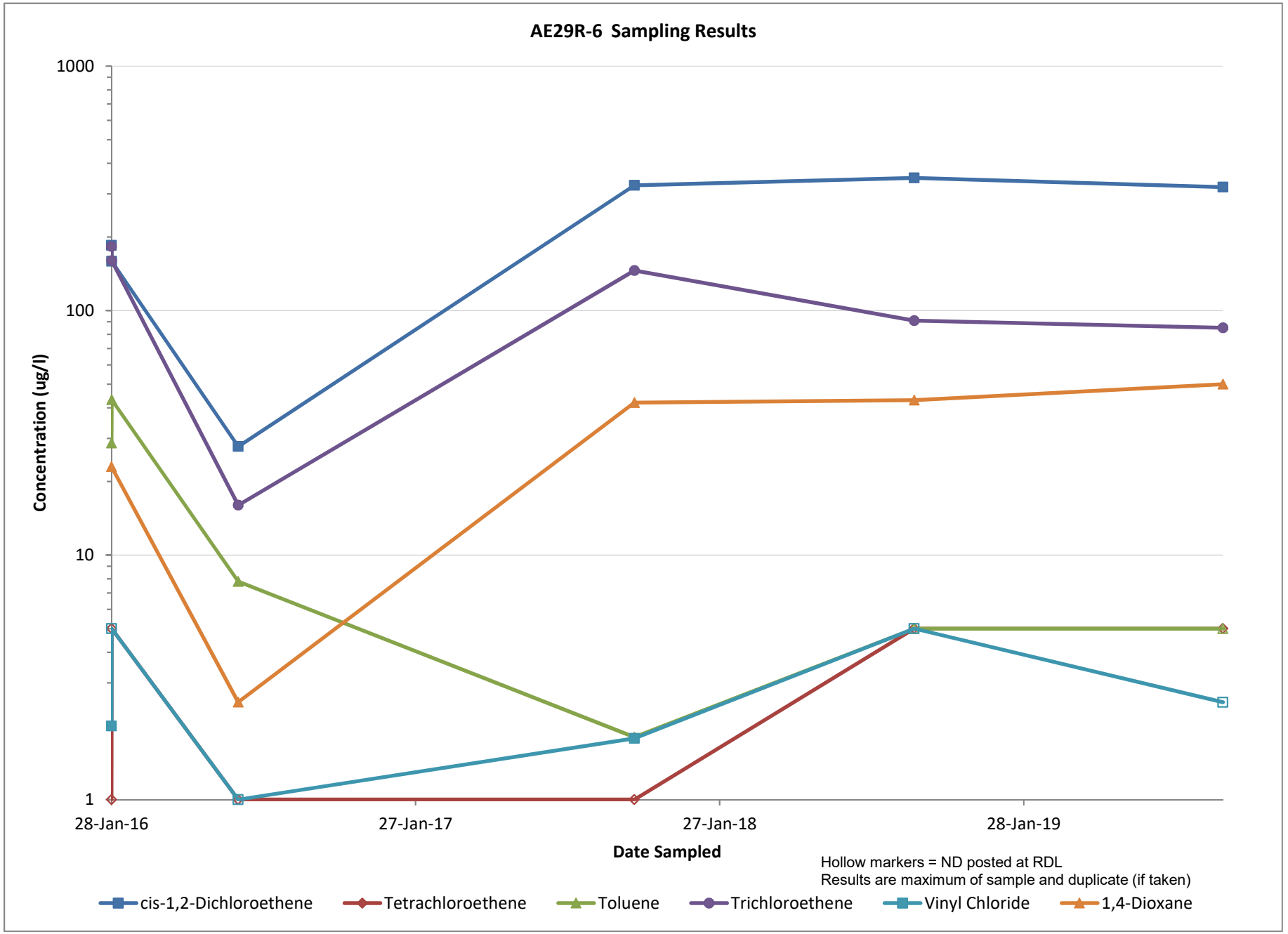

AE28R-3 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
27-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

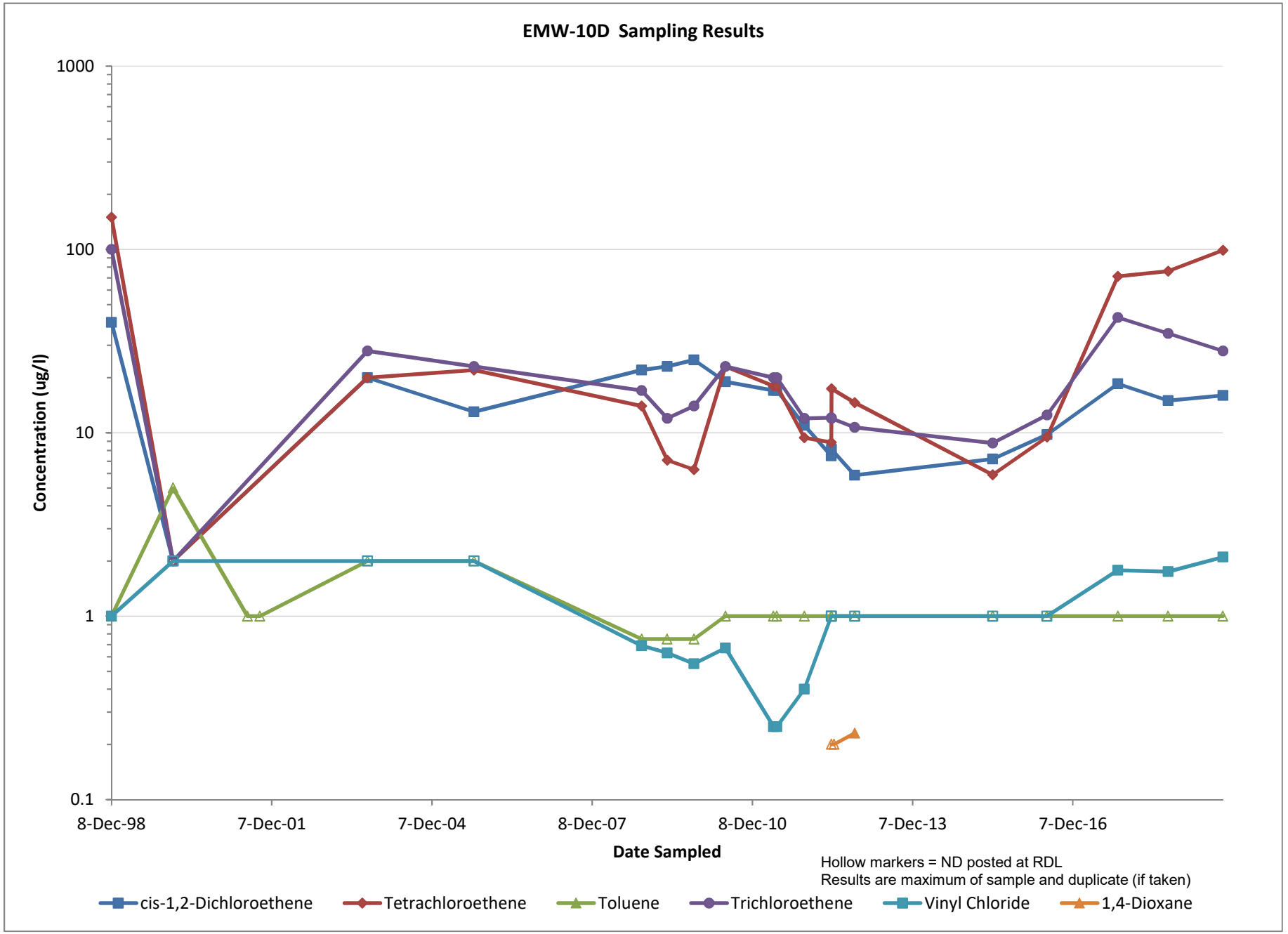

AE28R-4 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

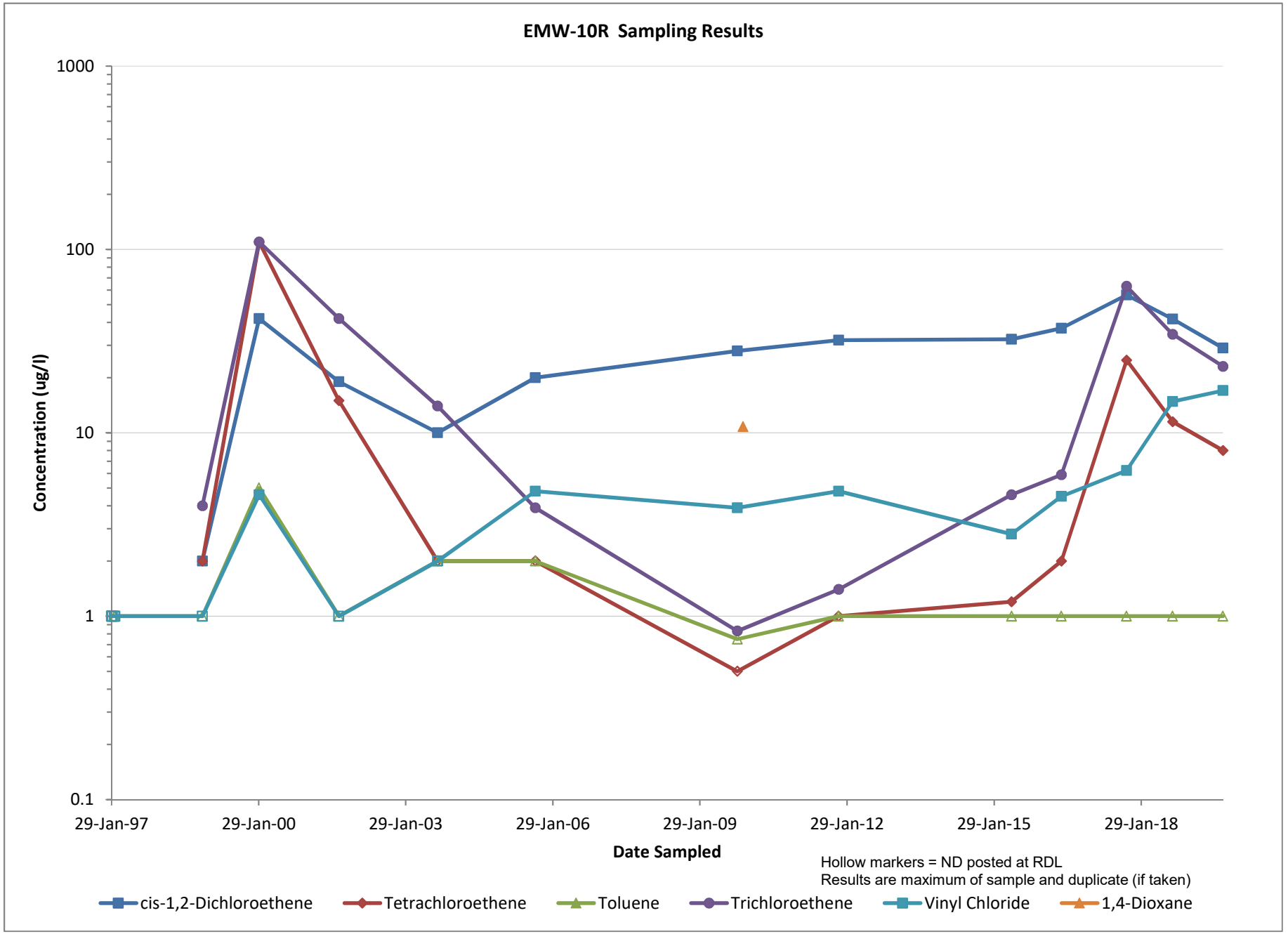

AE29R-1 Sampling Results
10
1
0.1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

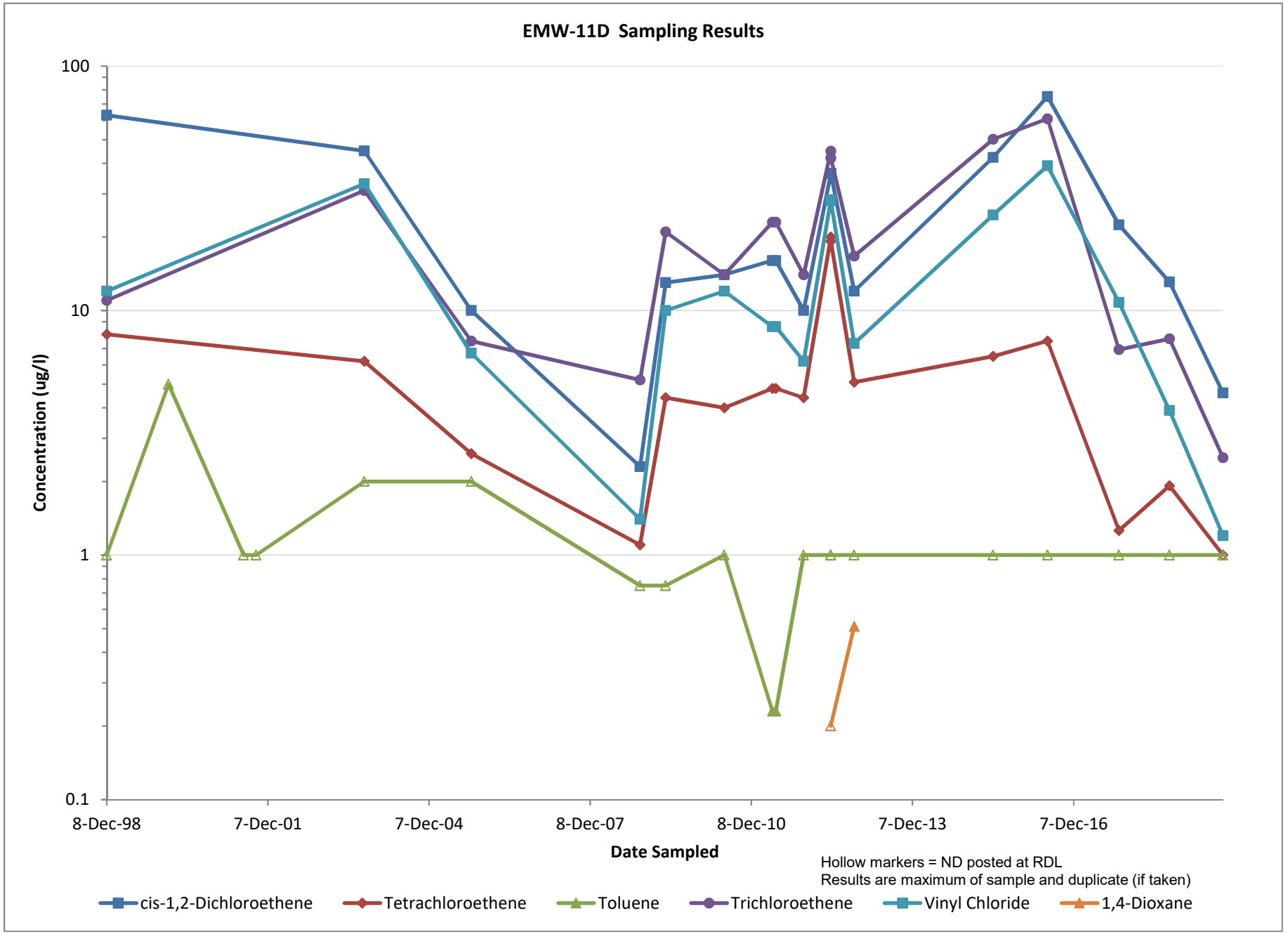

AE29R-3 Sampling Results
100
10
1
Concentration (ug/l)
28-Jan-16
27-Jan-17
28-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

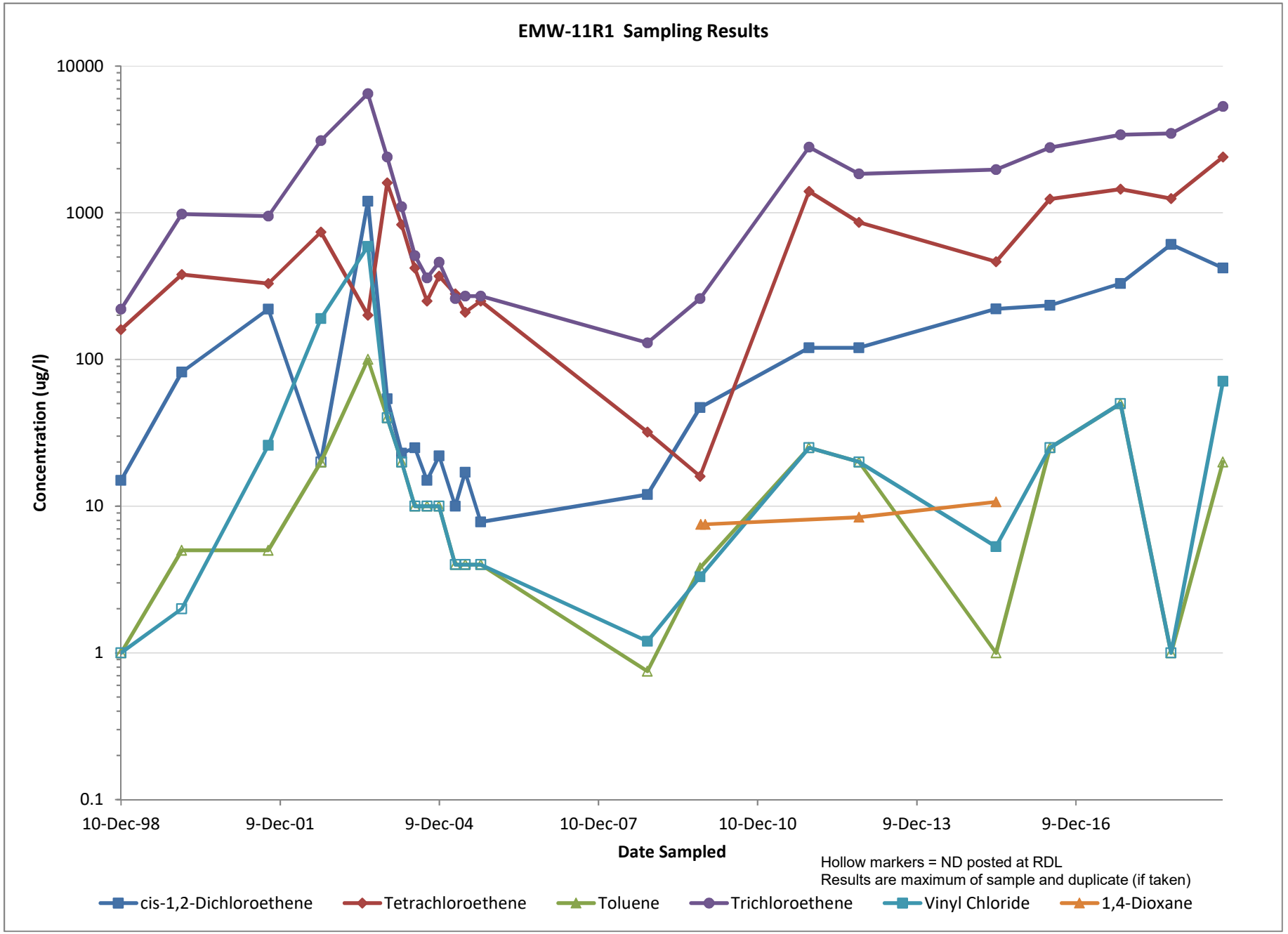

AE29R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

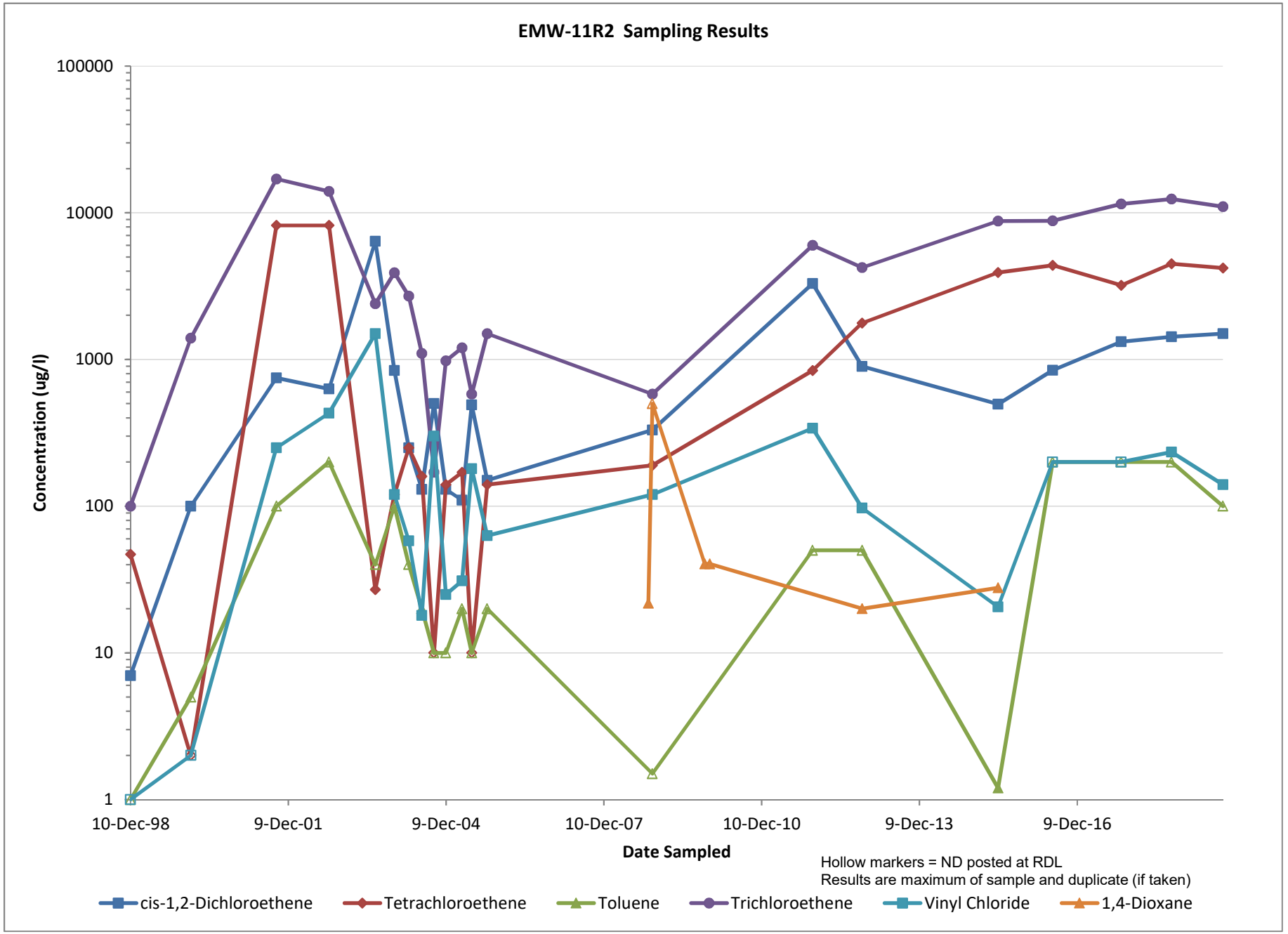

AE29R-6 Sampling Results
1000
100
10
1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

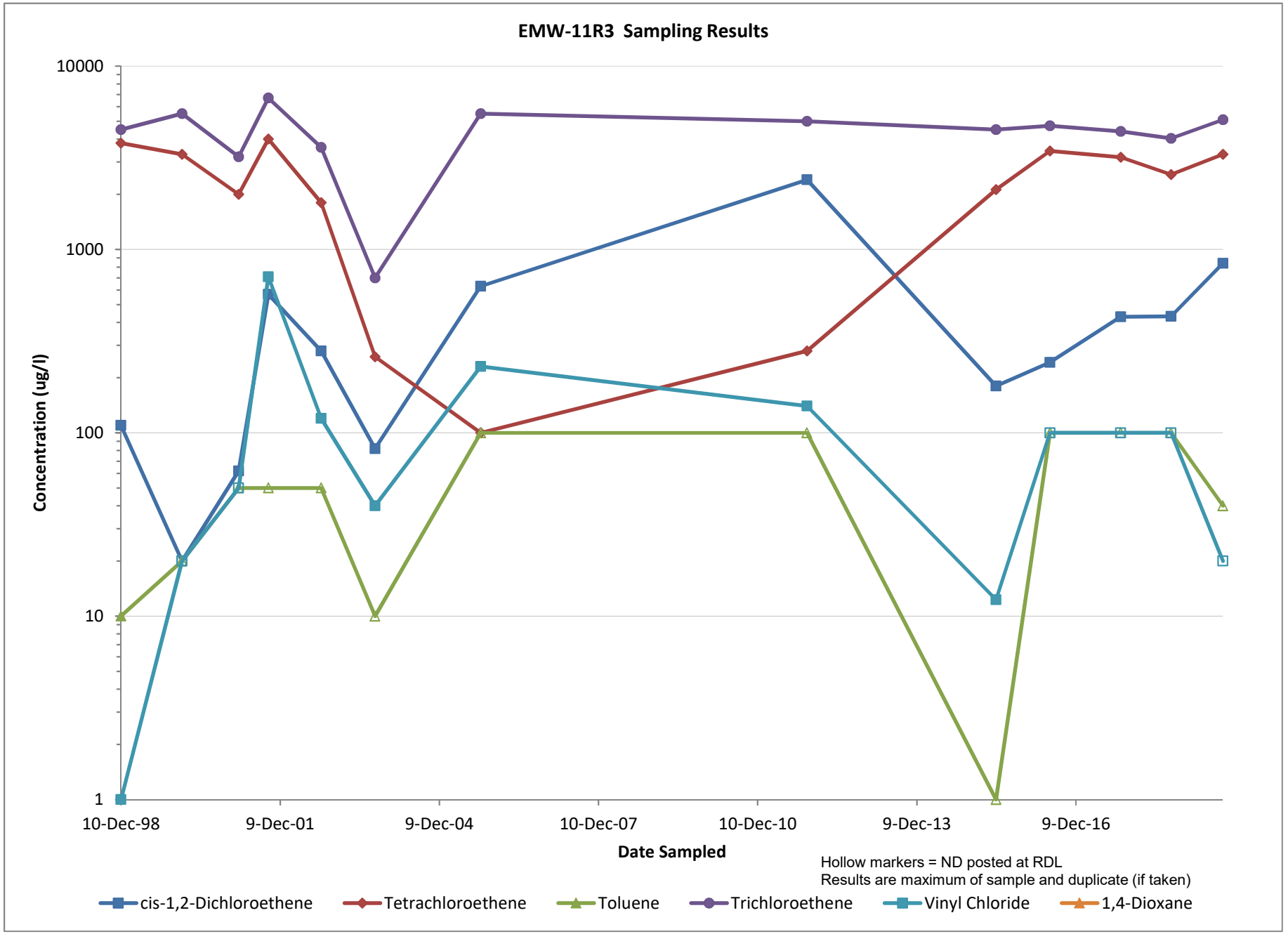

EMW-10D Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
8-Dec-98
7-Dec-01
7-Dec-04
8-Dec-07
8-Dec-10
7-Dec-13
7-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

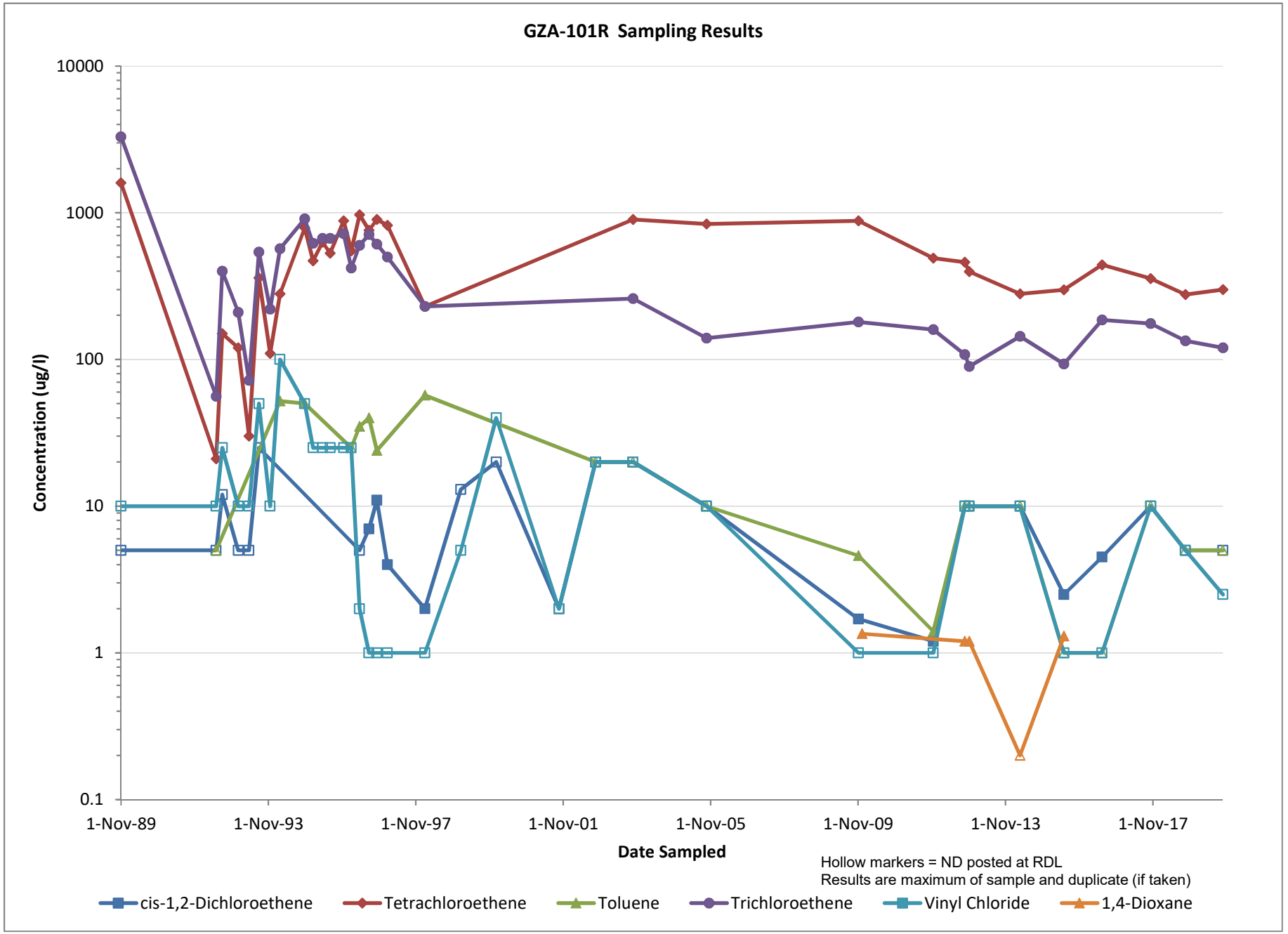

EMW-10R Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
29-Jan-97
29-Jan-00
29-Jan-03
29-Jan-06
29-Jan-09
29-Jan-12
29-Jan-15
29-Jan-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

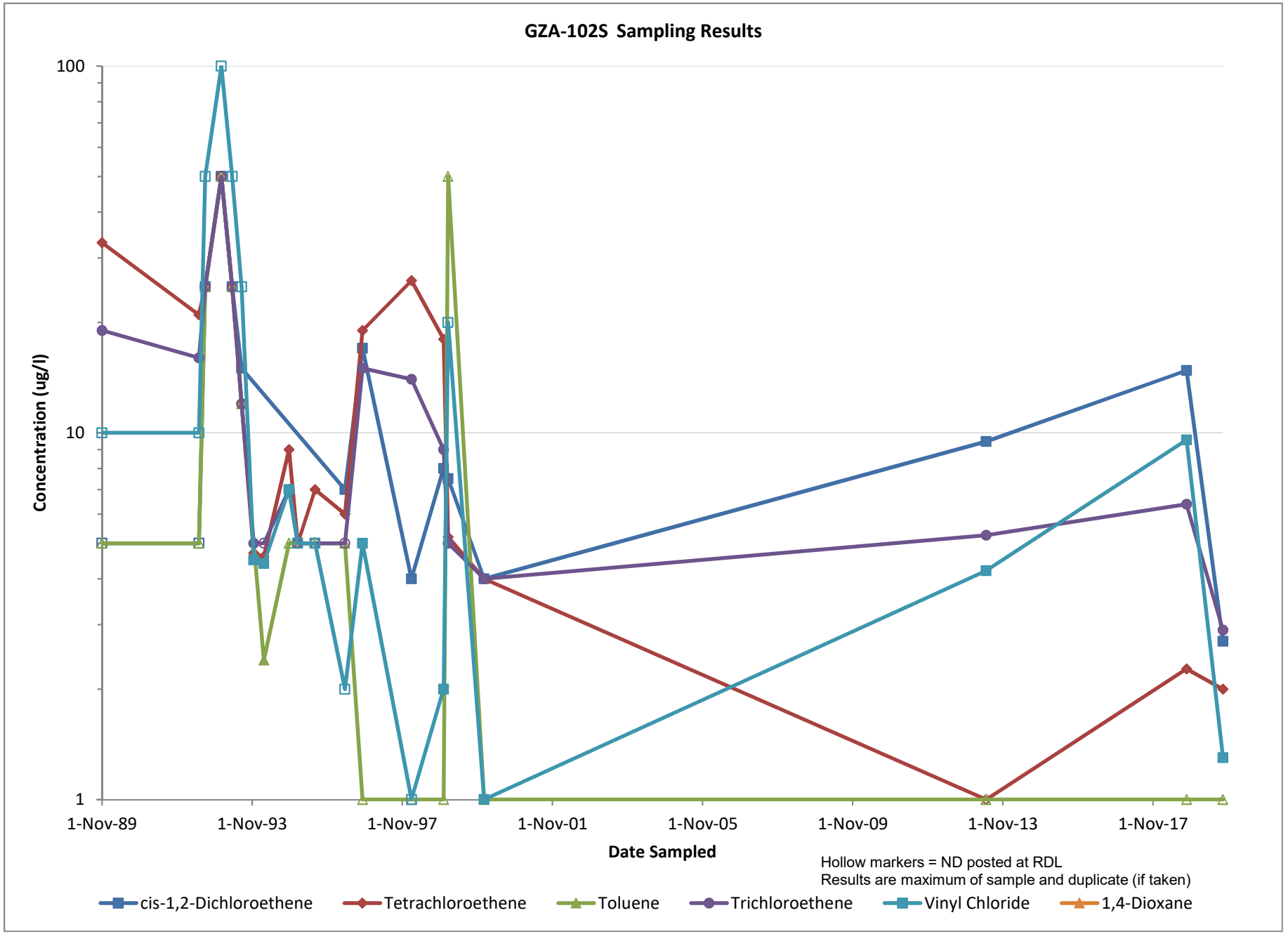

EMW-11D Sampling Results
100
10
1
0.1
Concentration (ug/l)
8-Dec-98
7-Dec-01
7-Dec-04
8-Dec-07
8-Dec-10
7-Dec-13
7-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

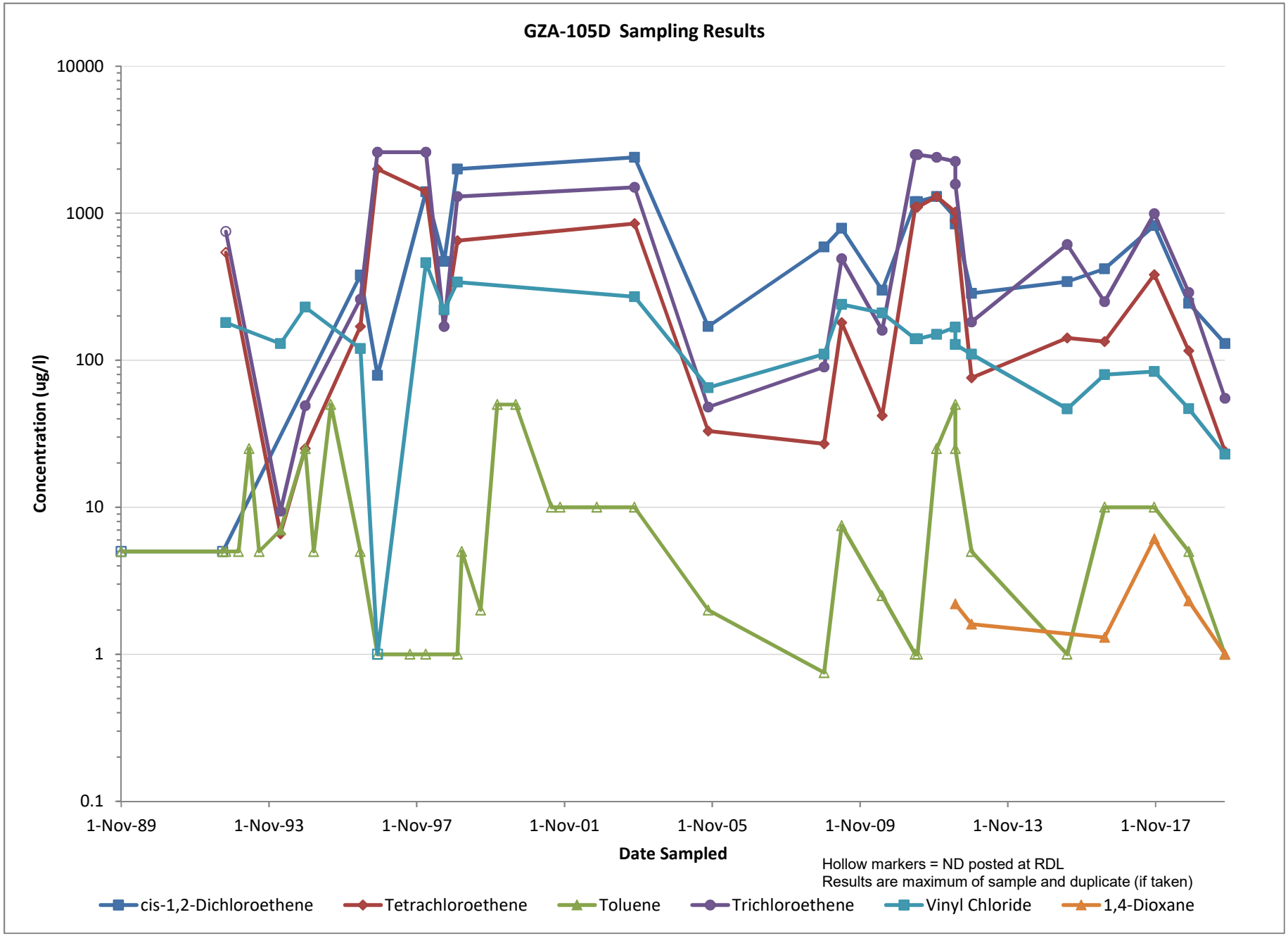

EMW-11R1 Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

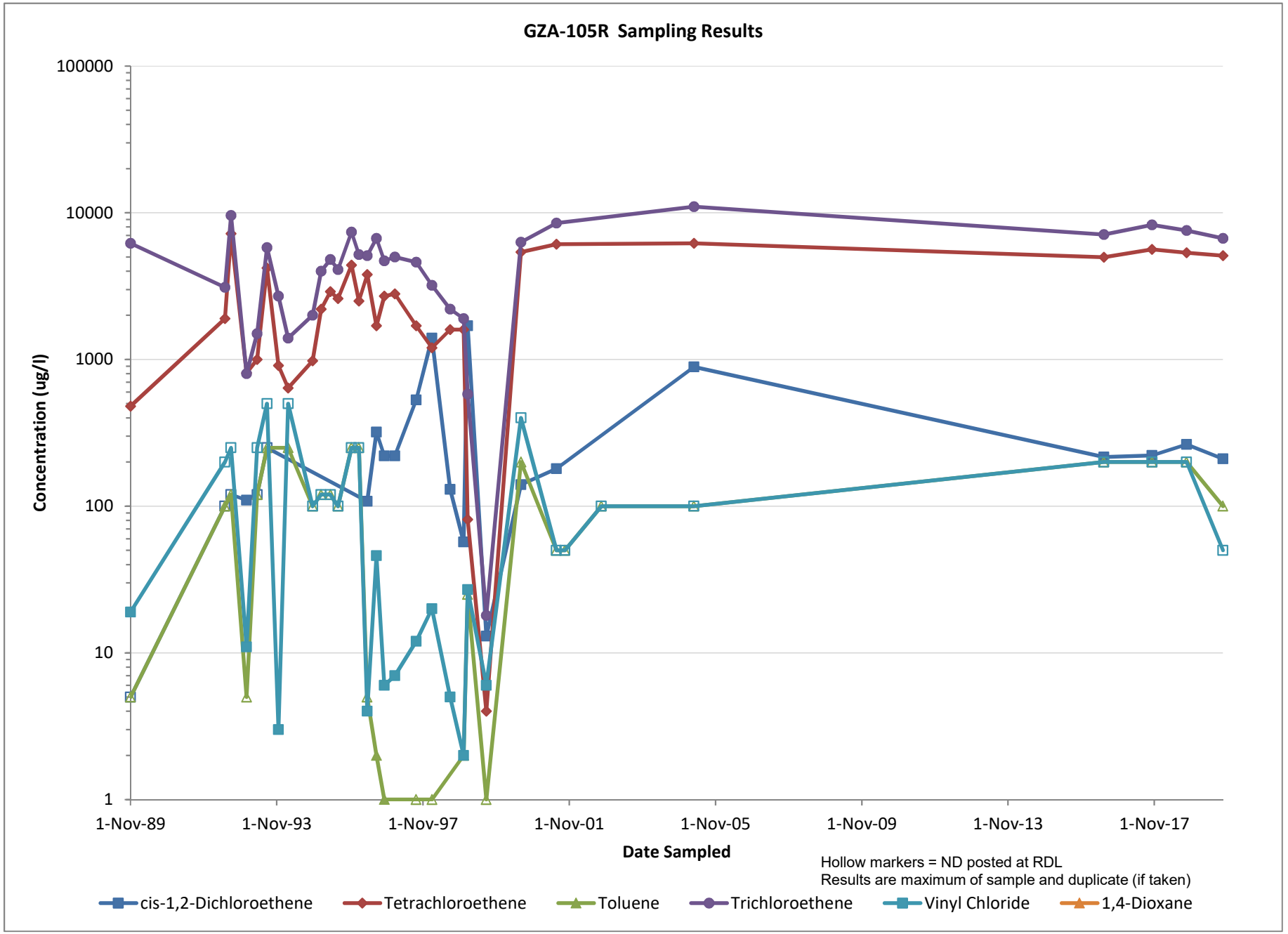

EMW-11R2 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

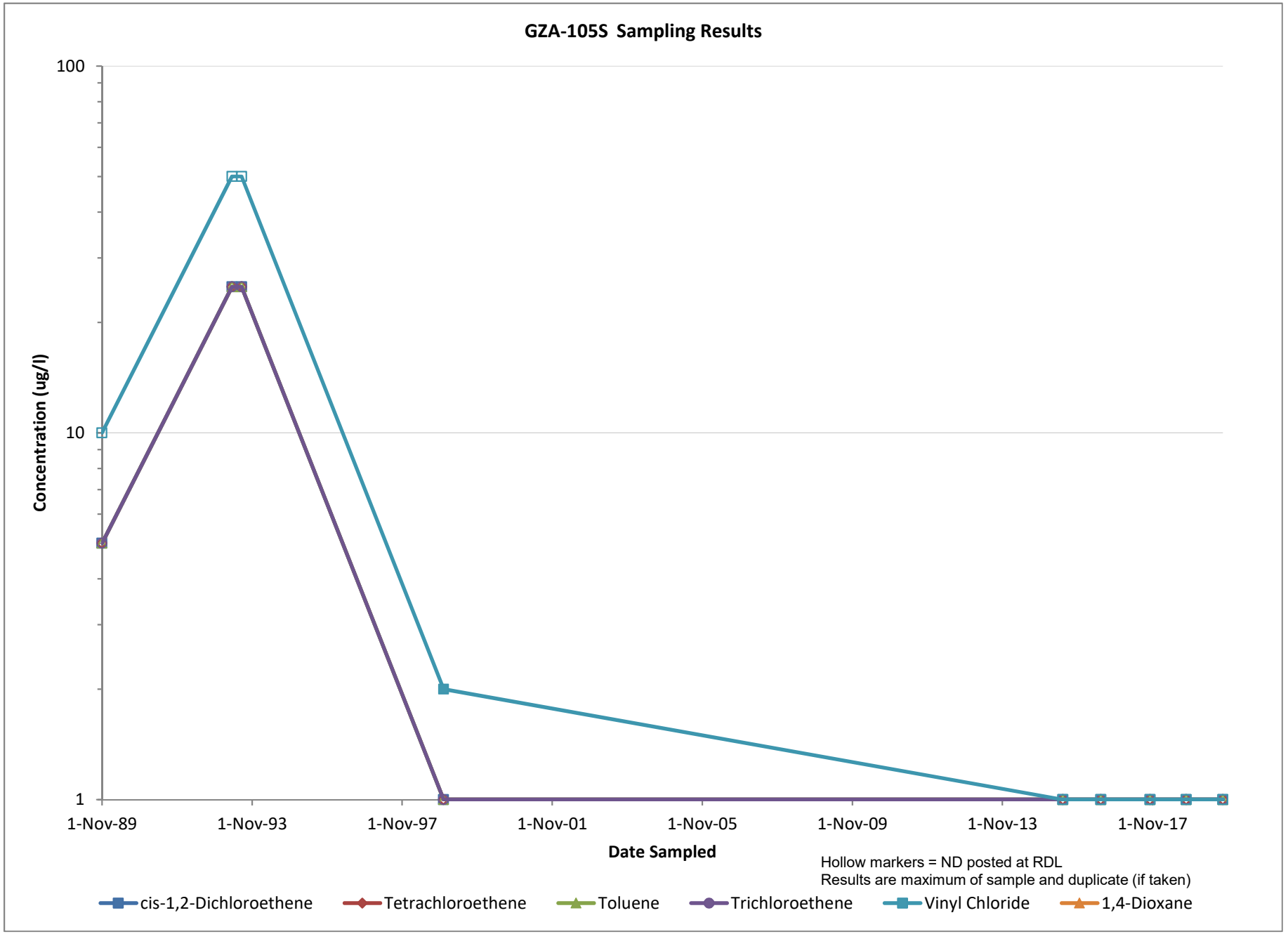

EMW-11R3 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

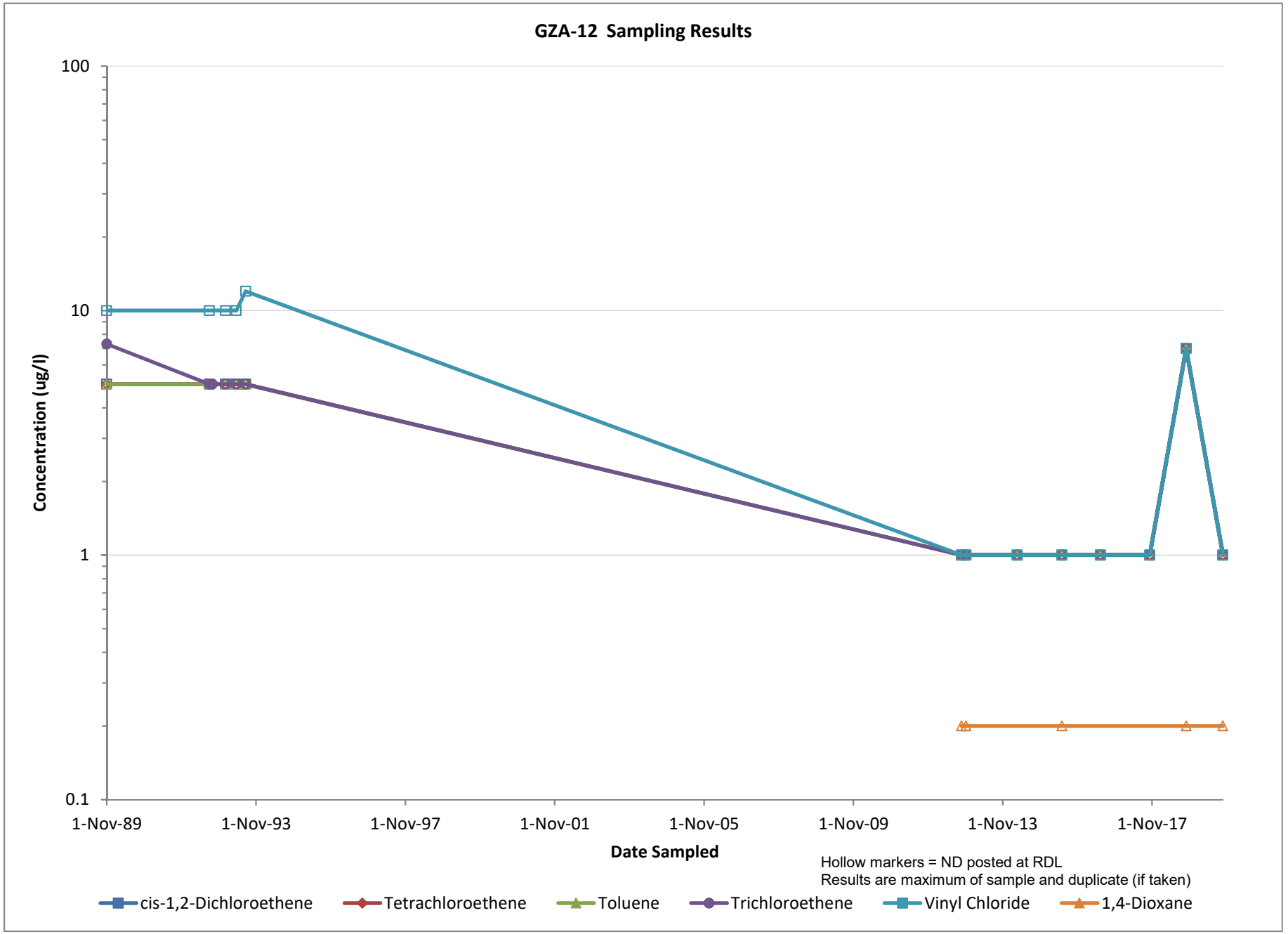

GZA-101R Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

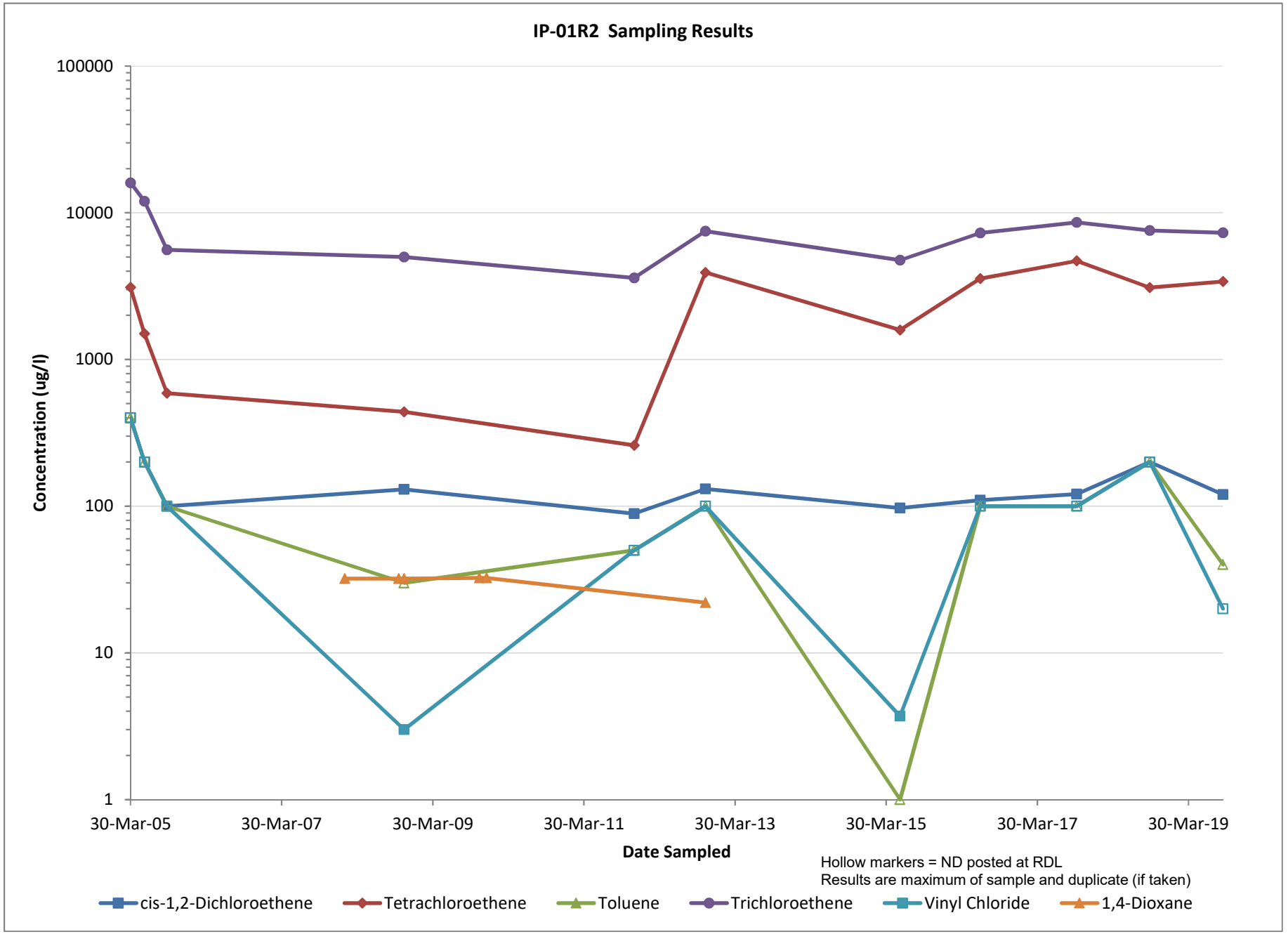

GZA-102S Sampling Results
100
10
1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

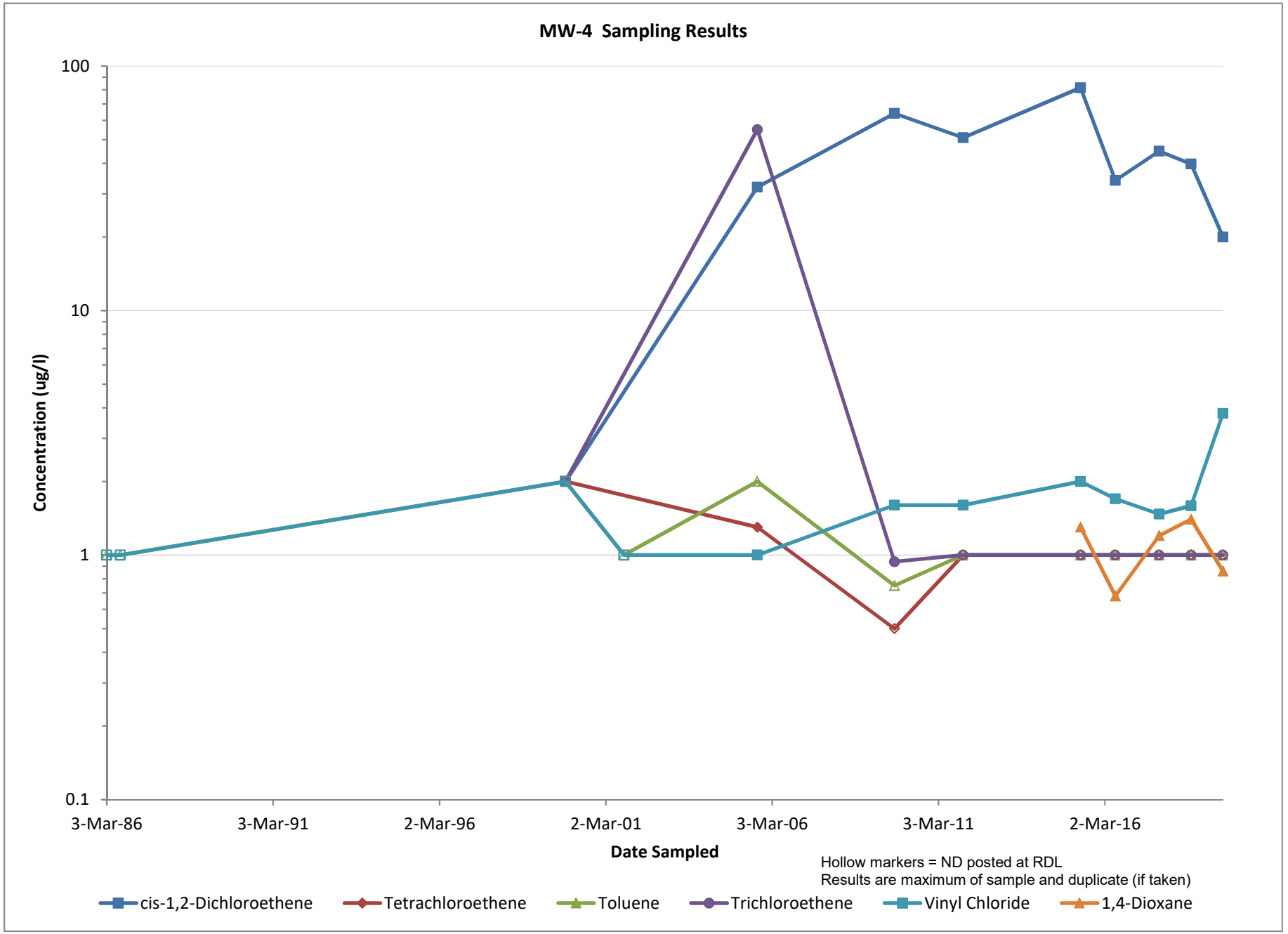

GZA-105D Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

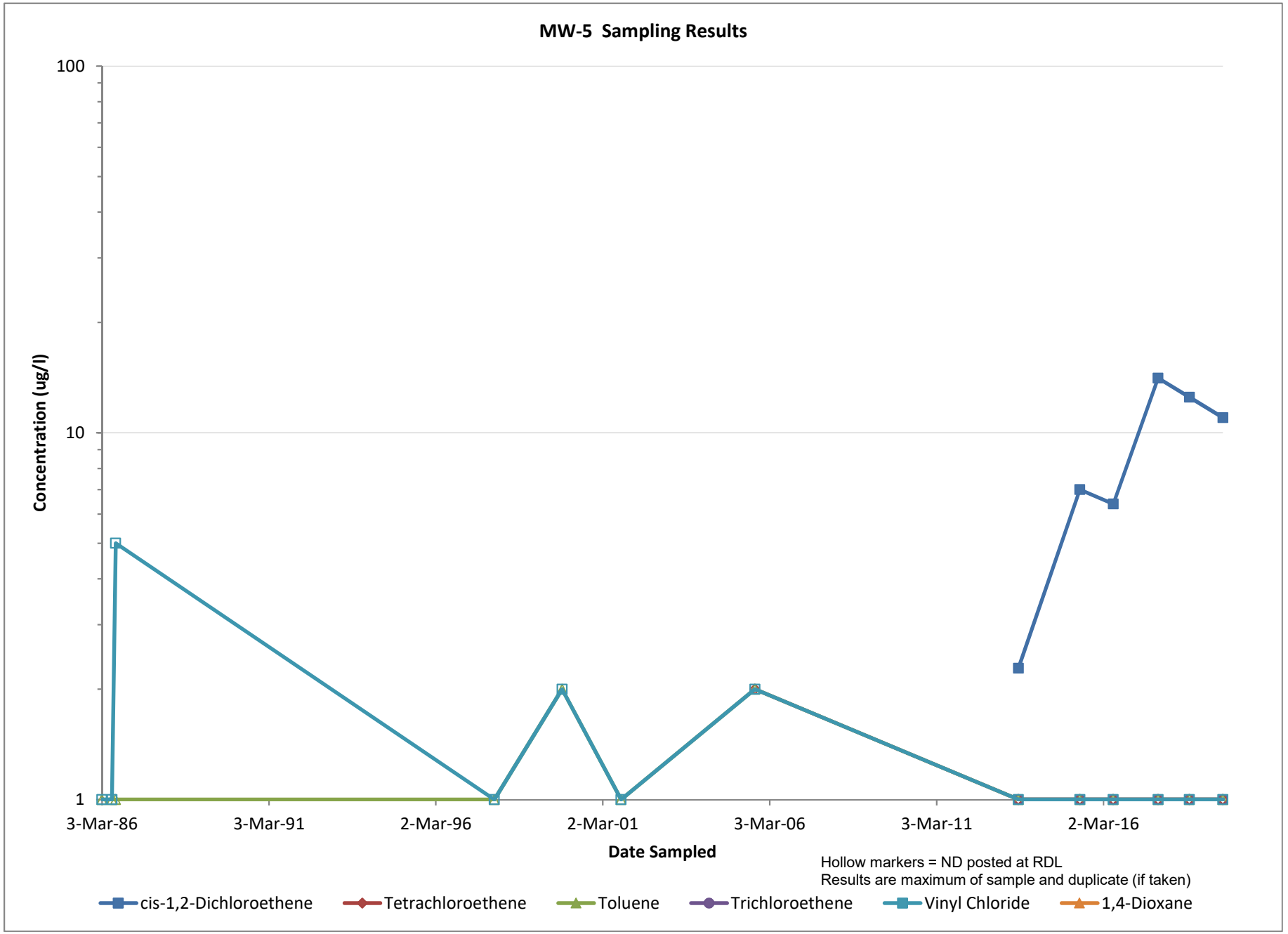

GZA-105R Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

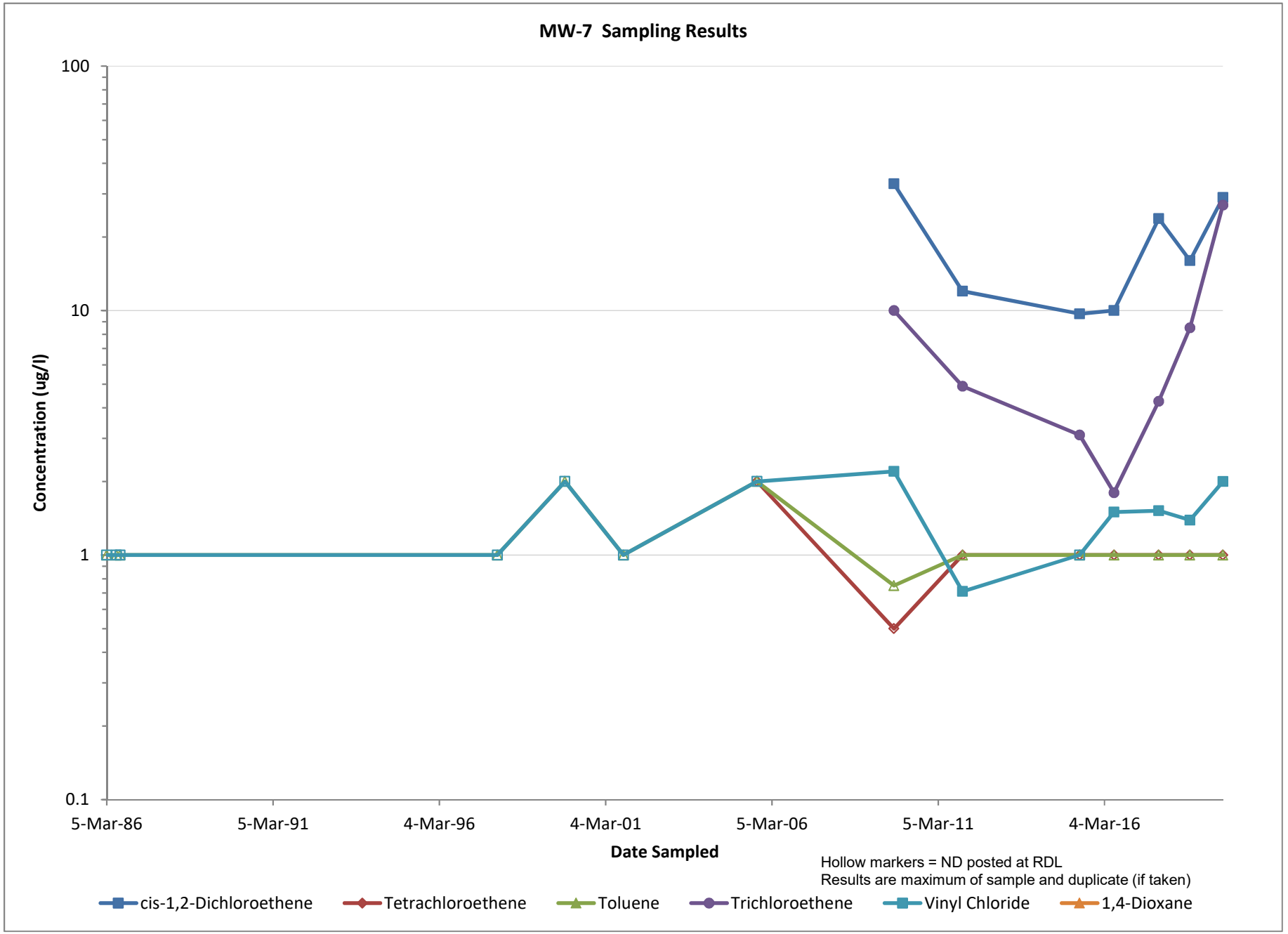

GZA-105S Sampling Results
100
10
1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

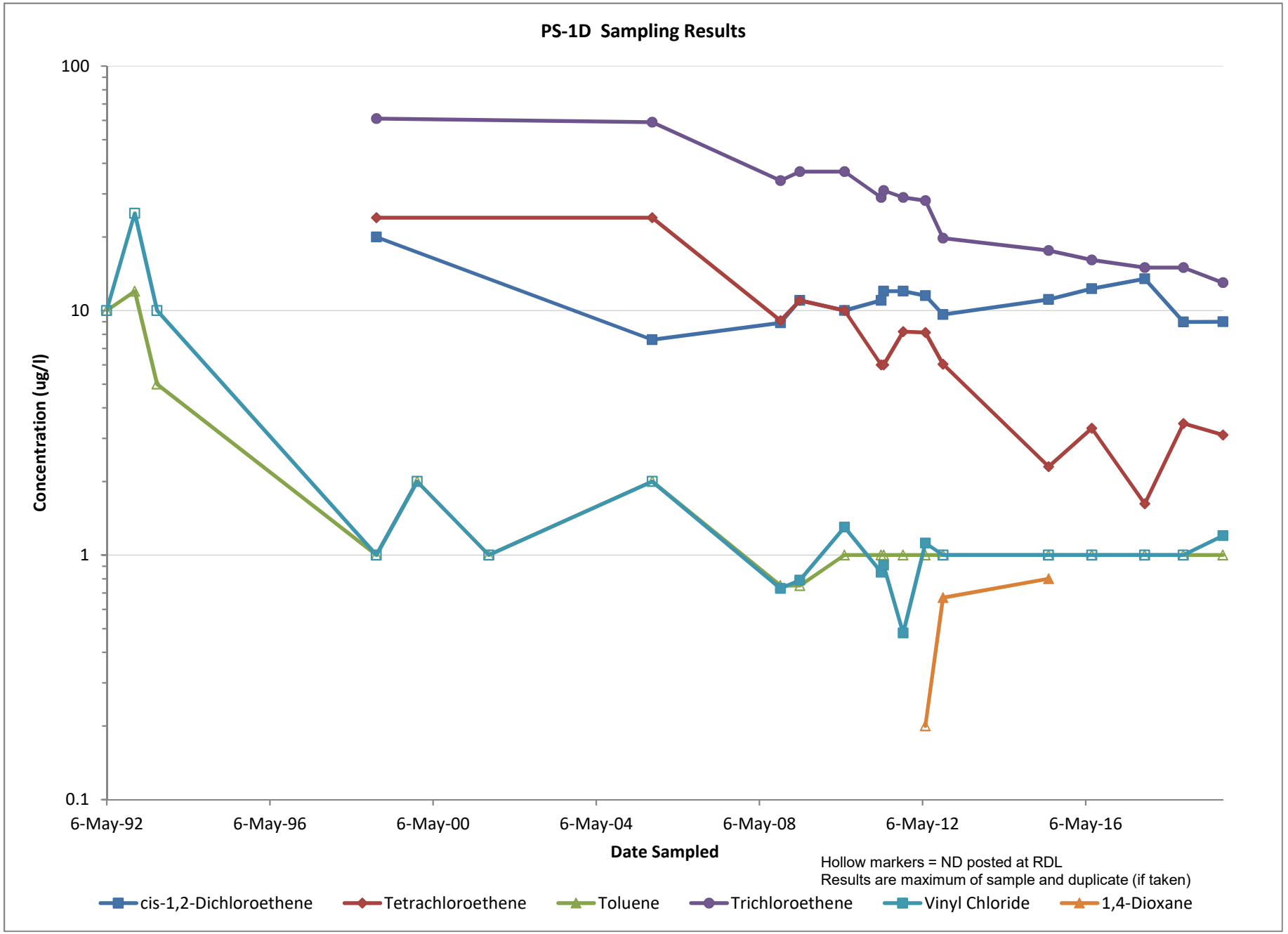

GZA-12 Sampling Results
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

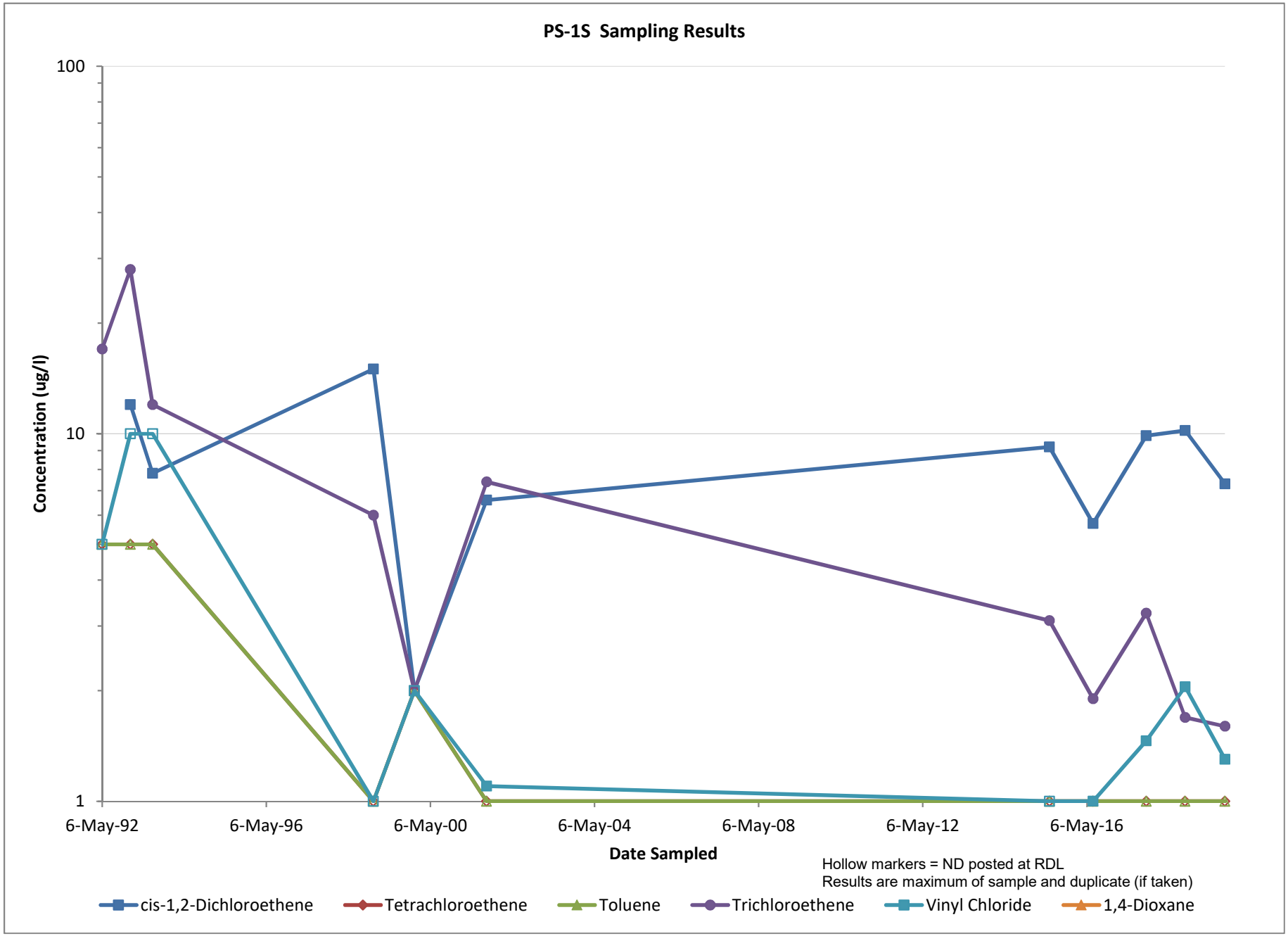

IP-01R2 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
30-Mar-05
30-Mar-07
30-Mar-09
30-Mar-11
30-Mar-13
30-Mar-15
30-Mar-17
30-Mar-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

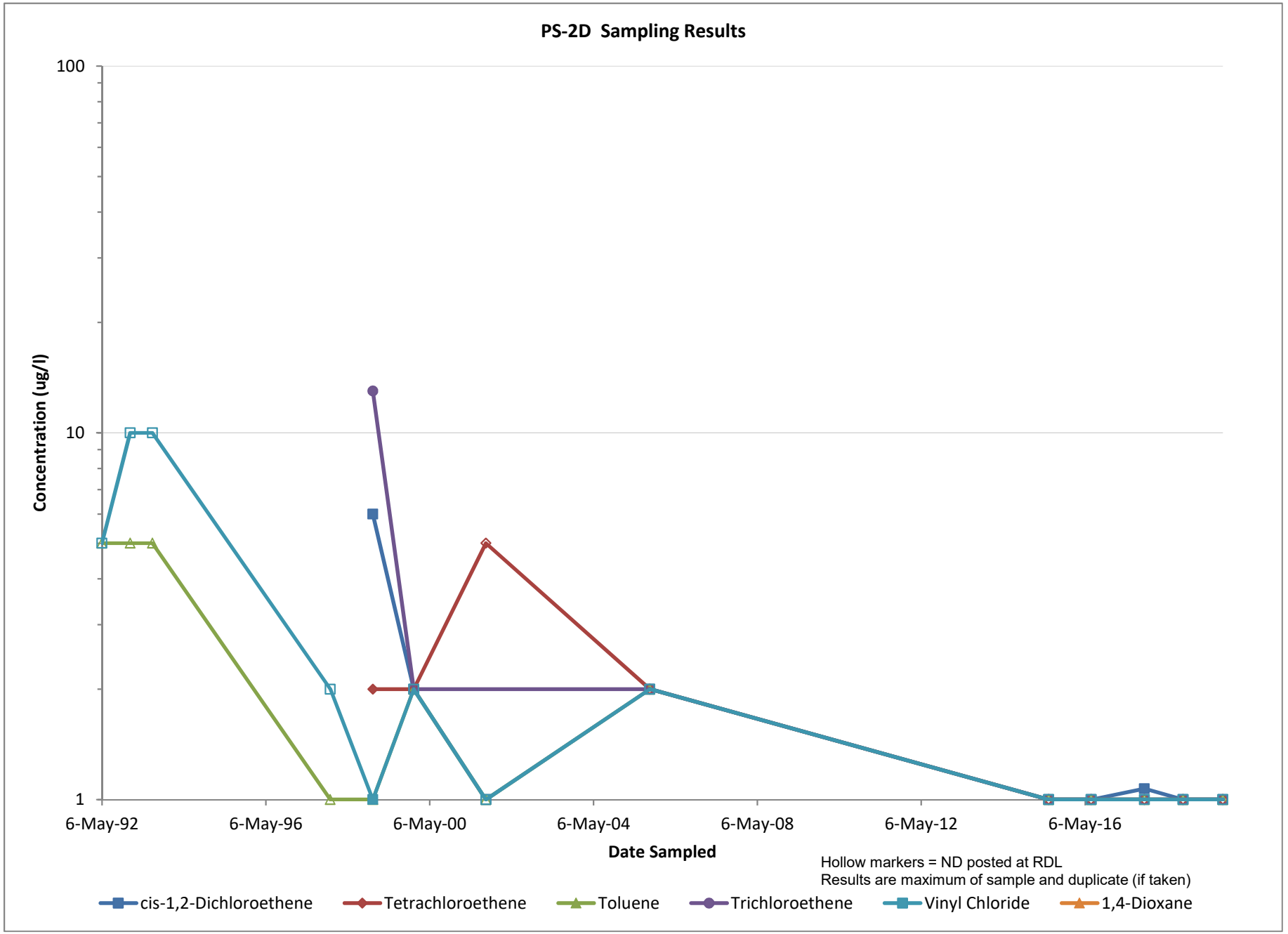

MW-4 Sampling Results
100
10
1
0.1
Concentration (ug/l)
3-Mar-86
3-Mar-91
2-Mar-96
2-Mar-01
3-Mar-06
3-Mar-11
2-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

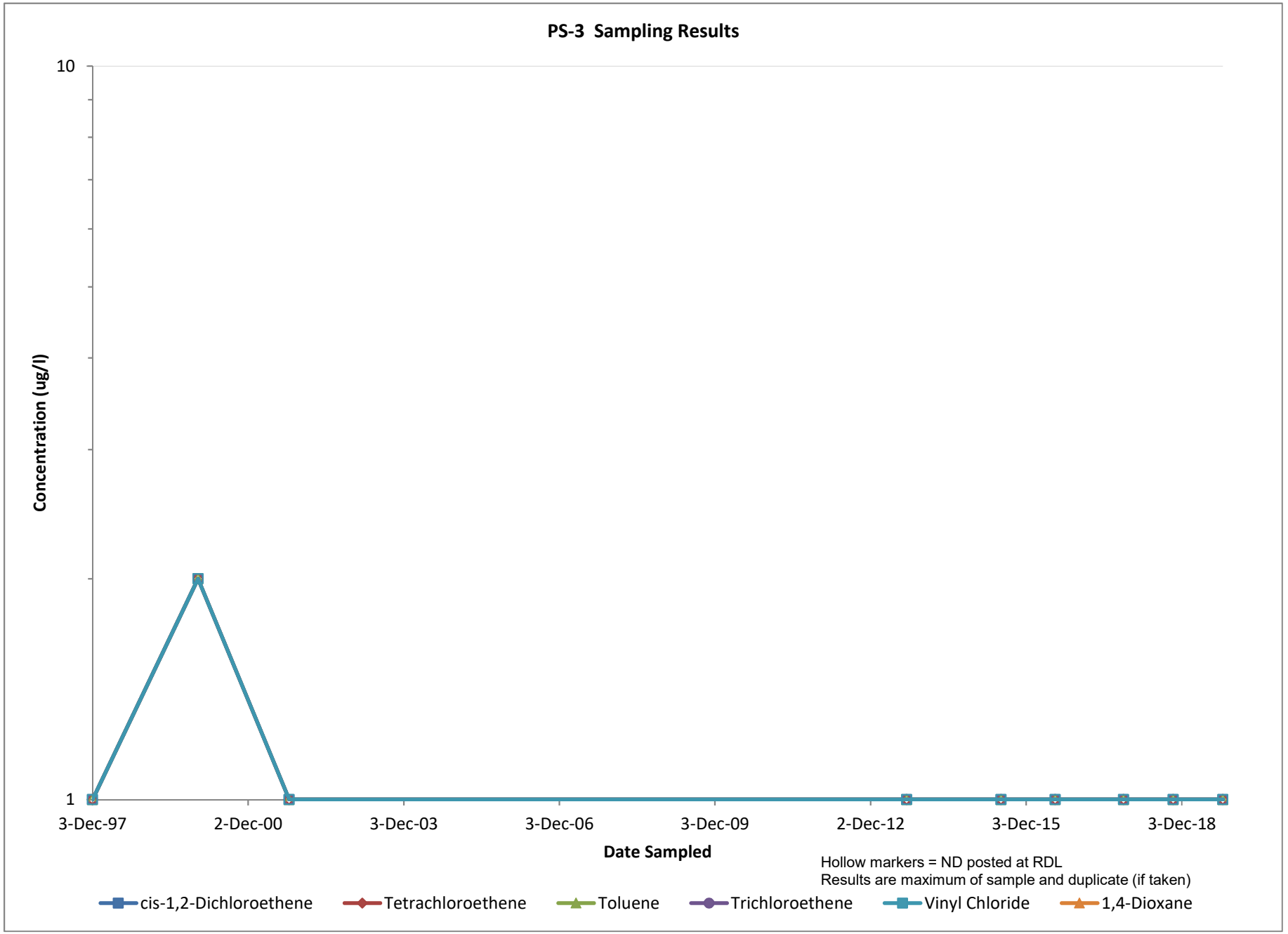

MW-5 Sampling Results
100
10
1
Concentration (ug/l)
3-Mar-86
3-Mar-91
2-Mar-96
2-Mar-01
3-Mar-06
3-Mar-11
2-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

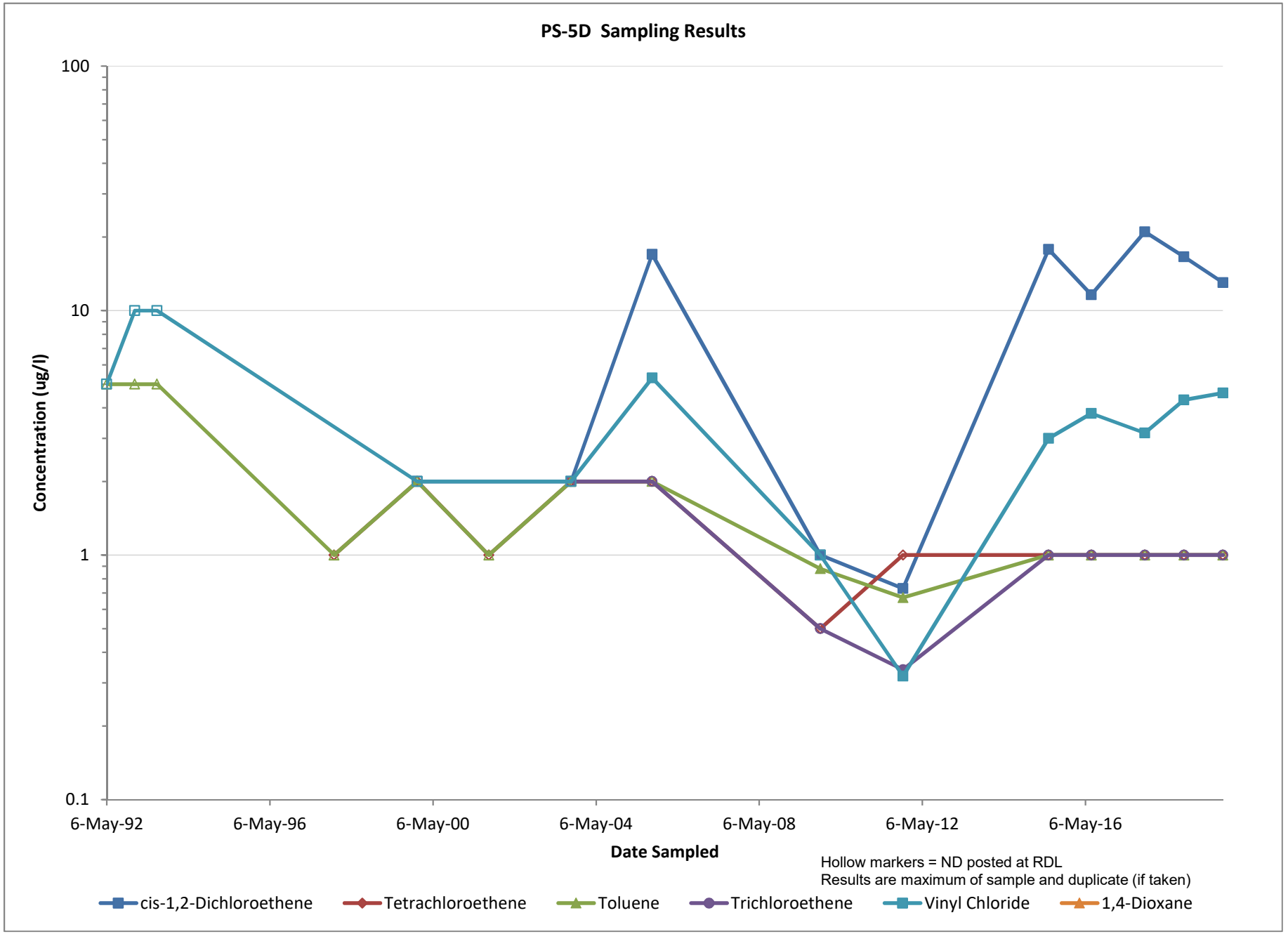

MW-7 Sampling Results
100
10
1
0.1
Concentration (ug/l)
5-Mar-86
5-Mar-91
4-Mar-96
4-Mar-01
5-Mar-06
5-Mar-11
4-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

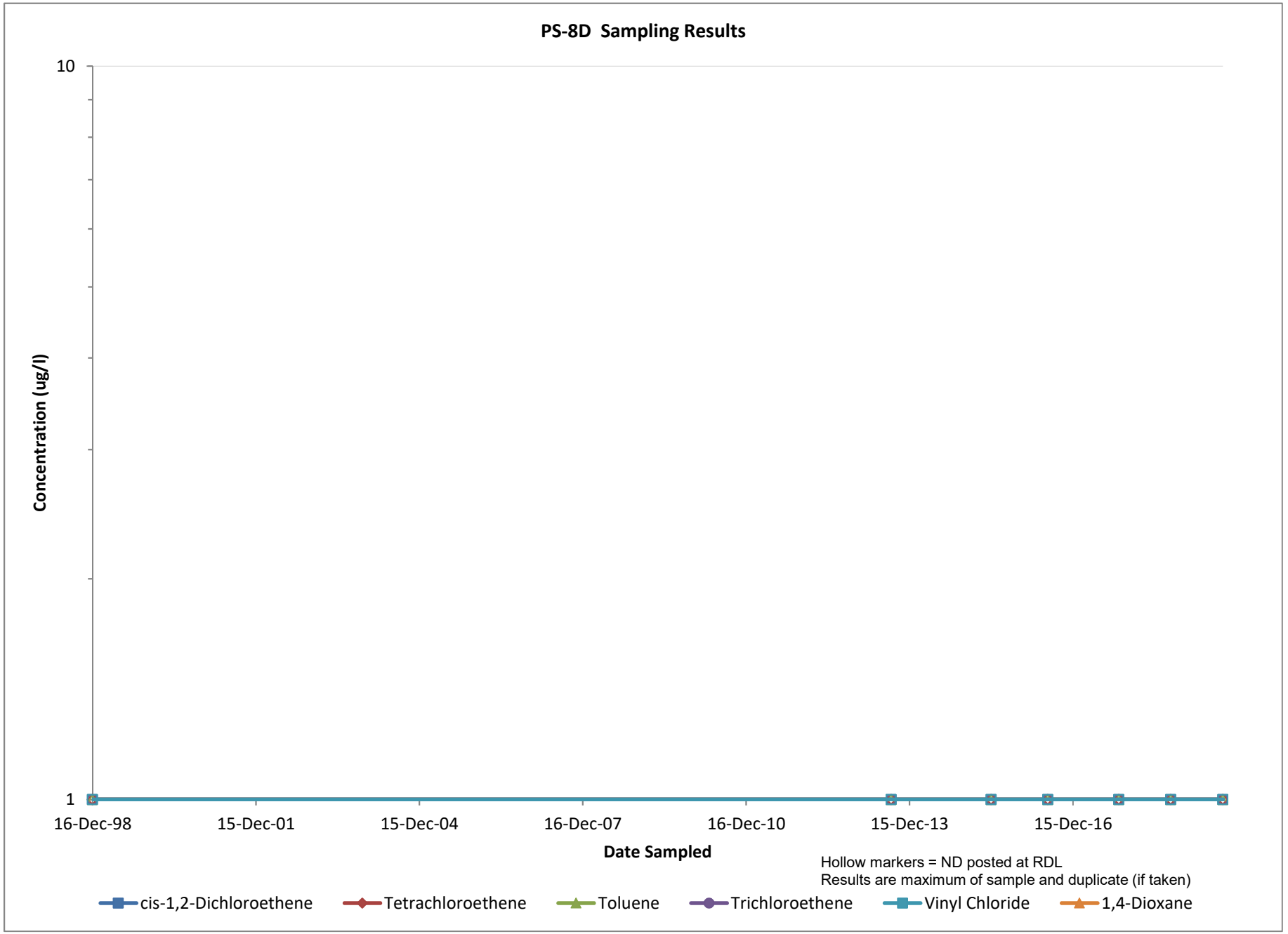

PS-1D Sampling Results
100
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

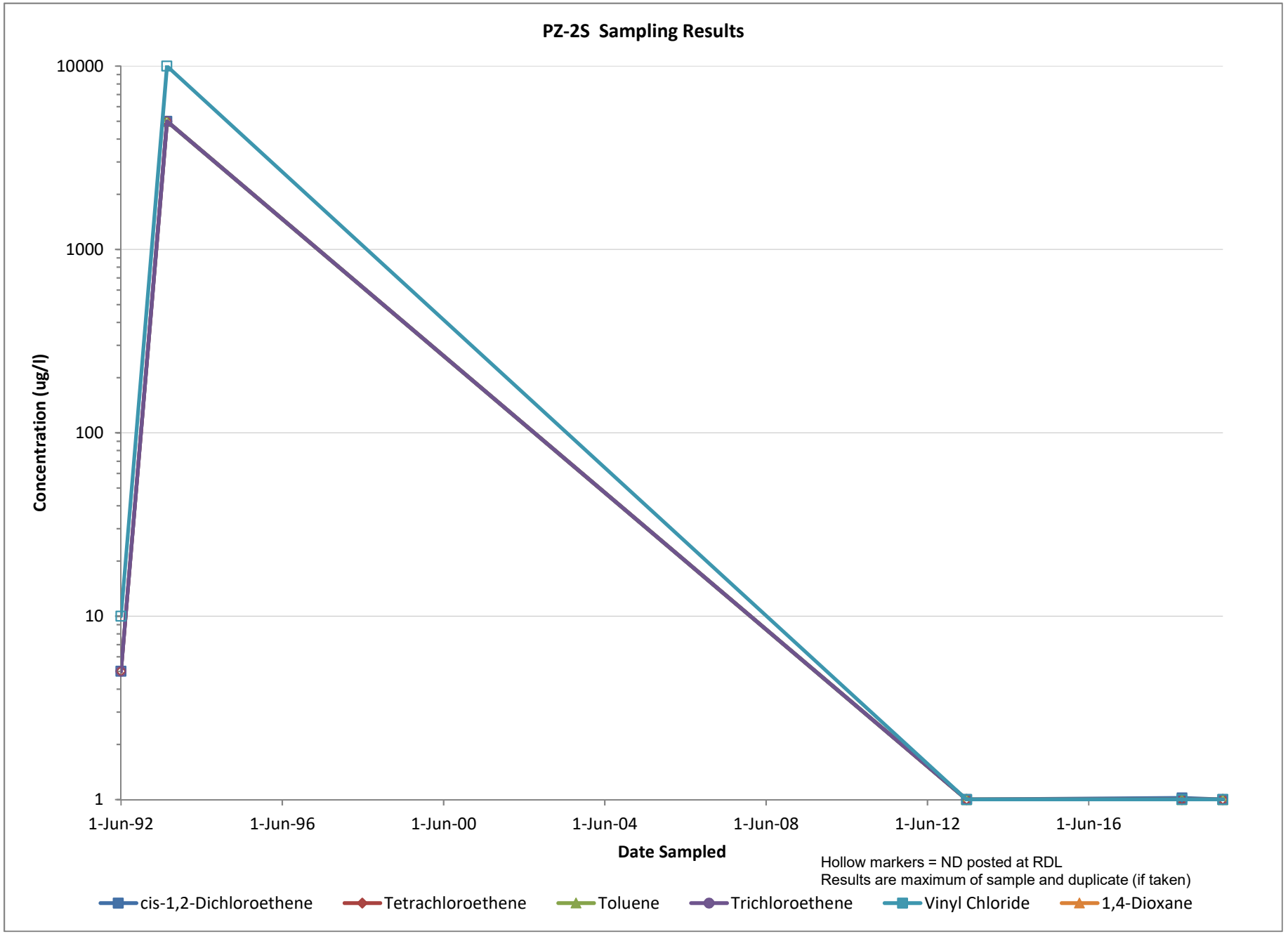

PS-1S Sampling Results
100
10
1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

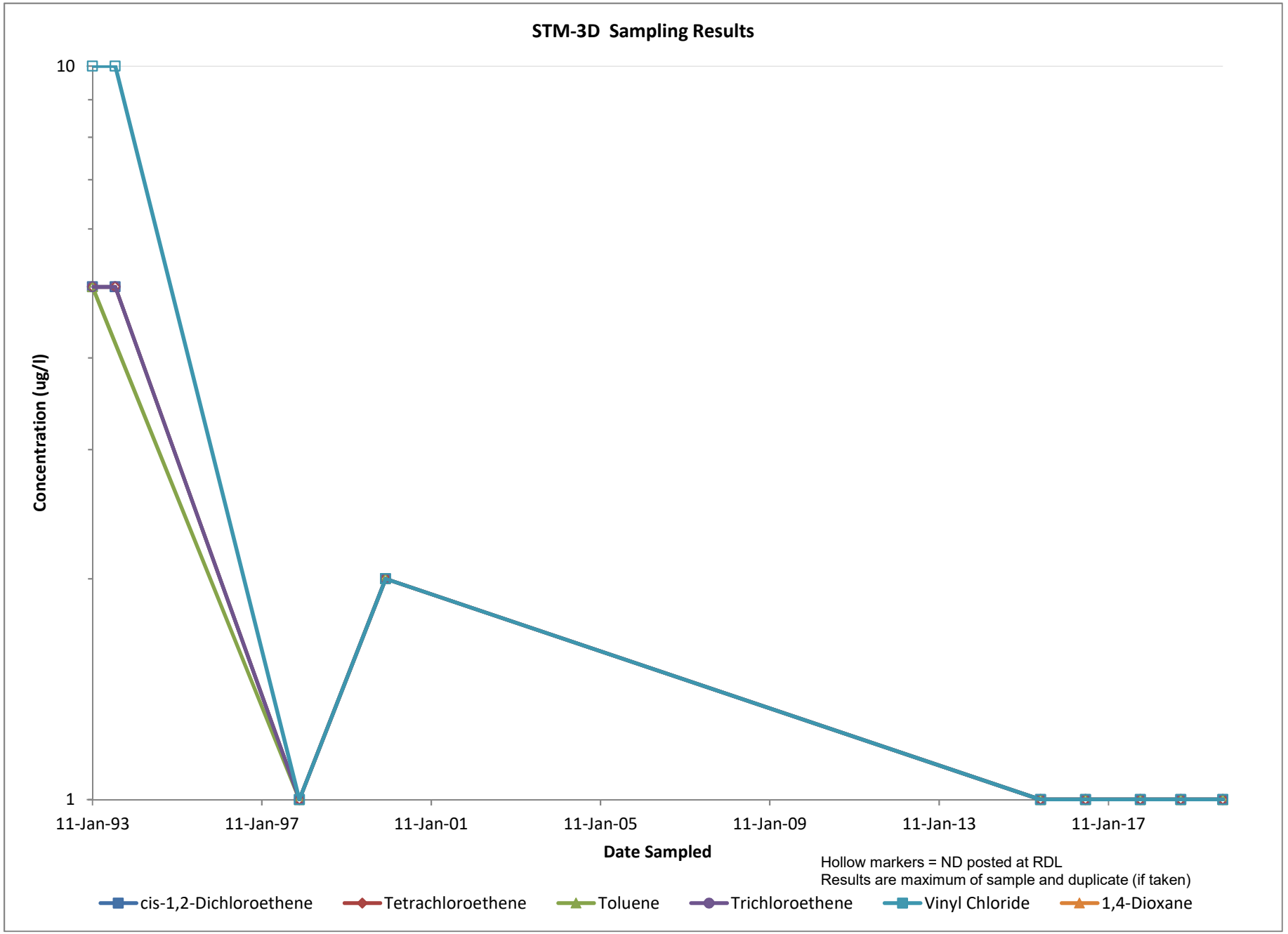

PS-2D Sampling Results
100
10
1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

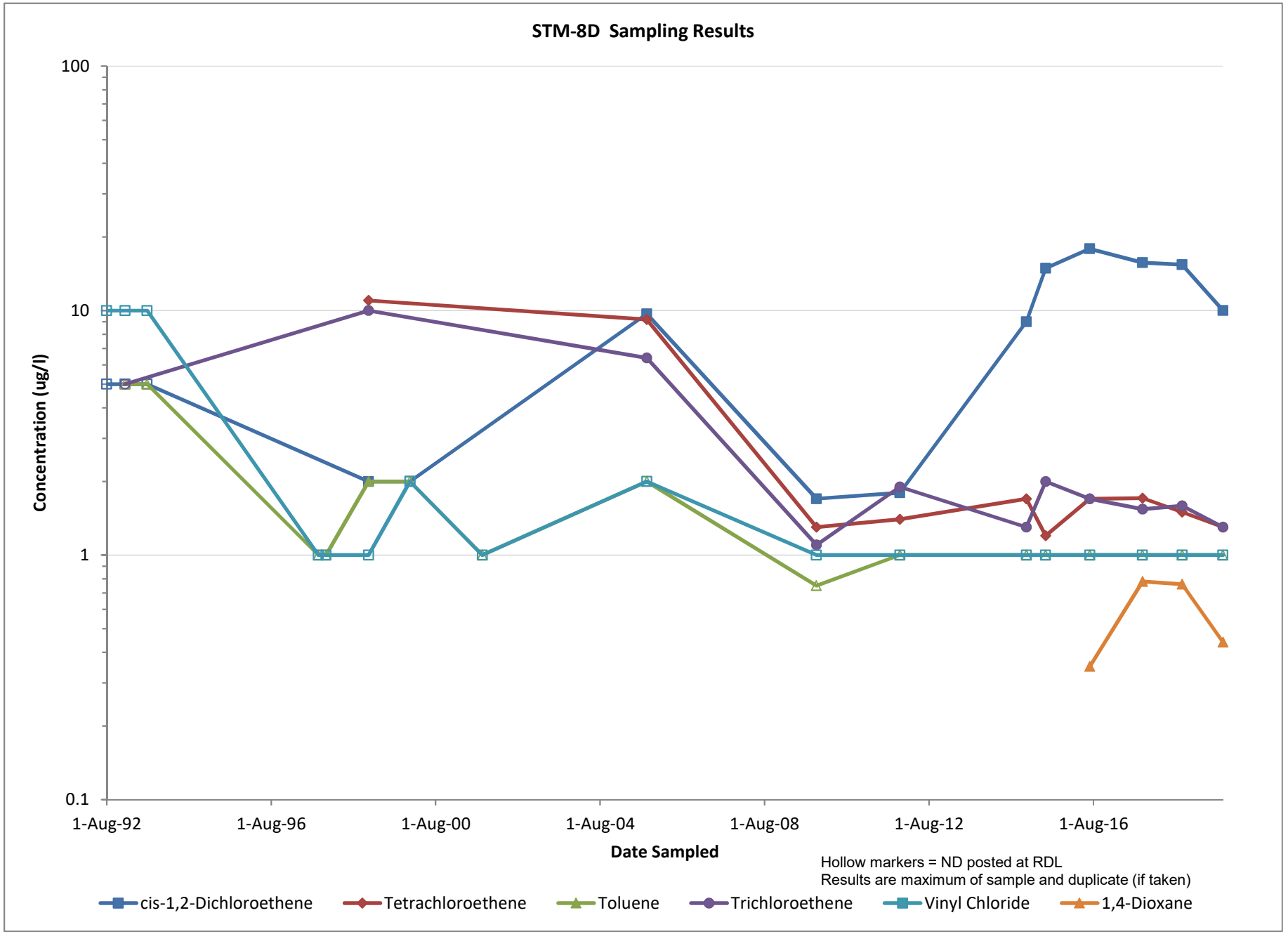

PS-3 Sampling Results
10
1
Concentration (ug/l)
3-Dec-97
2-Dec-00
3-Dec-03
3-Dec-06
3-Dec-09
2-Dec-12
3-Dec-15
3-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

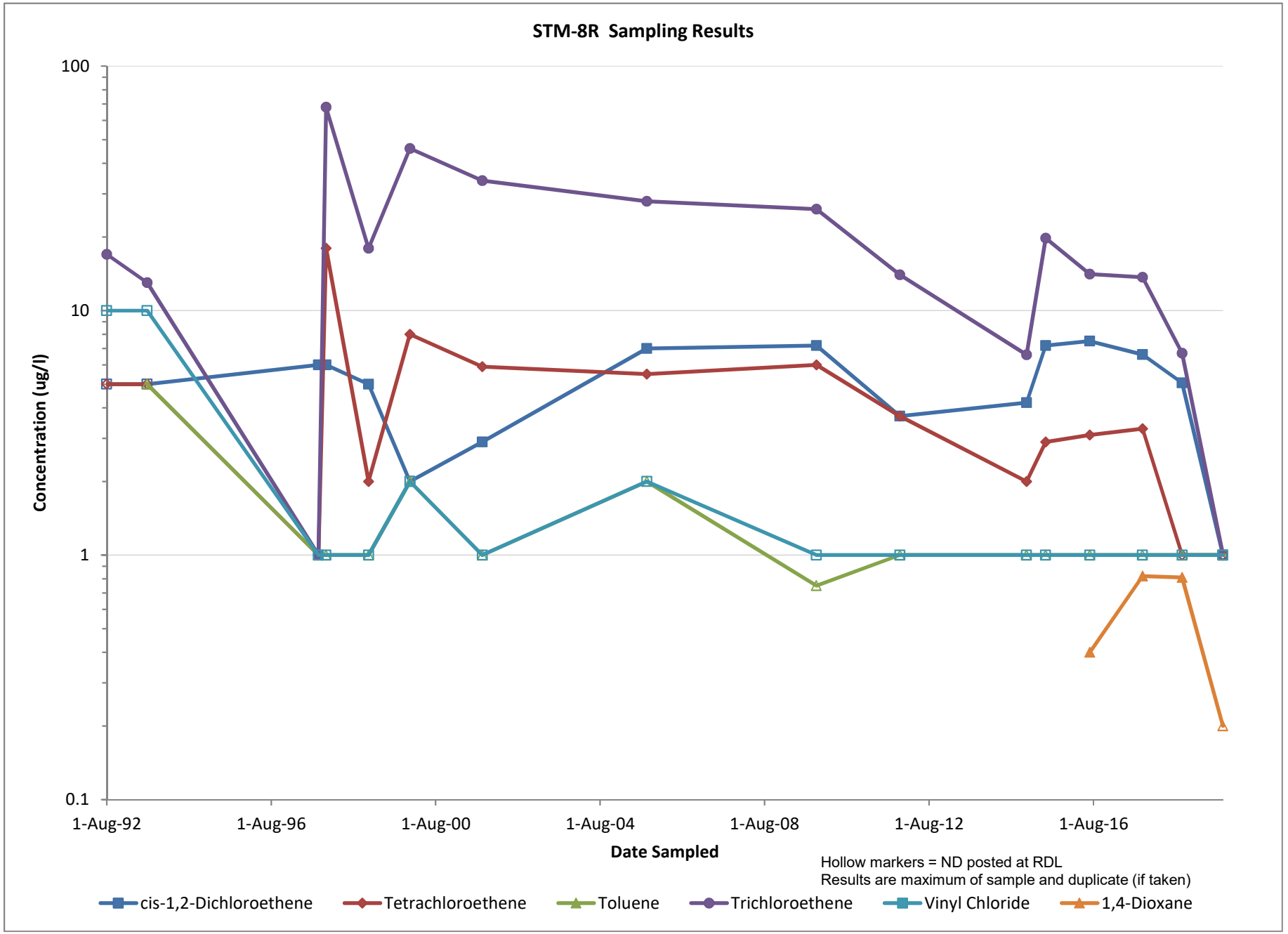

PS-5D Sampling Results
100
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

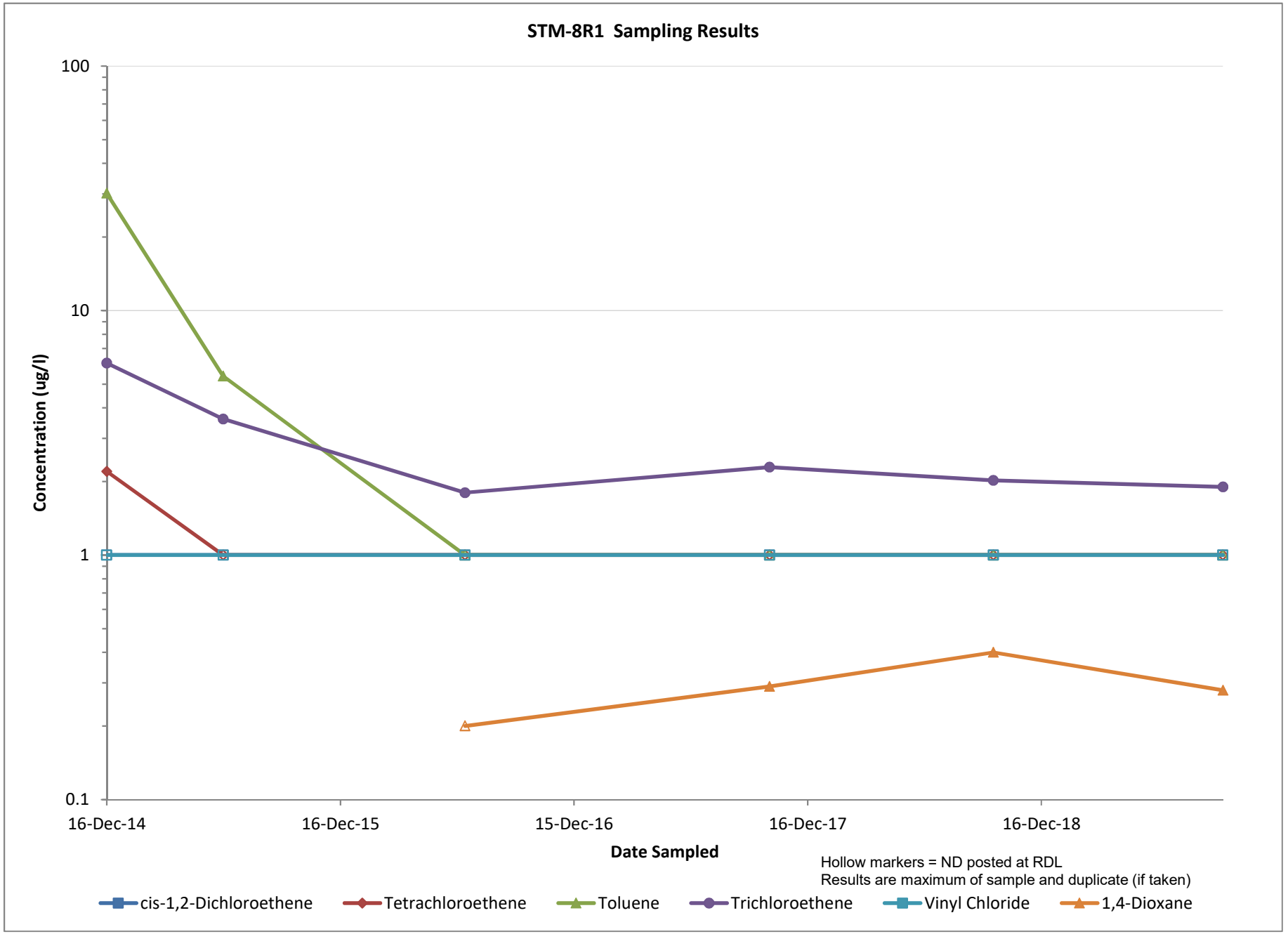

PS-8D Sampling Results
10
1
Concentration (ug/l)
16-Dec-98
15-Dec-01
15-Dec-04
16-Dec-07
16-Dec-10
15-Dec-13
15-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

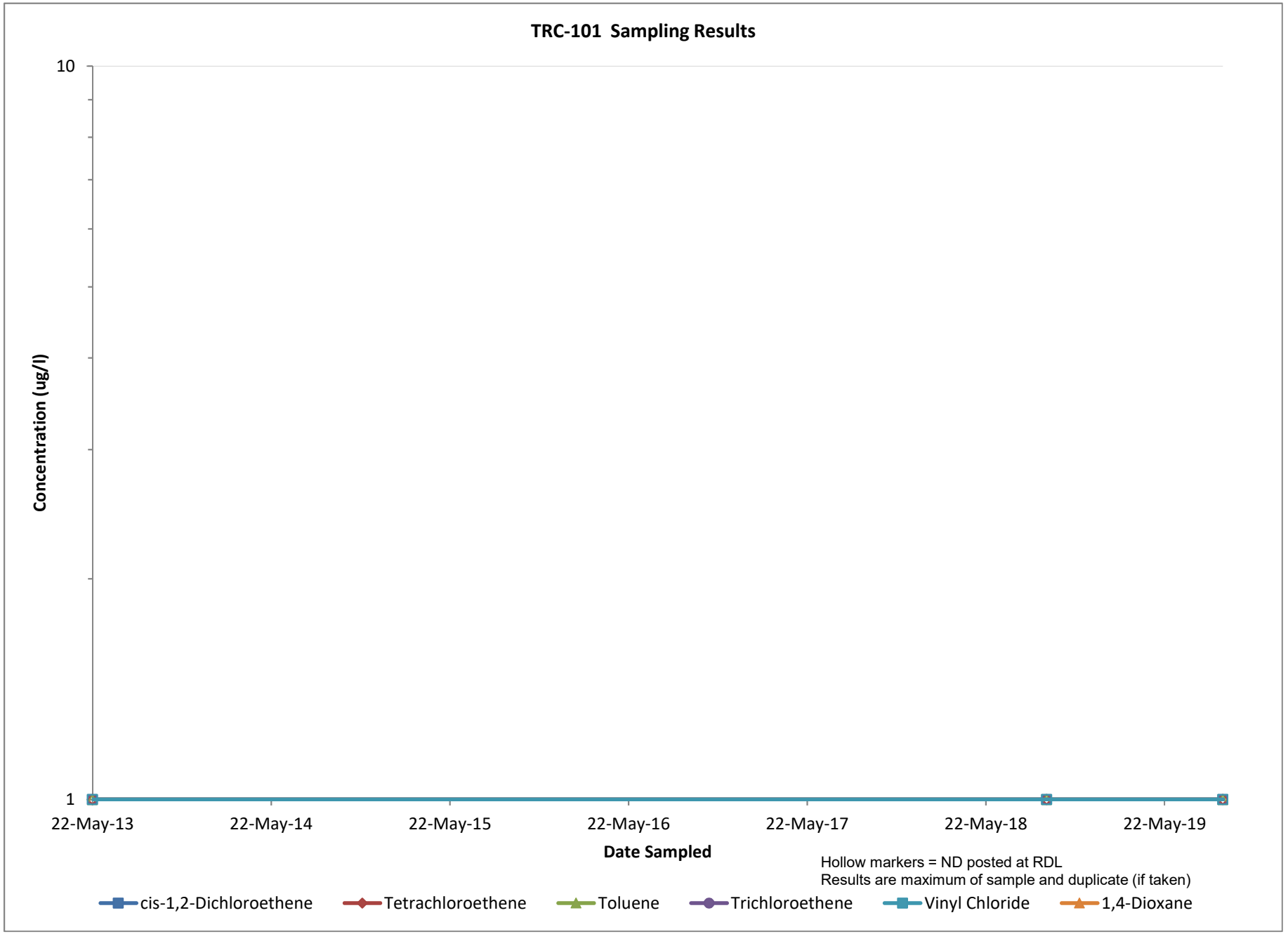

PZ-2S Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
1-Jun-92
1-Jun-96
1-Jun-00
1-Jun-04
1-Jun-08
1-Jun-12
1-Jun-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

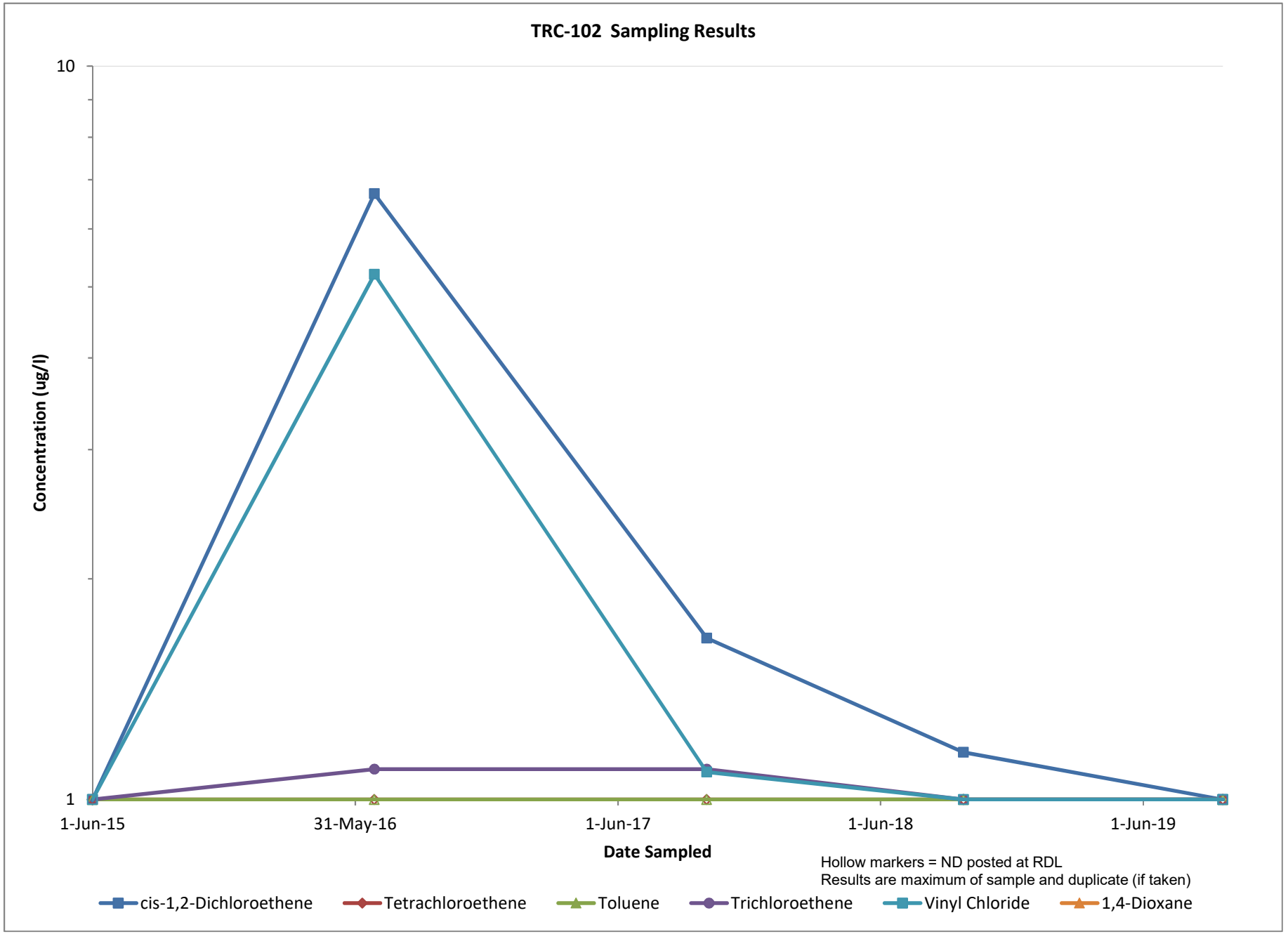

STM-3D Sampling Results
10
1
Concentration (ug/l)
11-Jan-93
11-Jan-97
11-Jan-01
11-Jan-05
11-Jan-09
11-Jan-13
11-Jan-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

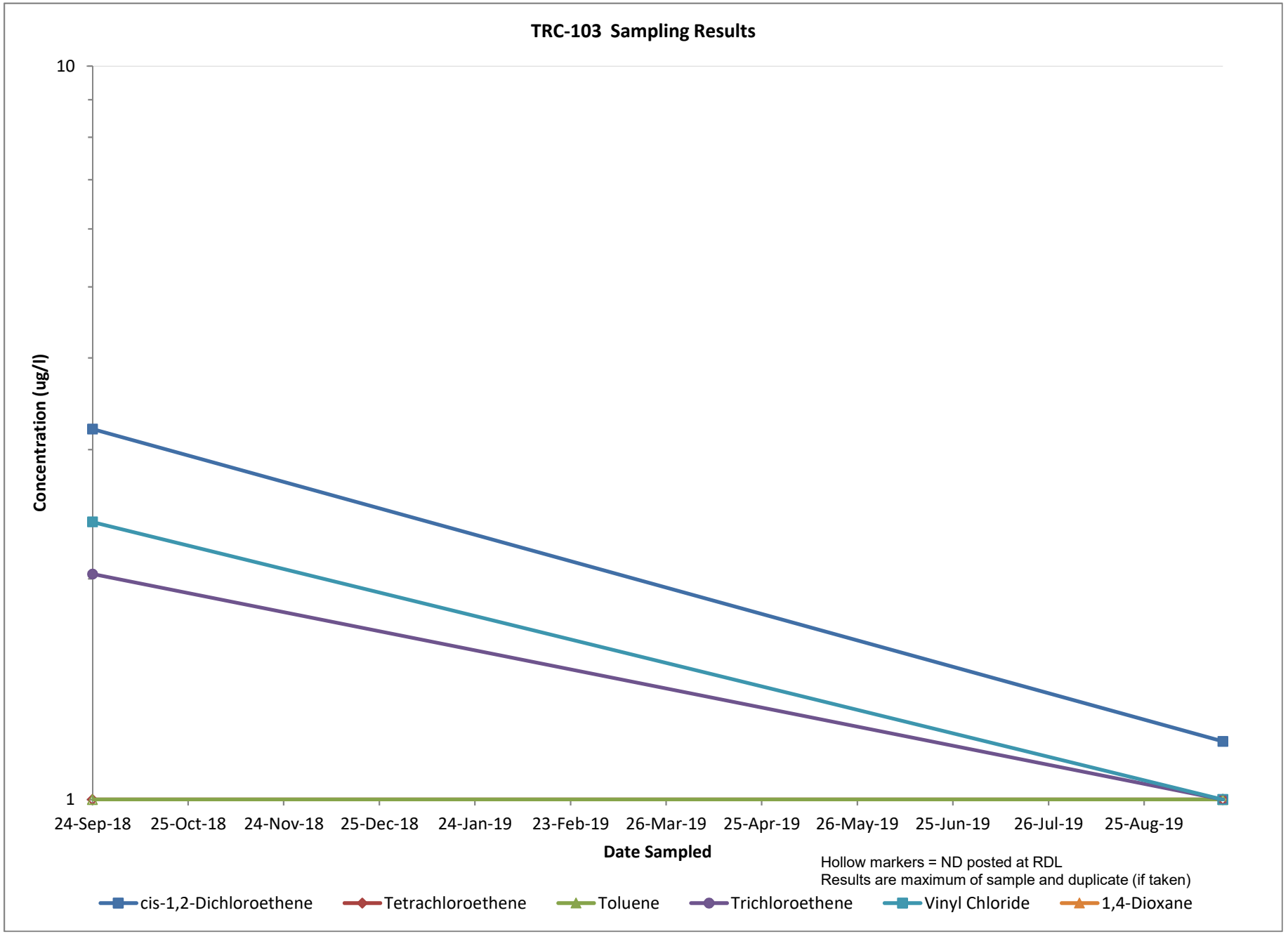

STM-8D Sampling Results
100
10
1
0.1
Concentration (ug/l)
1-Aug-92
1-Aug-96
1-Aug-00
1-Aug-04
1-Aug-08
1-Aug-12
1-Aug-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

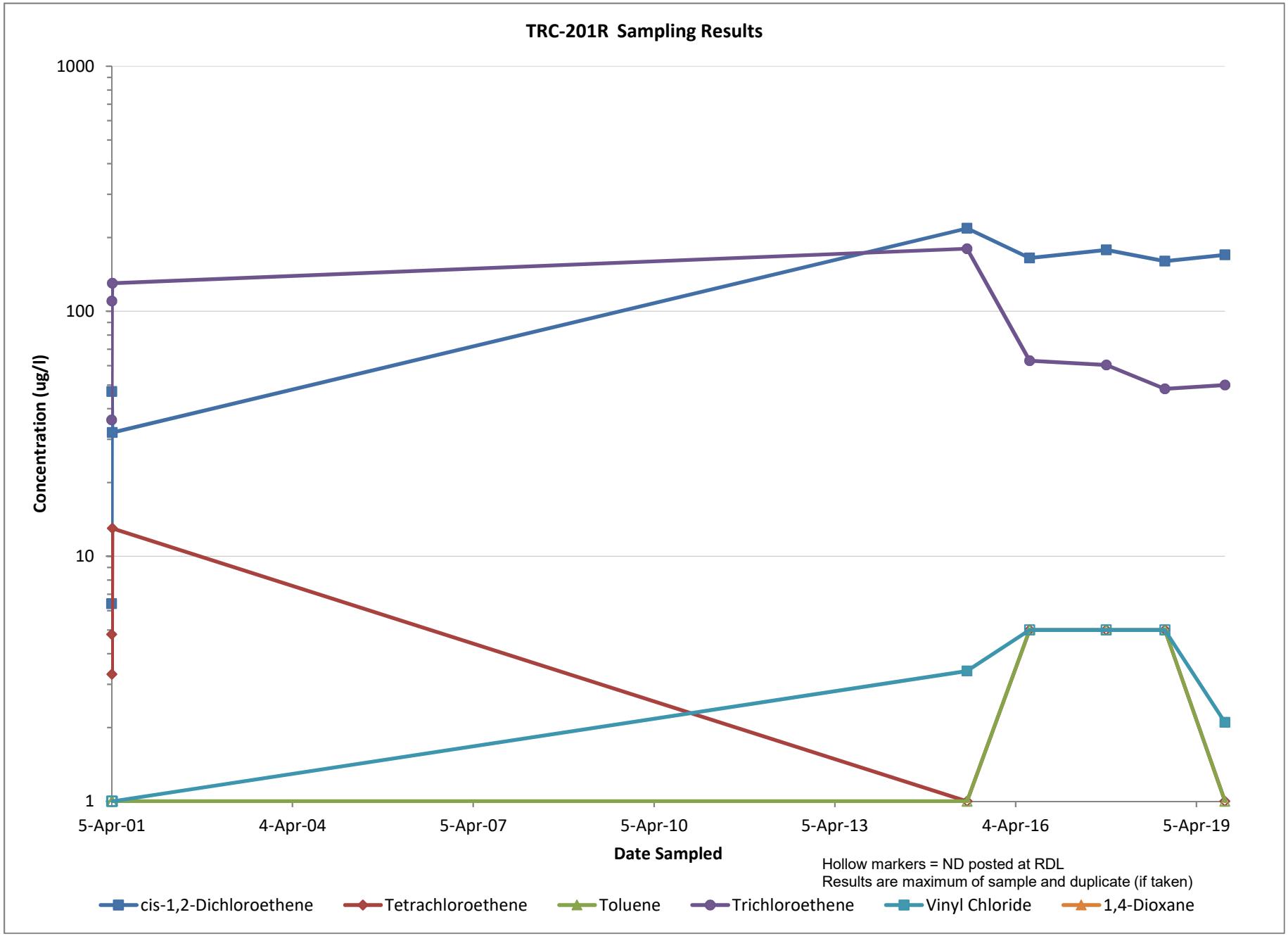

STM-8R Sampling Results
100
10
1
0.1
Concentration (ug/l)
1-Aug-92
1-Aug-96
1-Aug-00
1-Aug-04
1-Aug-08
1-Aug-12
1-Aug-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

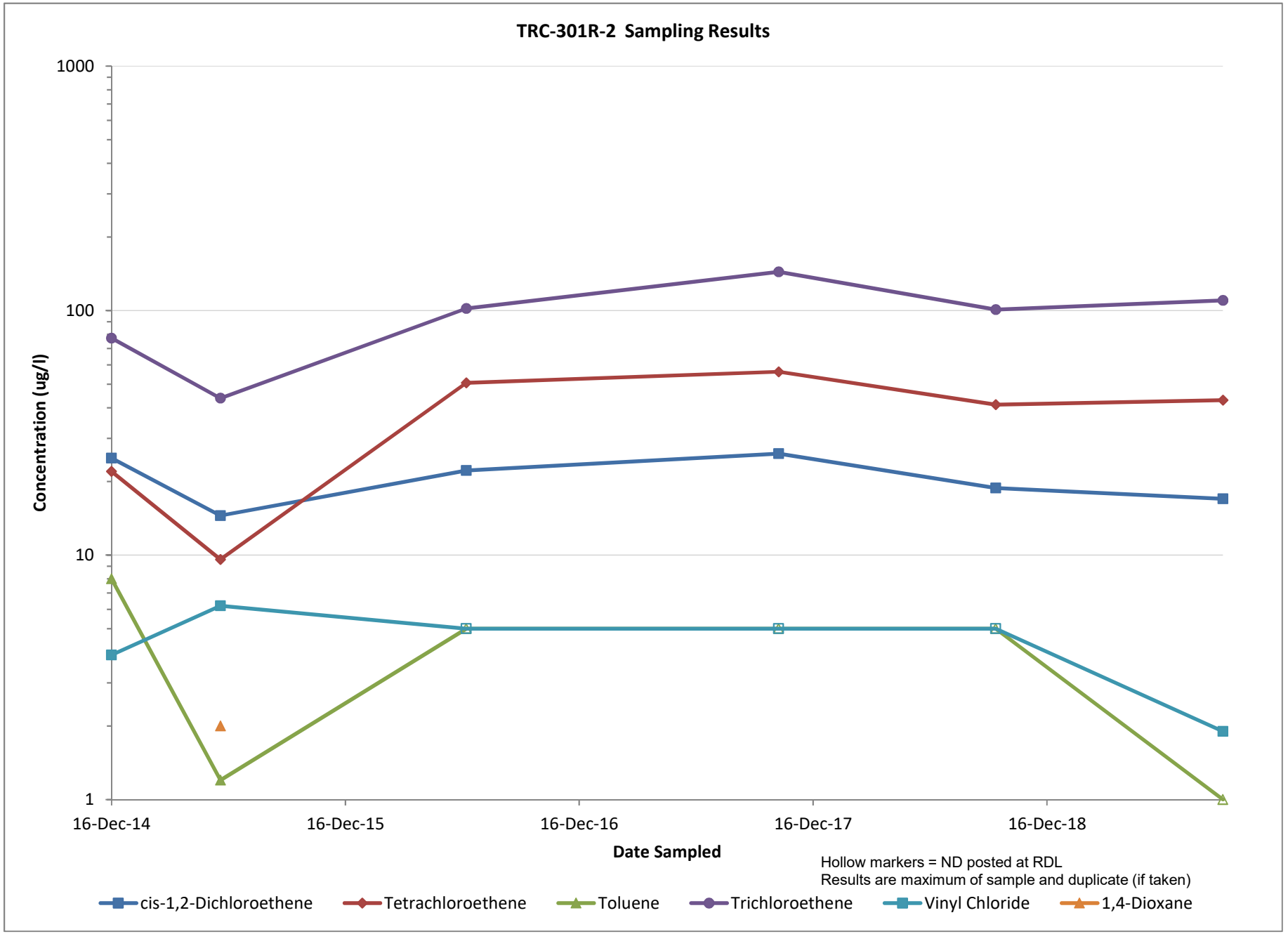

STM-8R1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
15-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

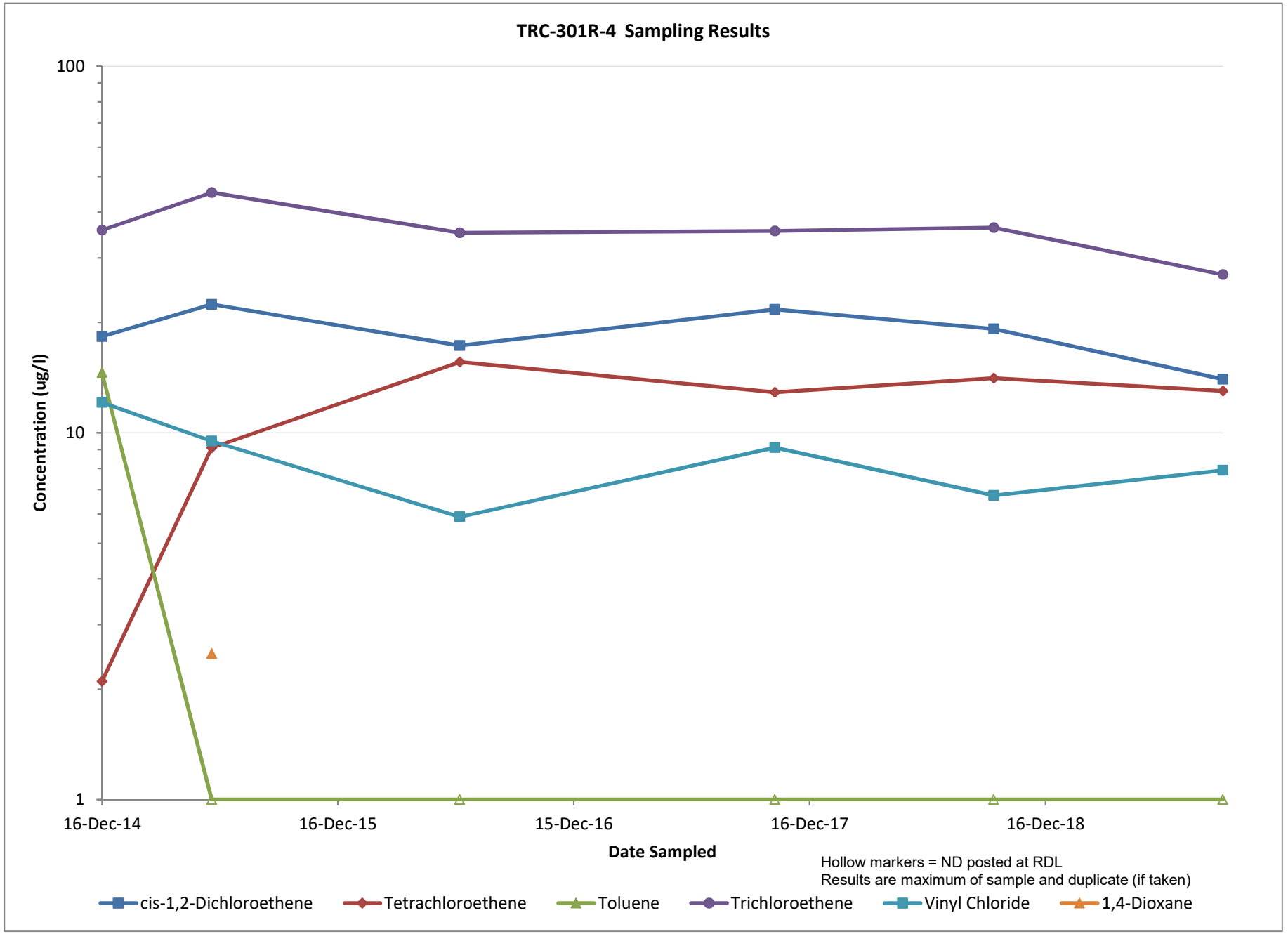

TRC-101 Sampling Results
10
1
Concentration (ug/l)
22-May-13
22-May-14
22-May-15
22-May-16
22-May-17
22-May-18
22-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

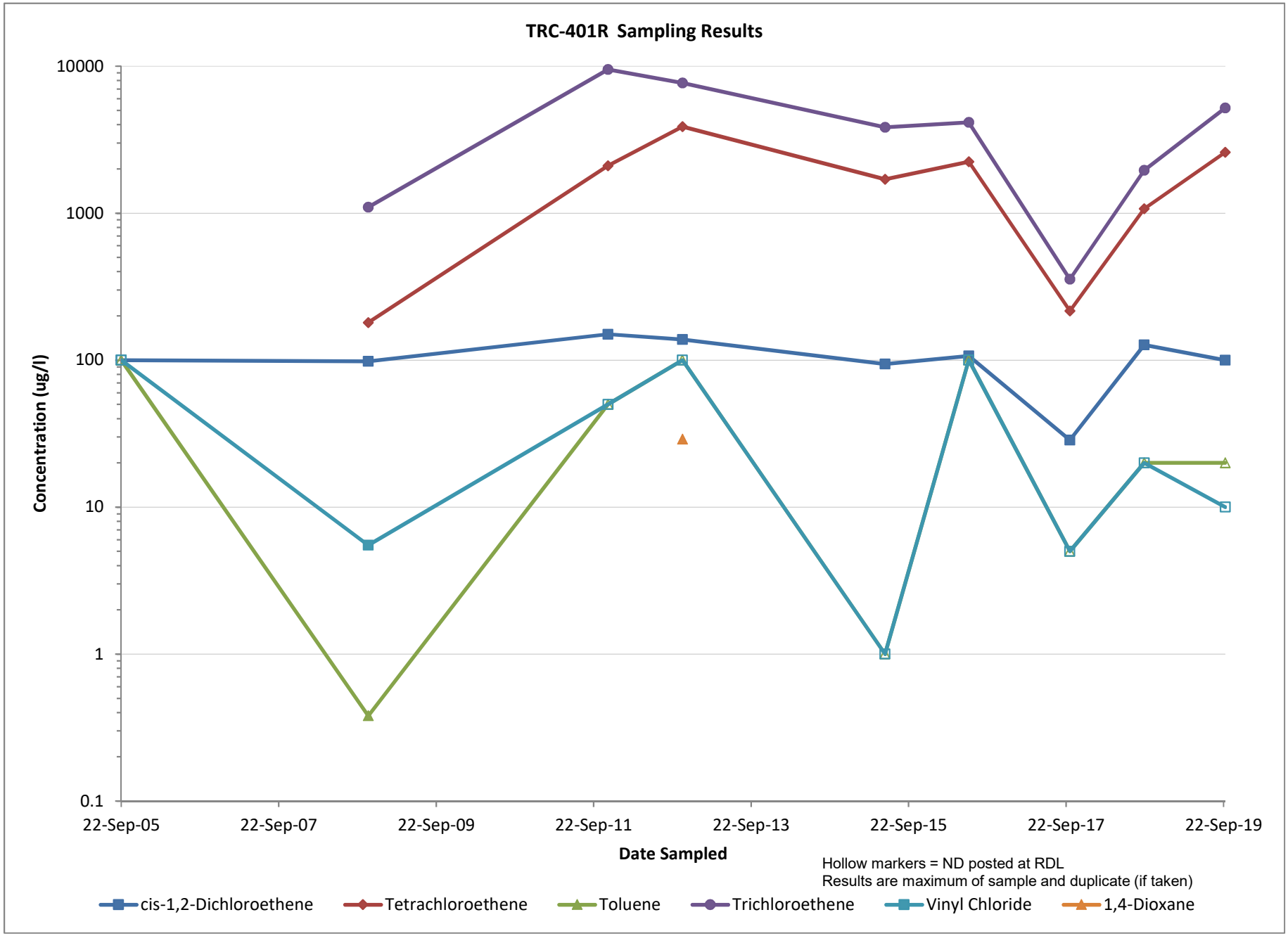

TRC-102 Sampling Results
10
1
Concentration (ug/l)
1-Jun-15
31-May-16
1-Jun-17
1-Jun-18
1-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

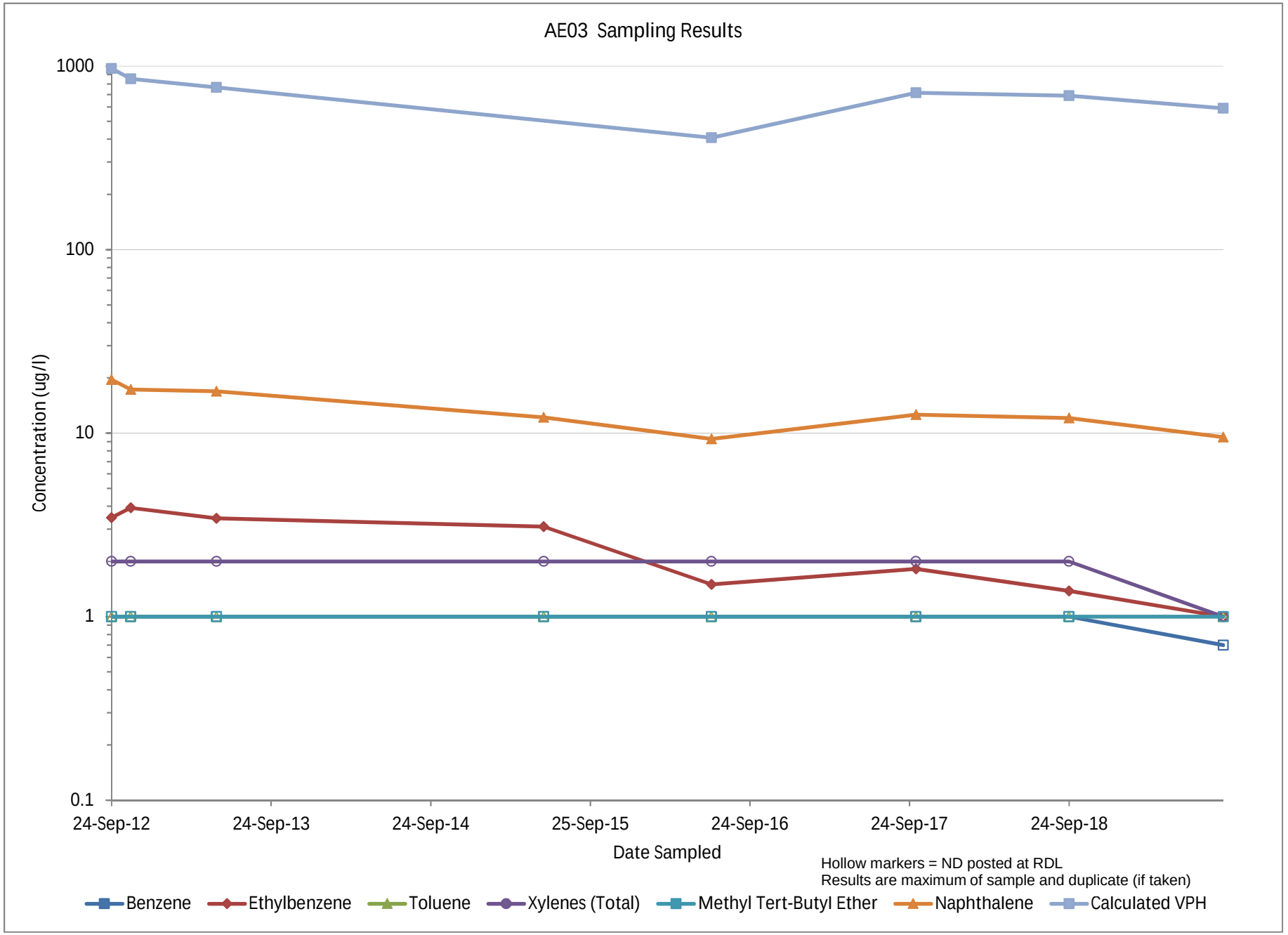

TRC-103 Sampling Results
10
1
Concentration (ug/l)
24-Sep-18
25-Oct-18
24-Nov-18
25-Dec-18
24-Jan-19
23-Feb-19
26-Mar-19
25-Apr-19
26-May-19
25-Jun-19
26-Jul-19
25-Aug-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

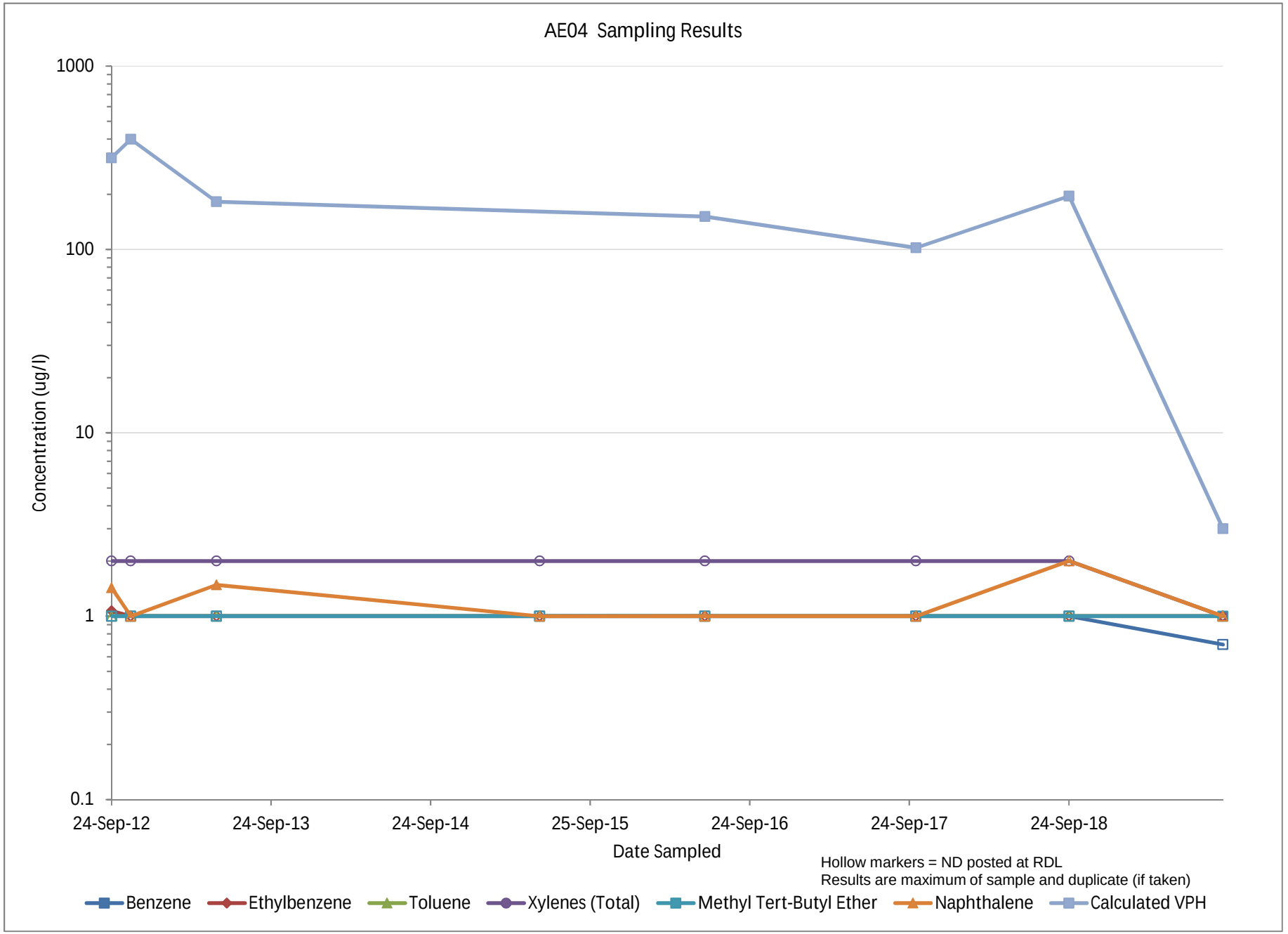

TRC-201R Sampling Results
1000
100
10
1
Concentration (ug/l)
5-Apr-01
4-Apr-04
5-Apr-07
5-Apr-10
5-Apr-13
4-Apr-16
5-Apr-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

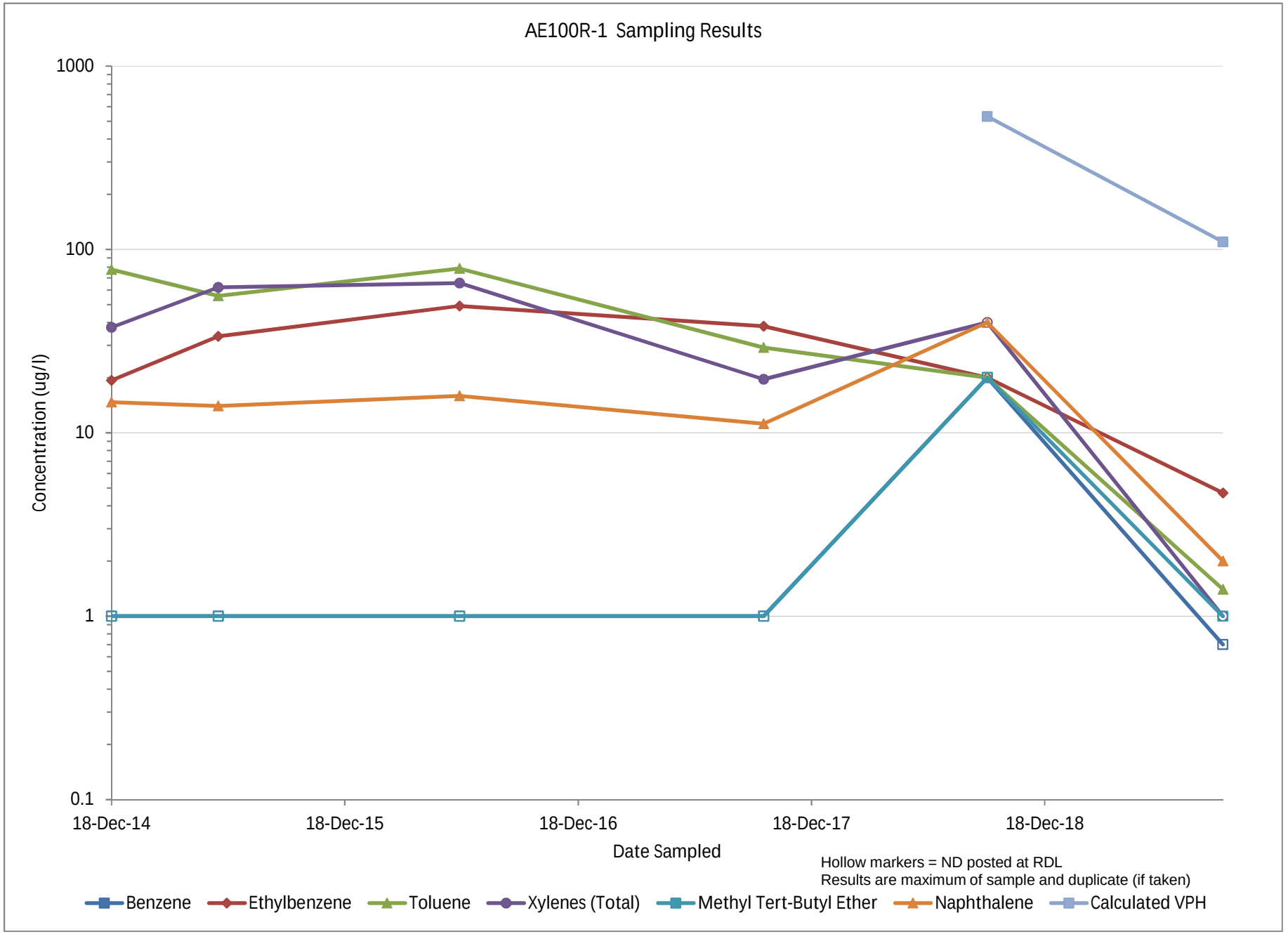

TRC-301R-2 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

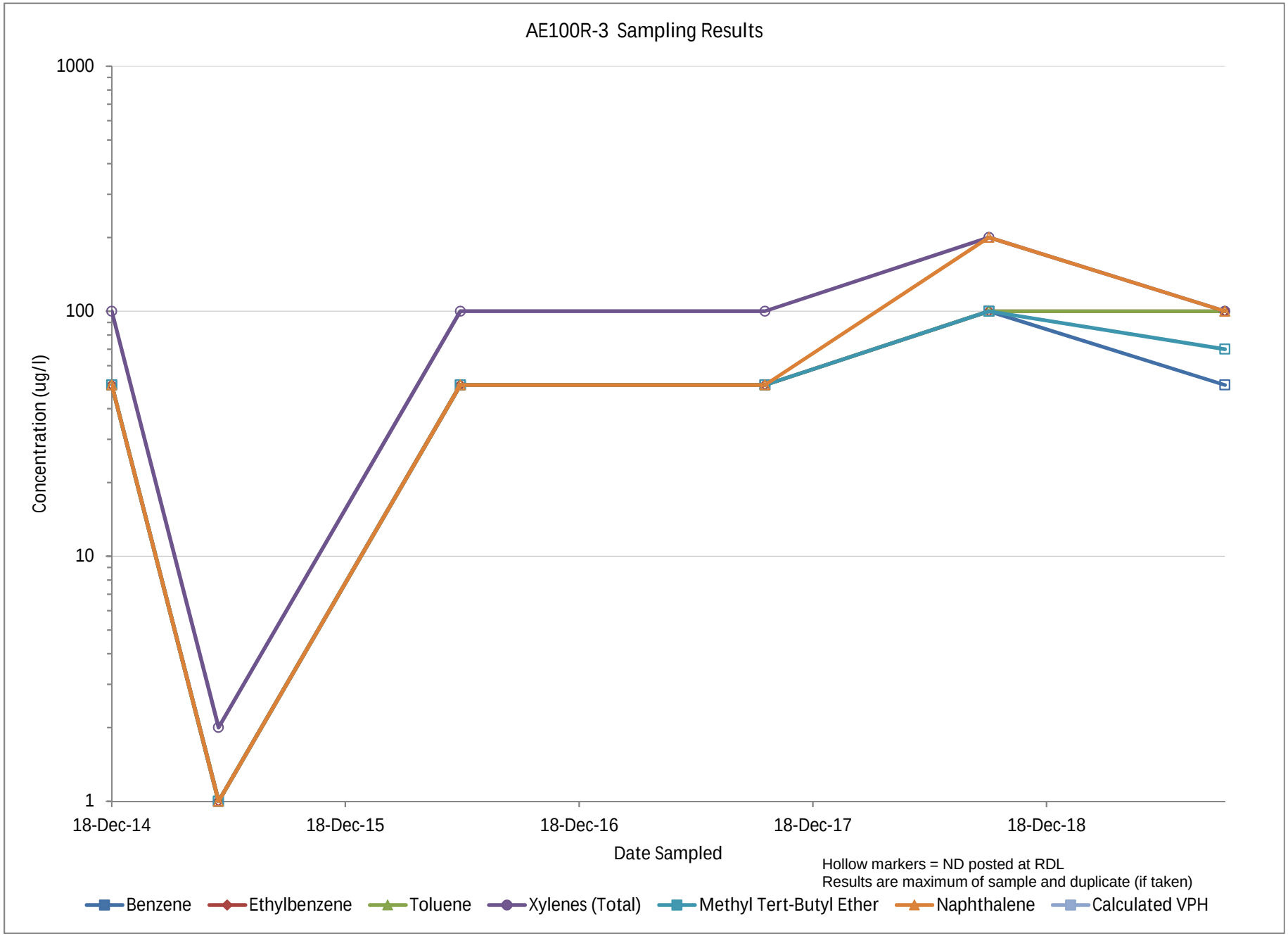

TRC-301R-4 Sampling Results
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
15-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

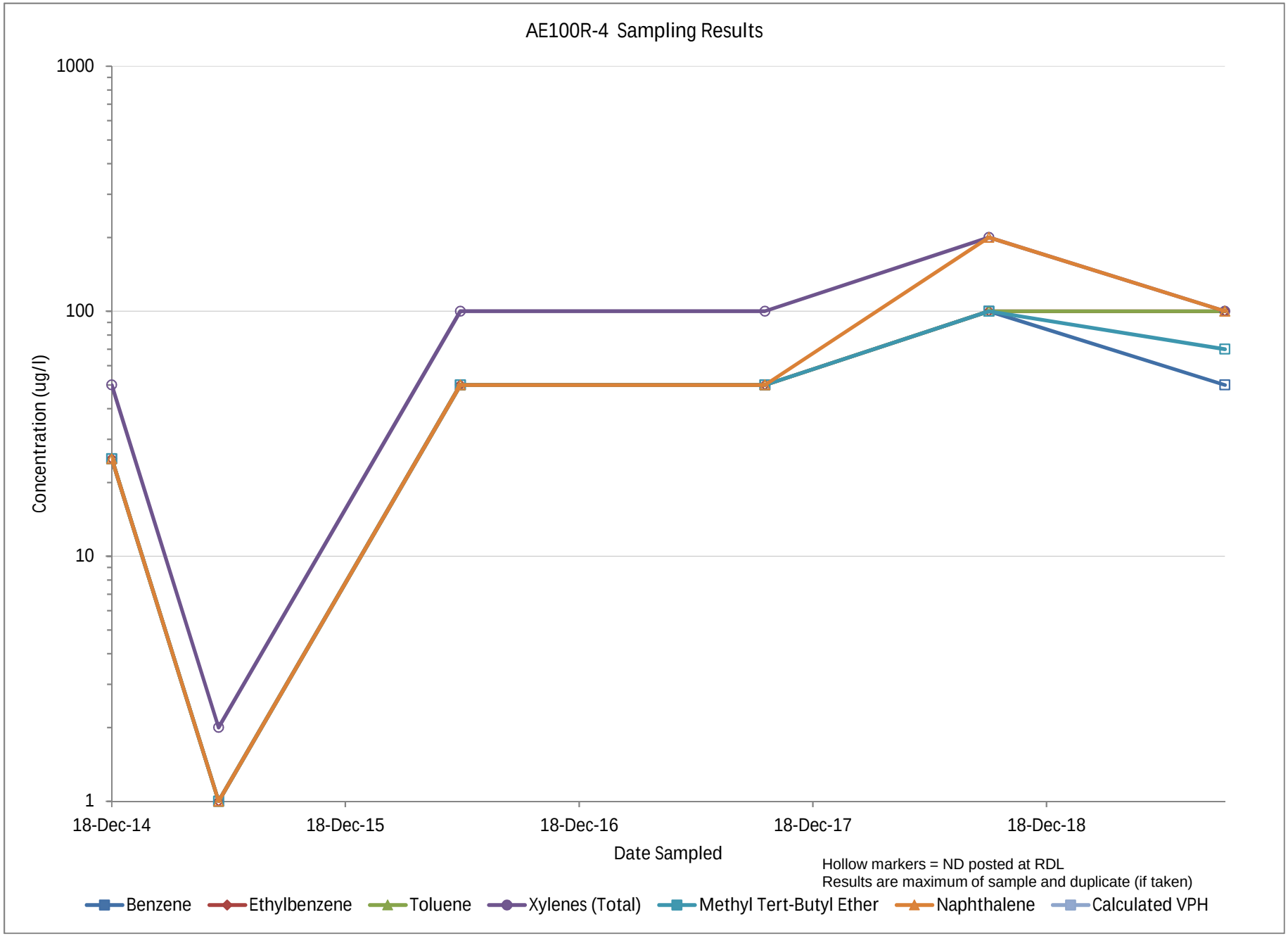

TRC-401R Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
22-Sep-05
22-Sep-07
22-Sep-09
22-Sep-11
22-Sep-13
22-Sep-15
22-Sep-17
22-Sep-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
cis-1,2-Dichloroethene
Tetrachloroethene
Toluene
Trichloroethene
Vinyl Chloride
1,4-Dioxane

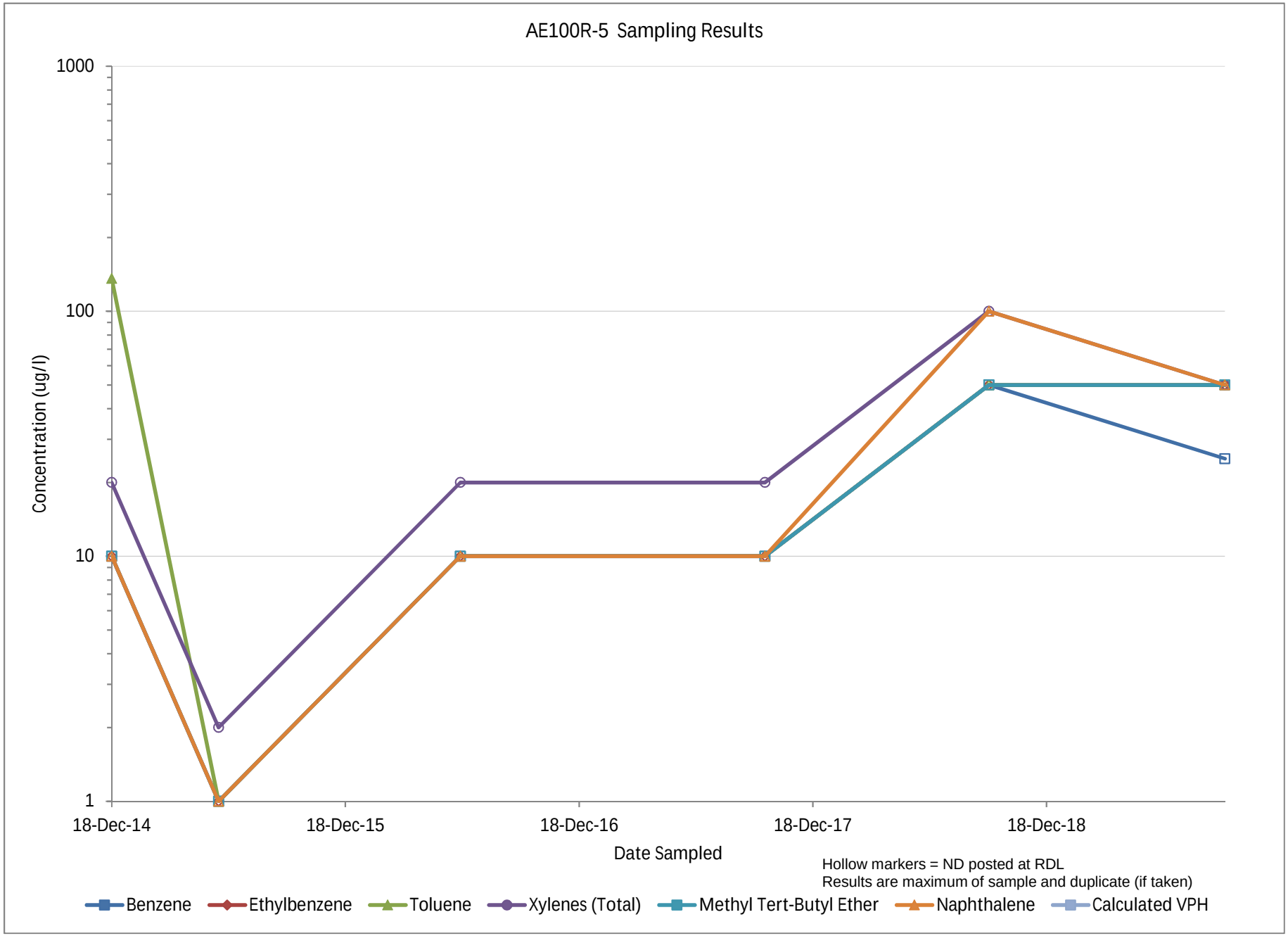

AE03 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
24-Sep-12
24-Sep-13
24-Sep-14
25-Sep-15
24-Sep-16
24-Sep-17
24-Sep-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

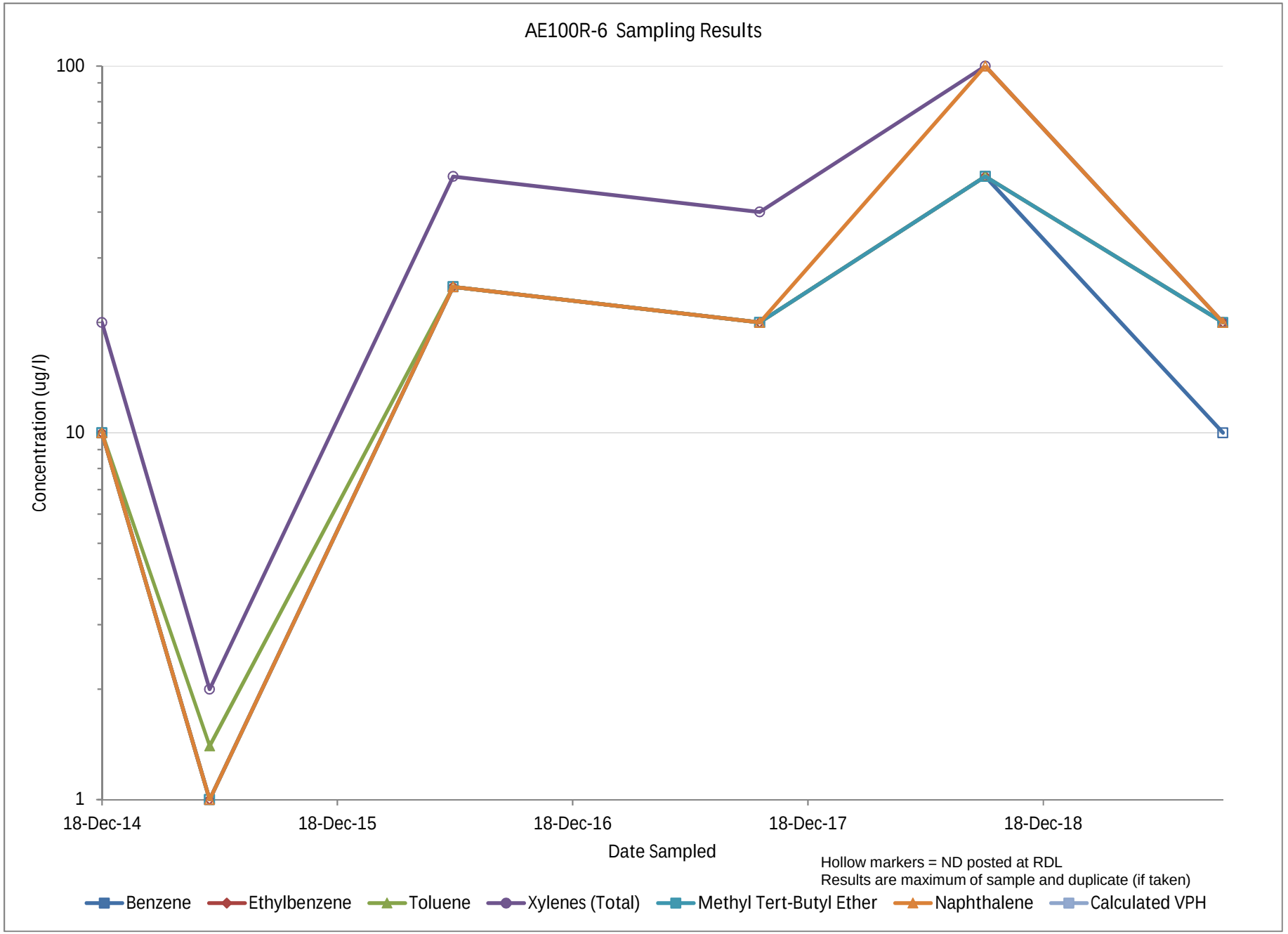

AE04 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
24-Sep-12
24-Sep-13
24-Sep-14
25-Sep-15
24-Sep-16
24-Sep-17
24-Sep-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

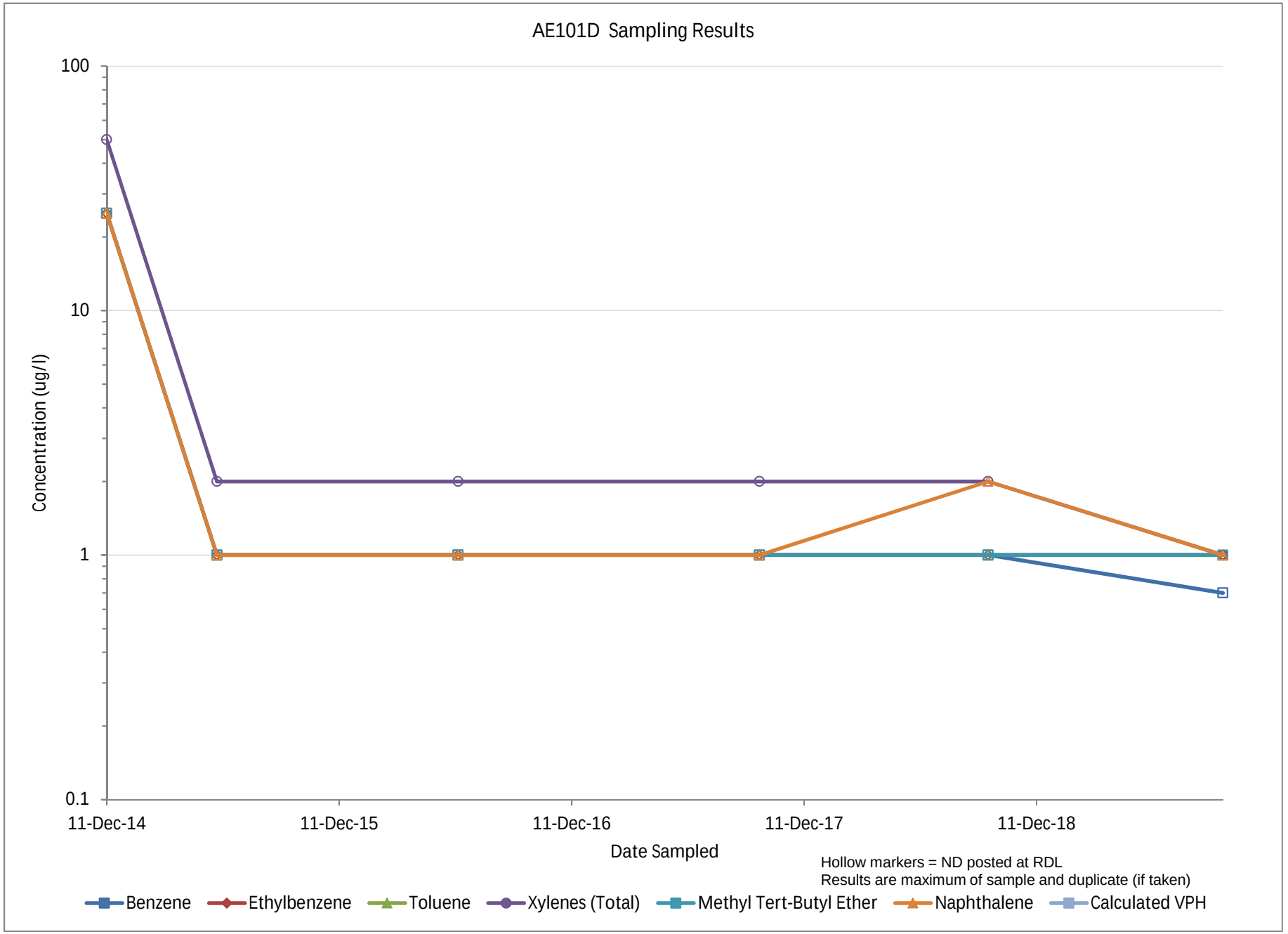

AE100R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

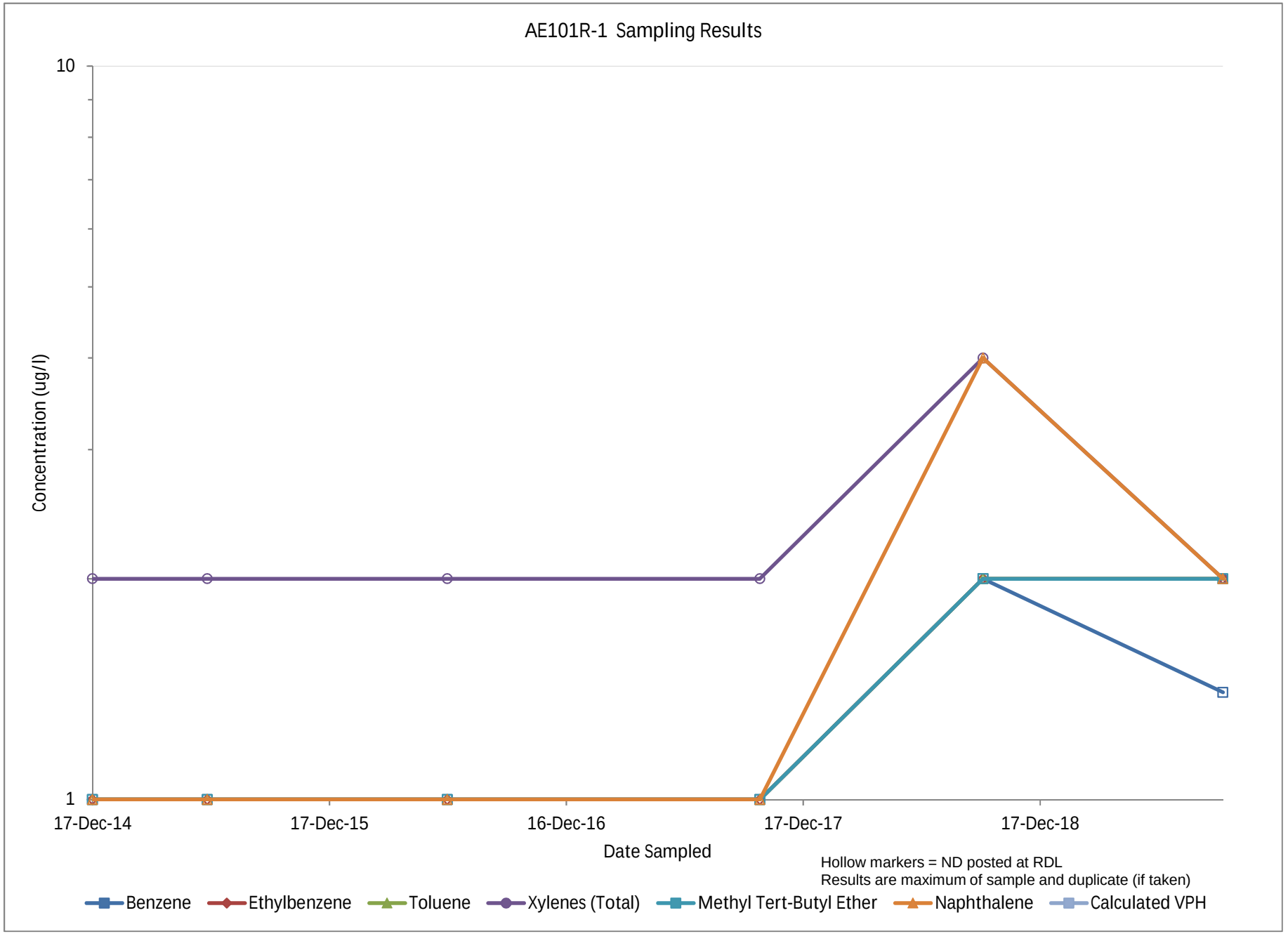

AE100R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

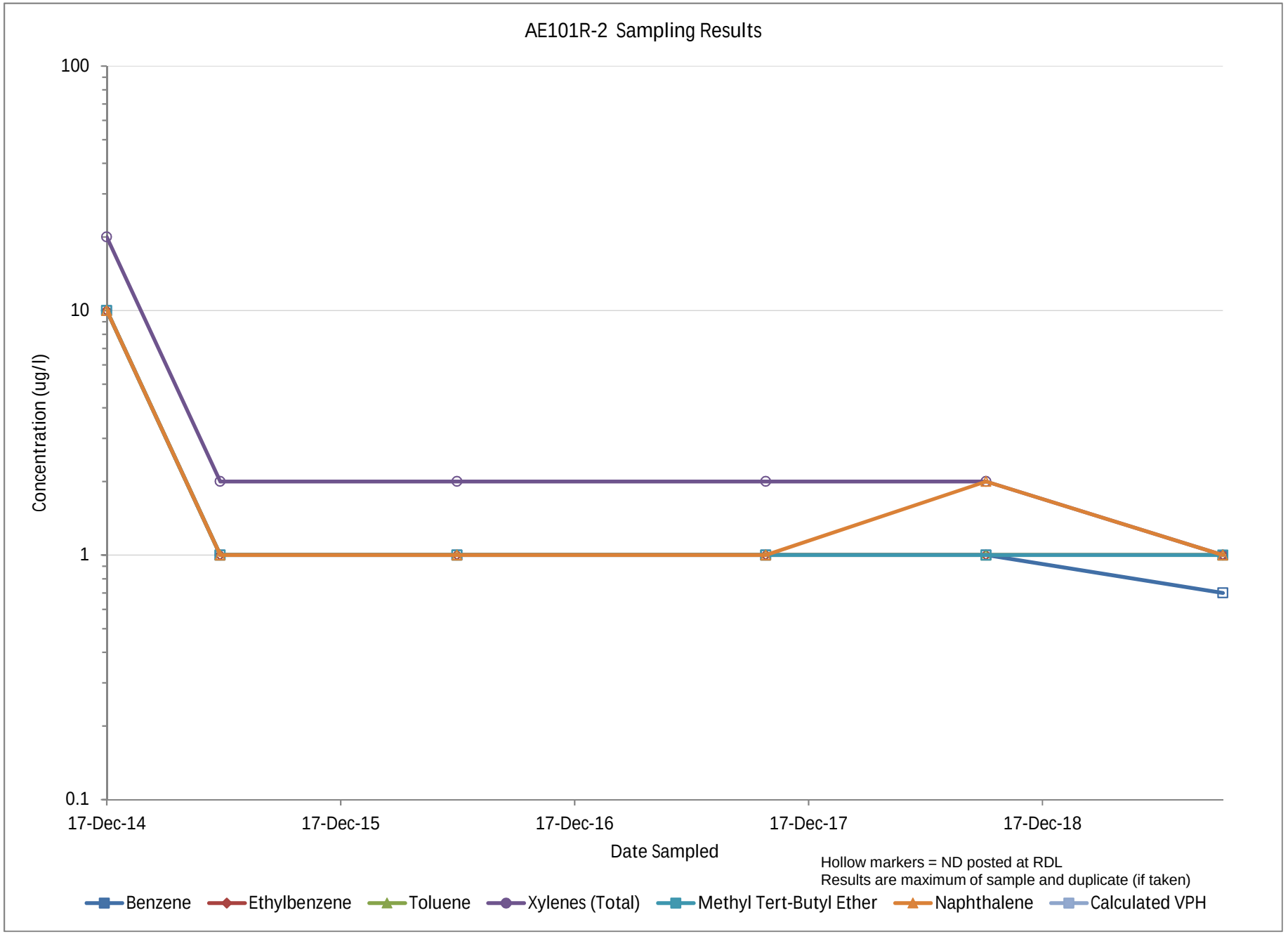

AE100R-4 Sampling Results
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

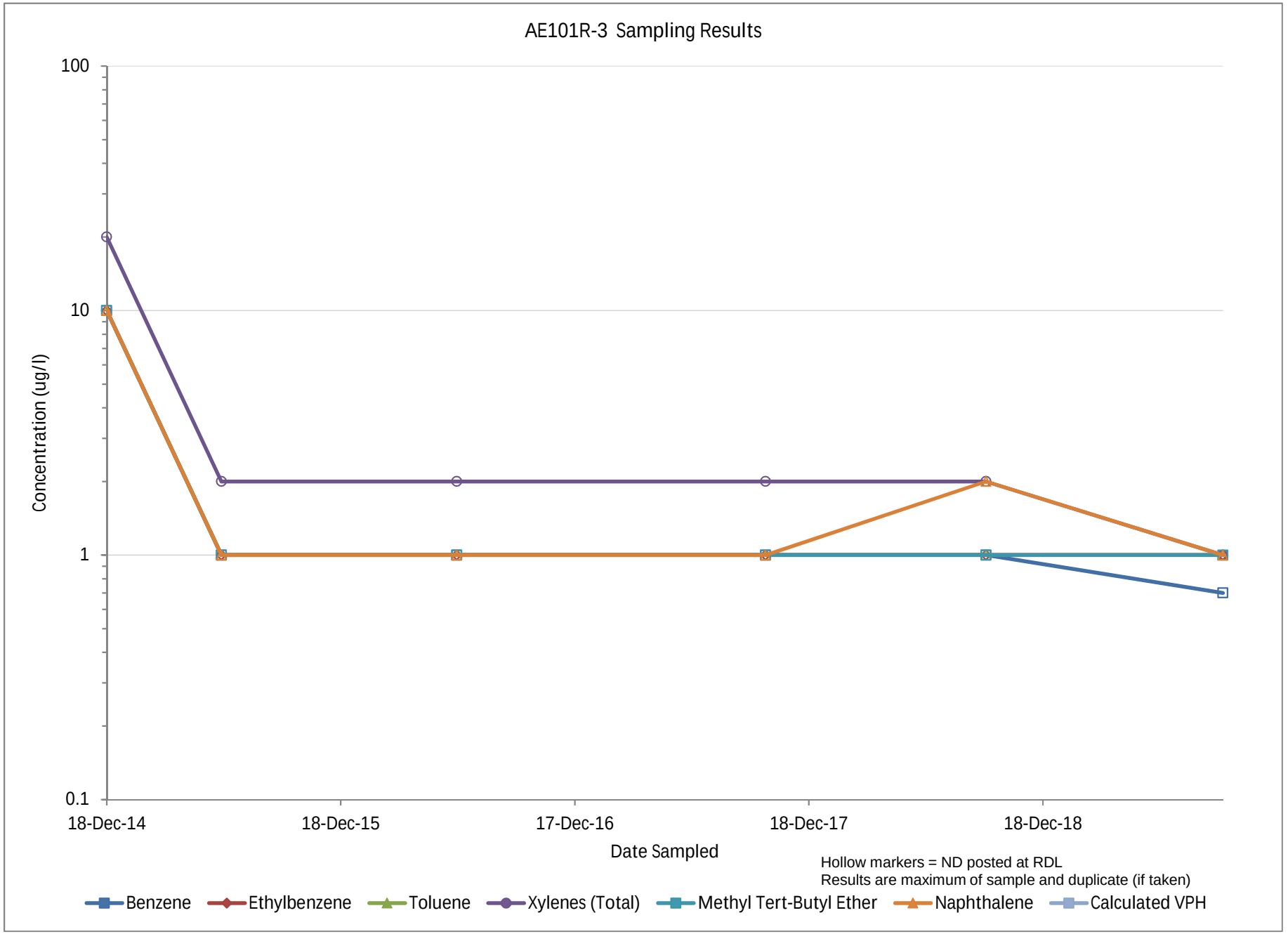

AE100R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

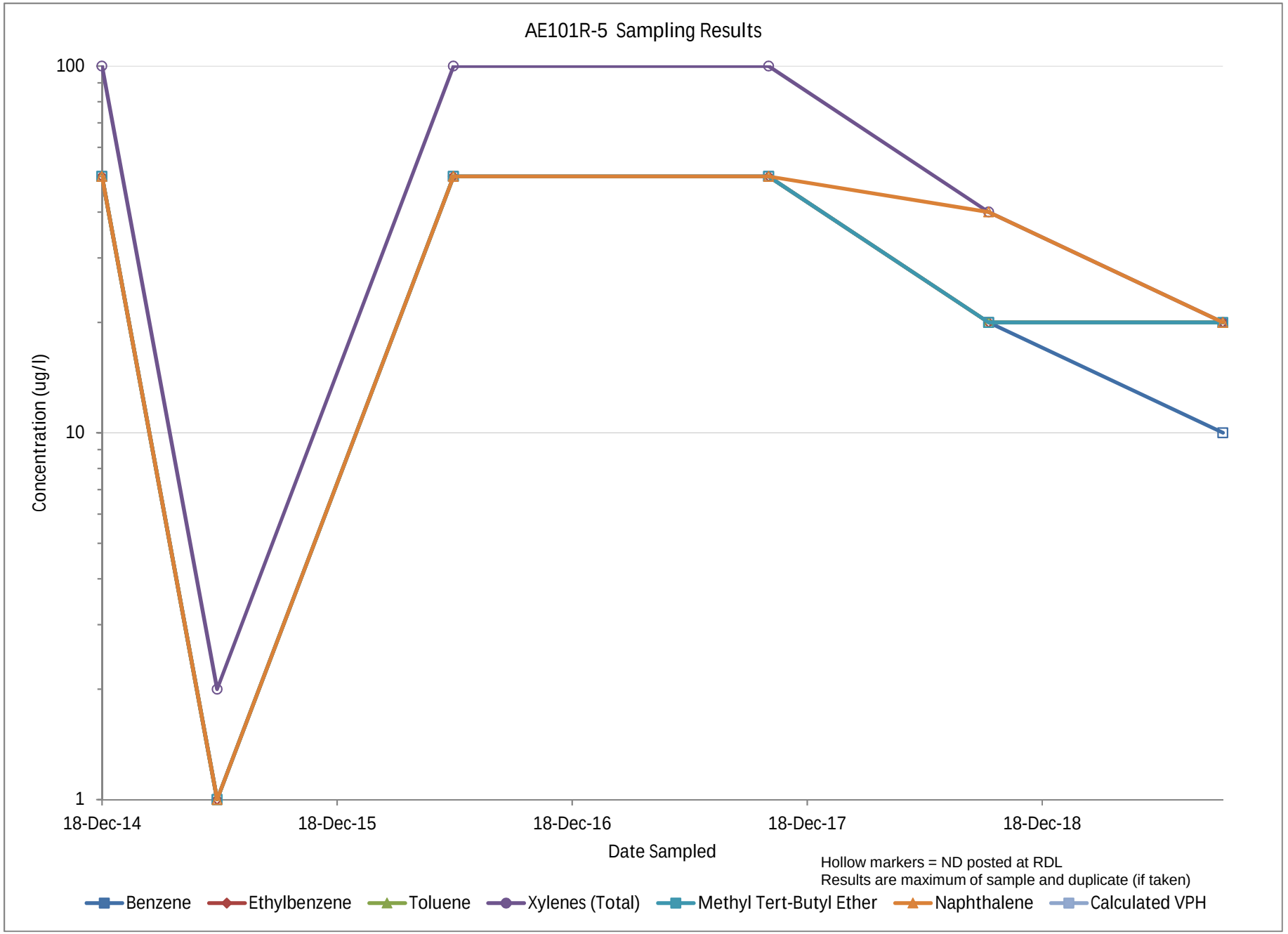

AE100R-6 Sampling Results
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

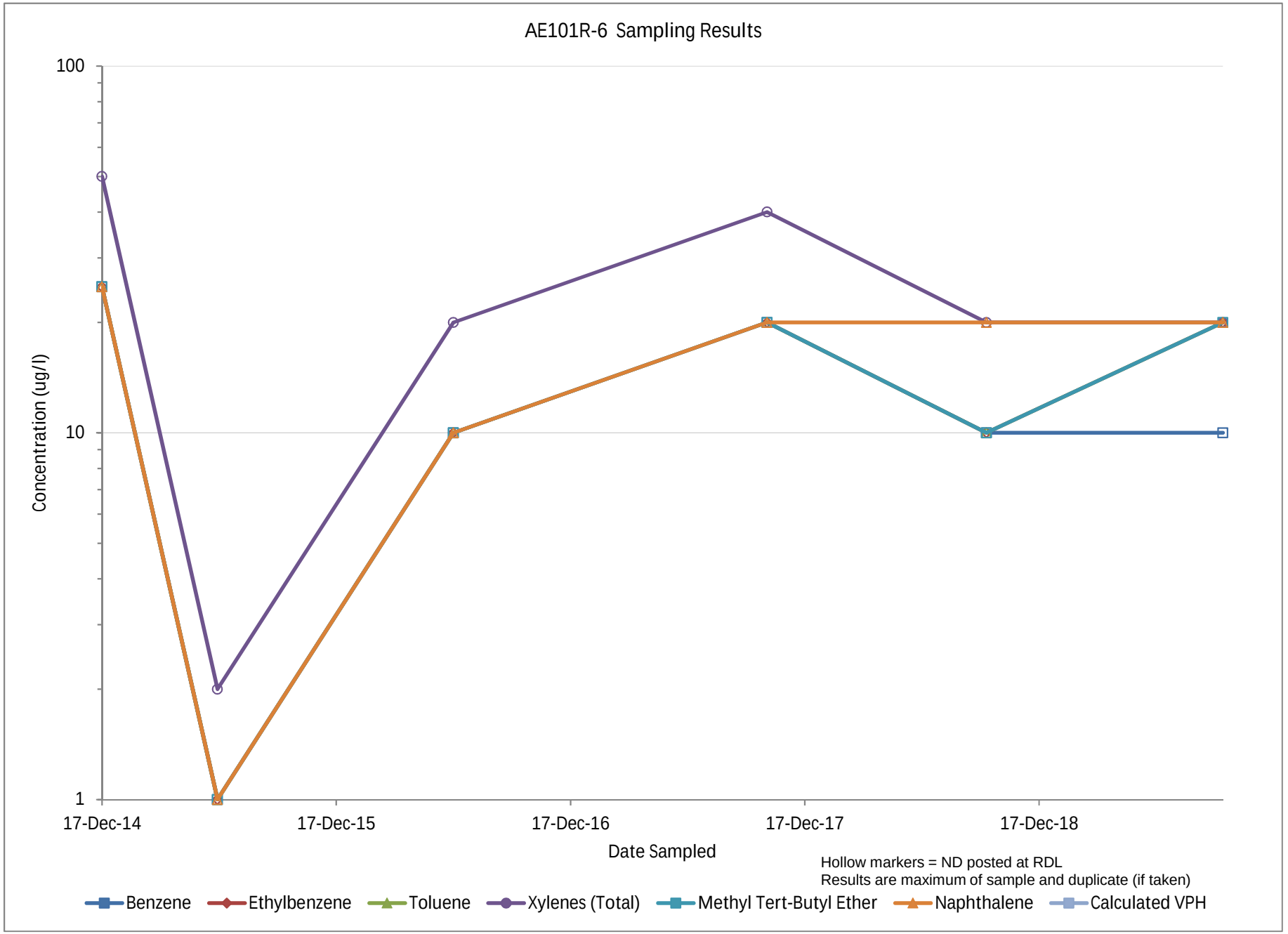

AE101D Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

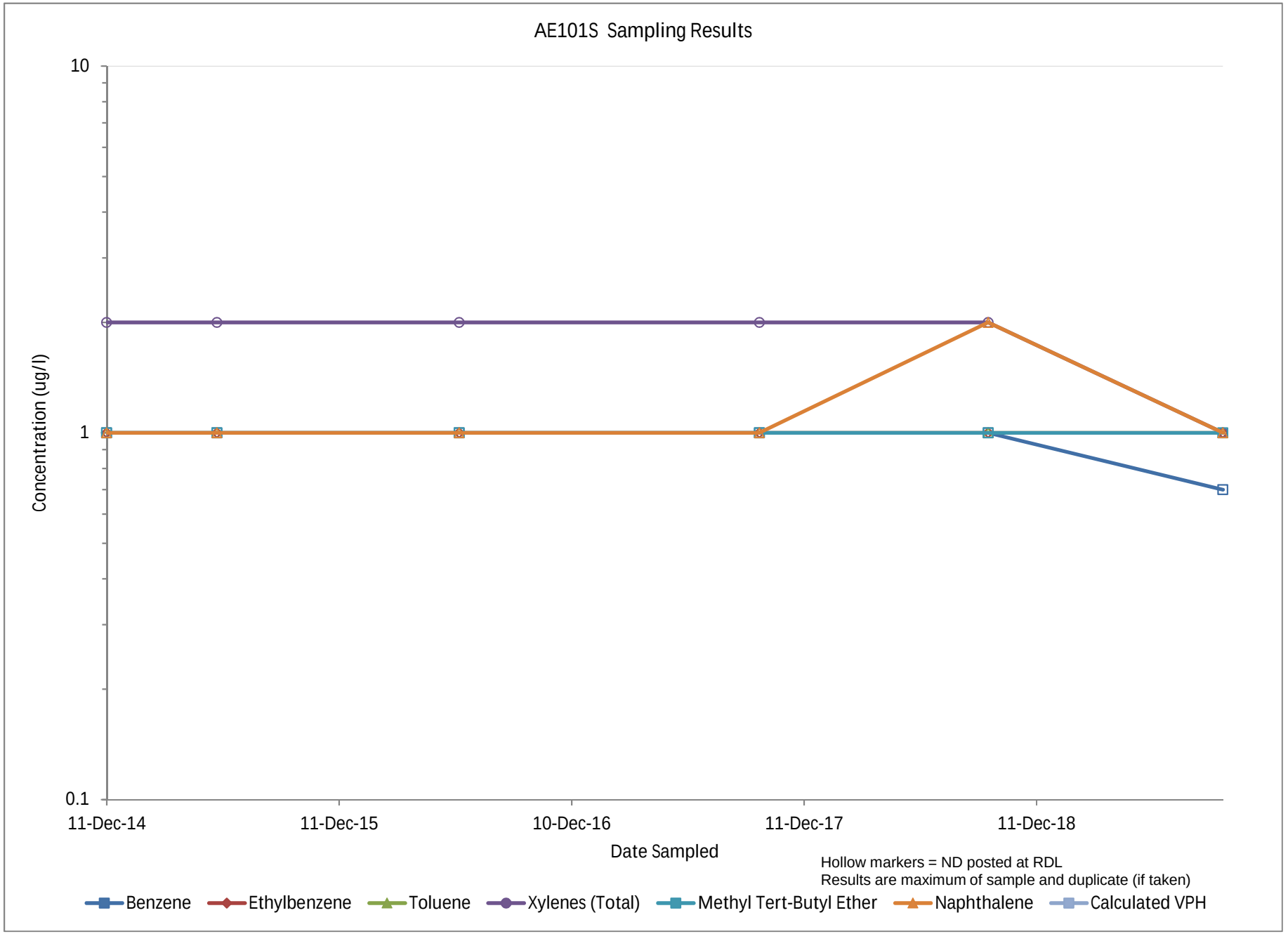

AE101R-1 Sampling Results
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
16-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

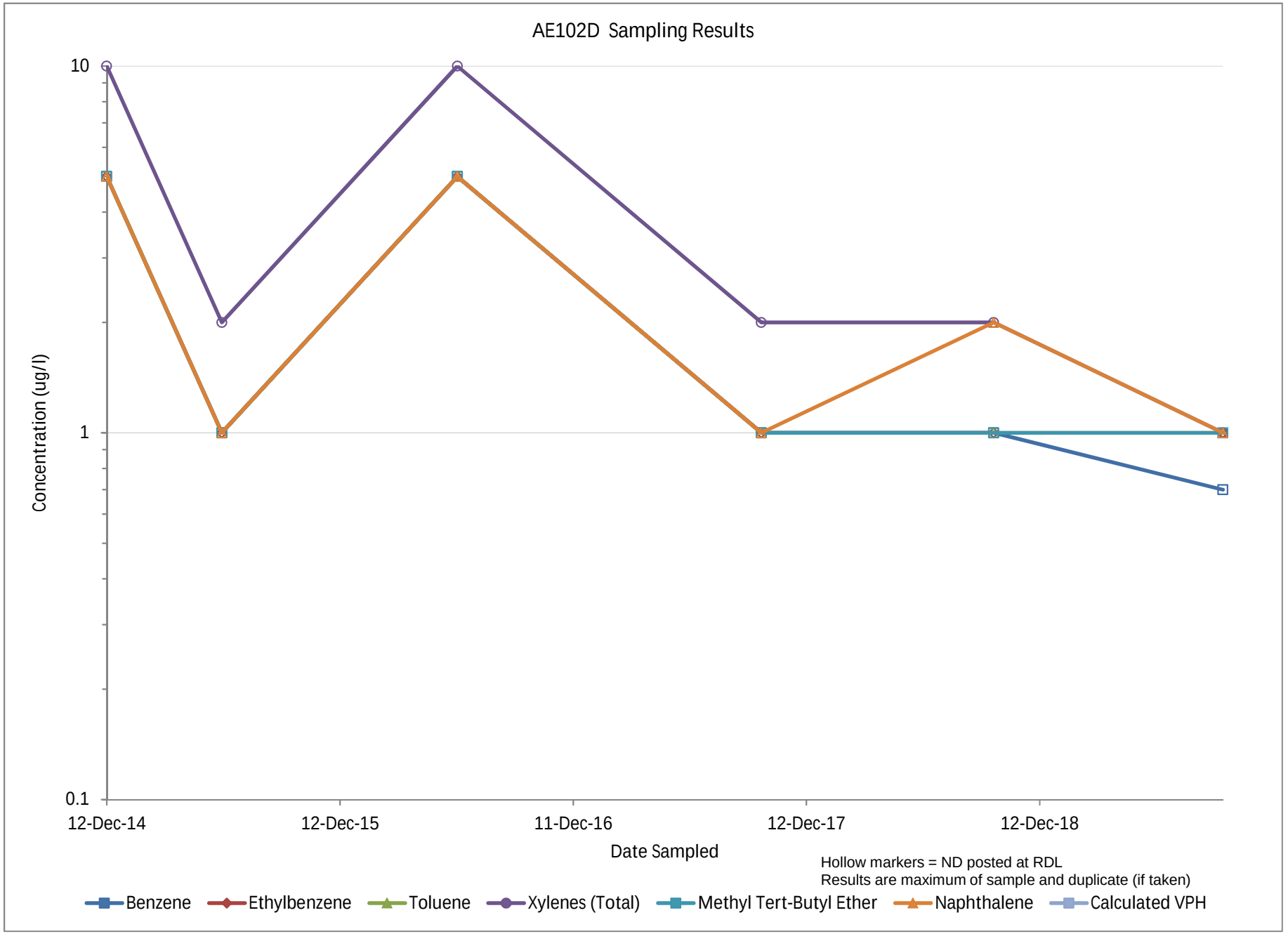

AE101R-2 Sampling Results
100
10
1
0.1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

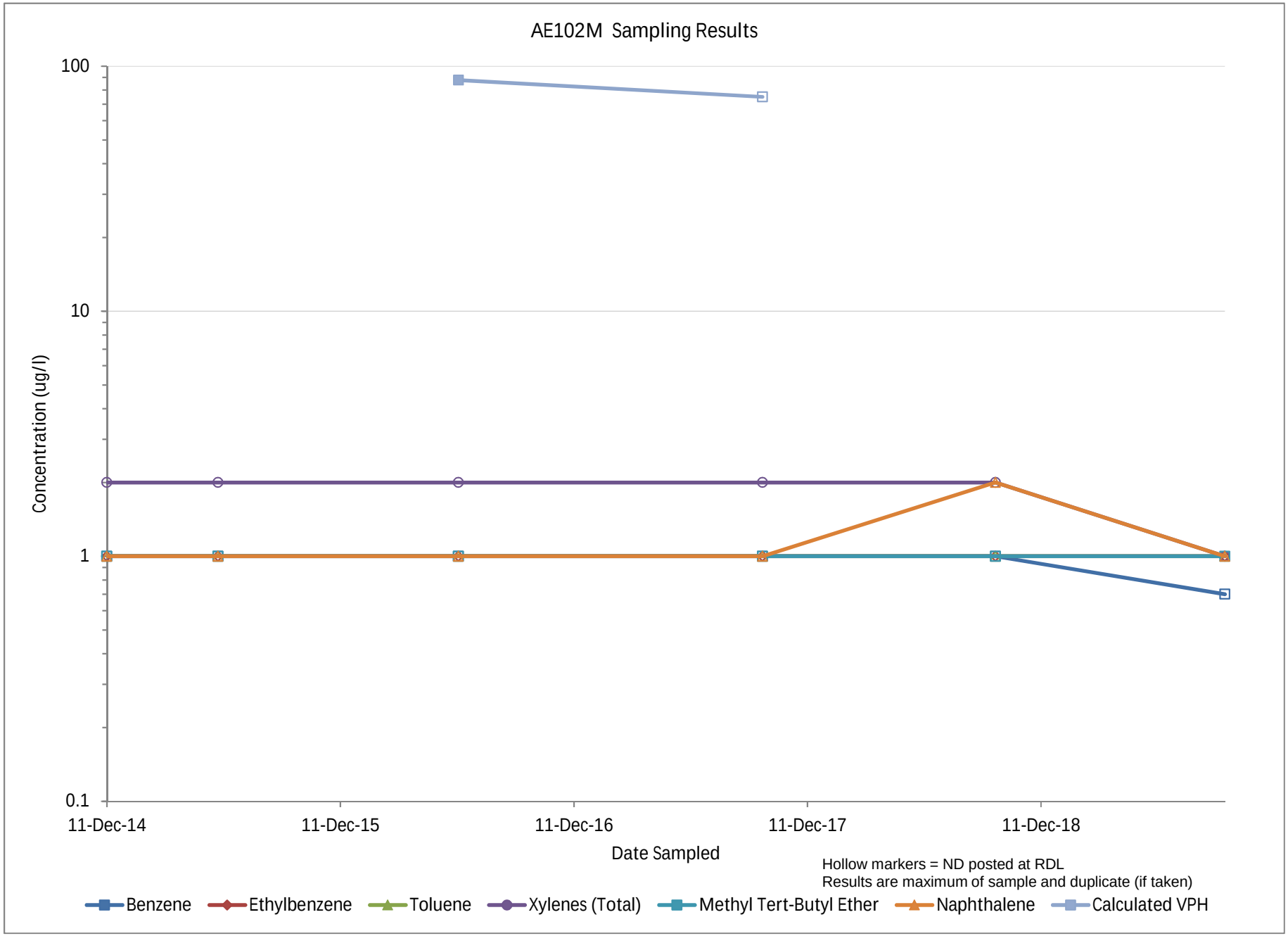

AE101R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
17-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

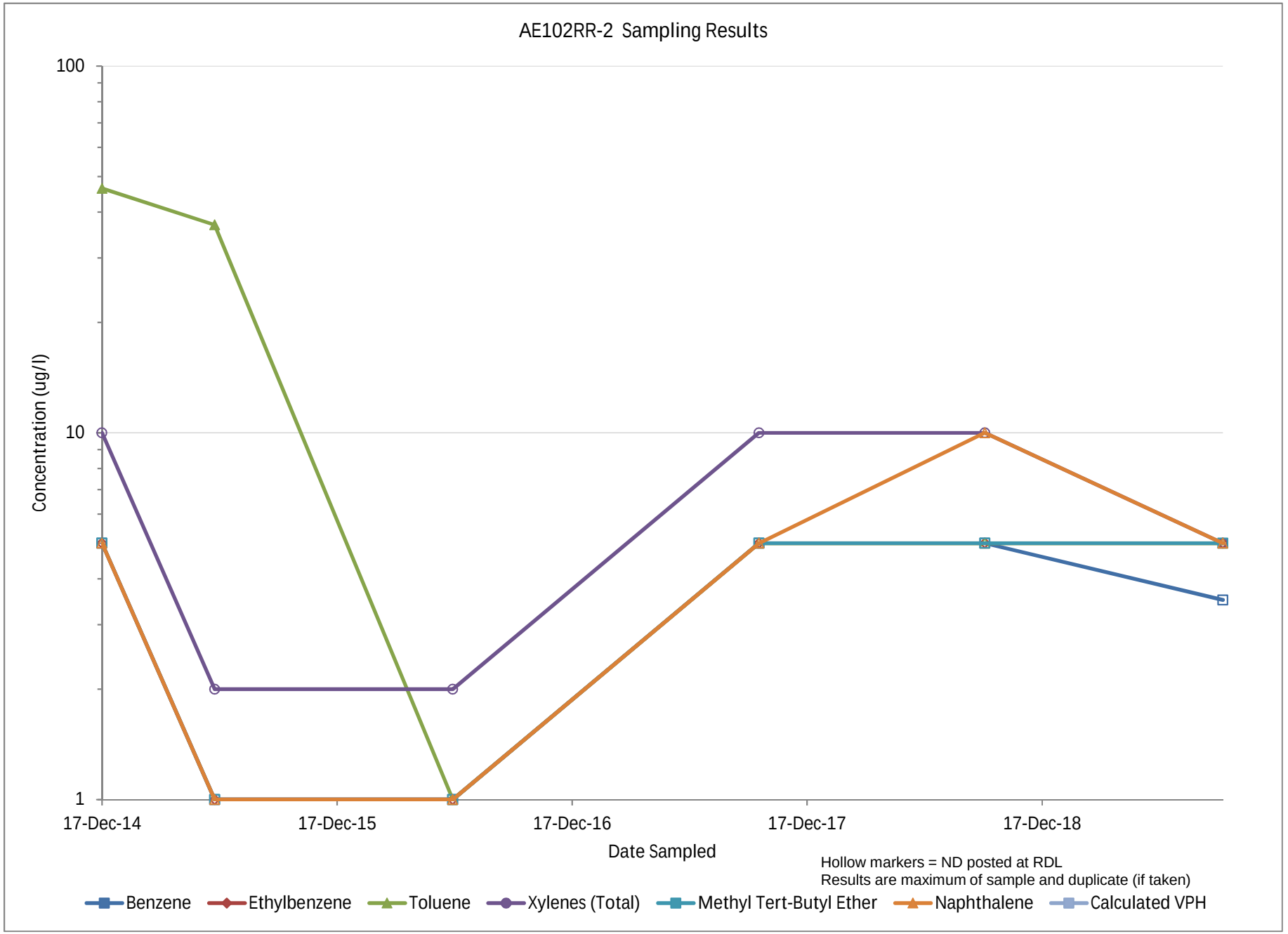

AE101R-5 Sampling Results
100
10
1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

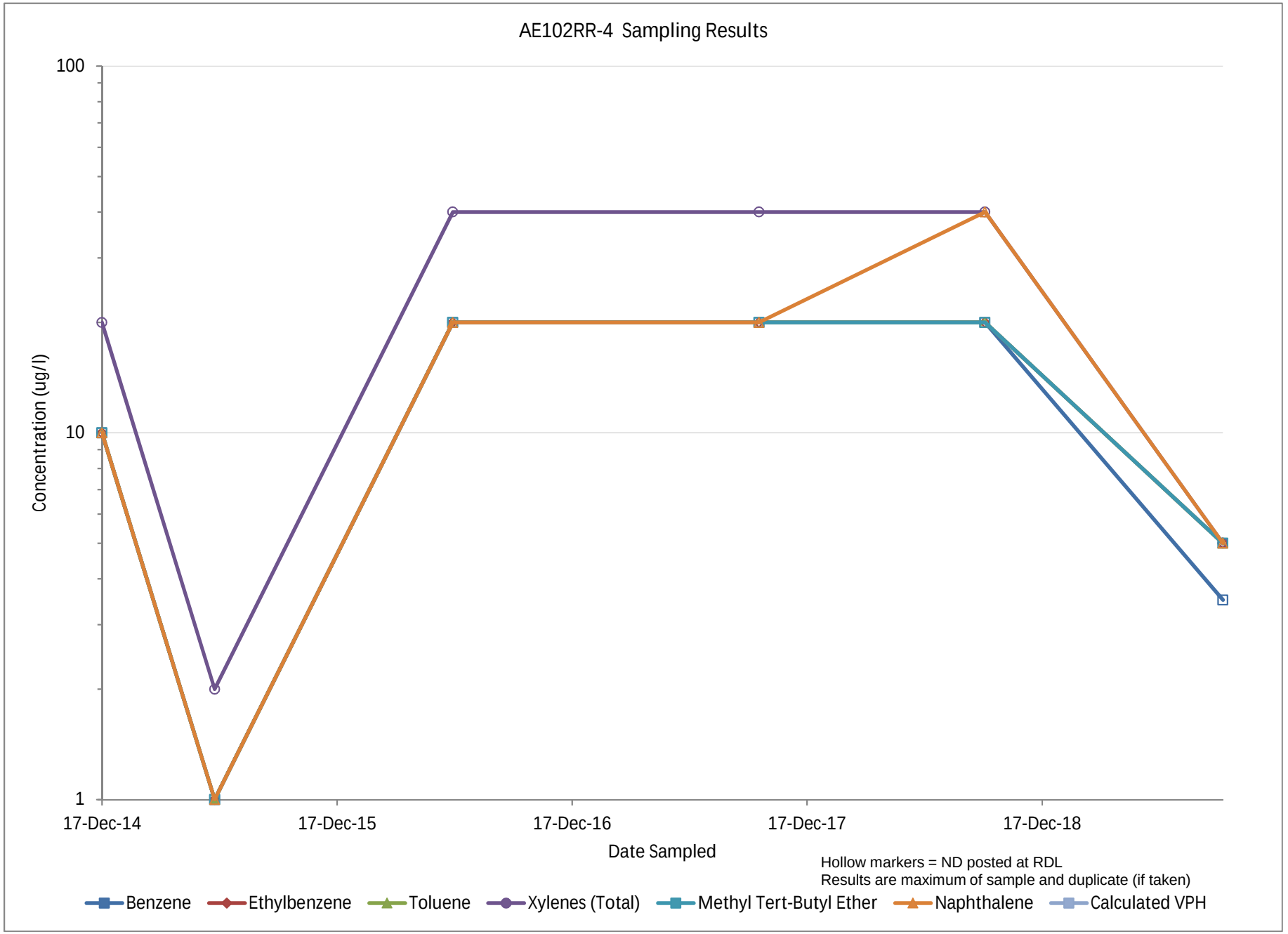

AE101R-6 Sampling Results
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

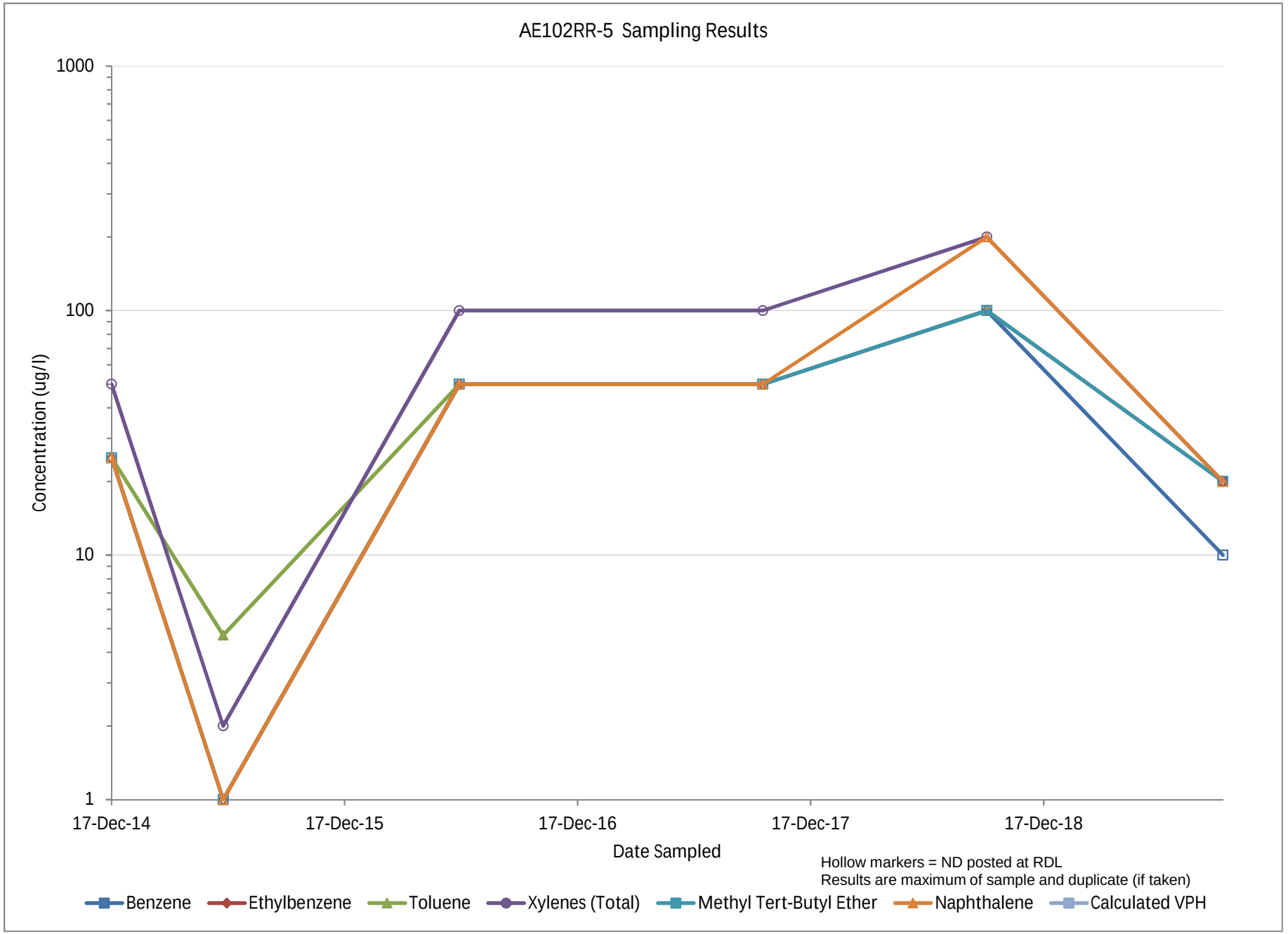

AE101S Sampling Results
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
10-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

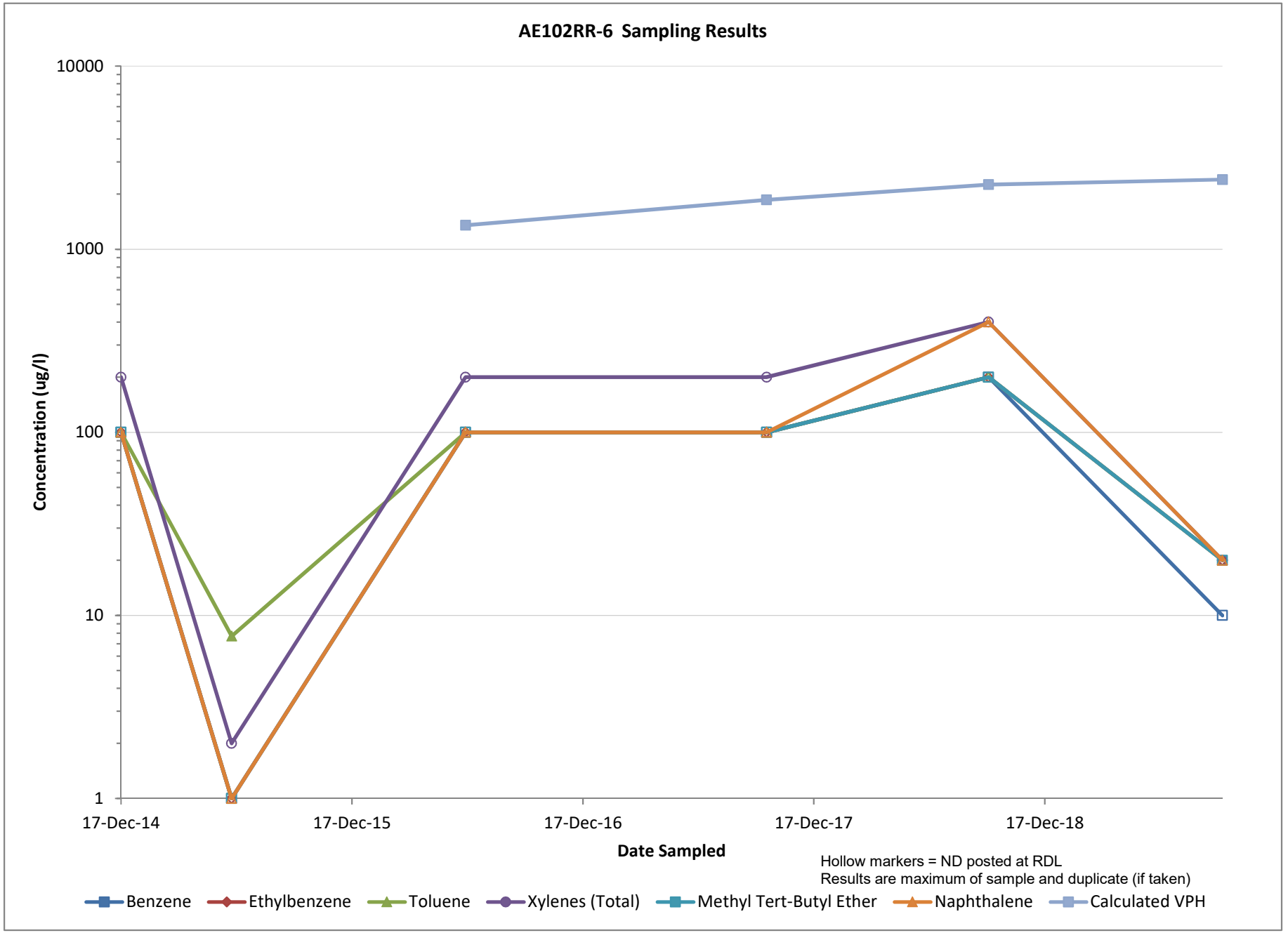

AE102D Sampling Results
10
1
0.1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

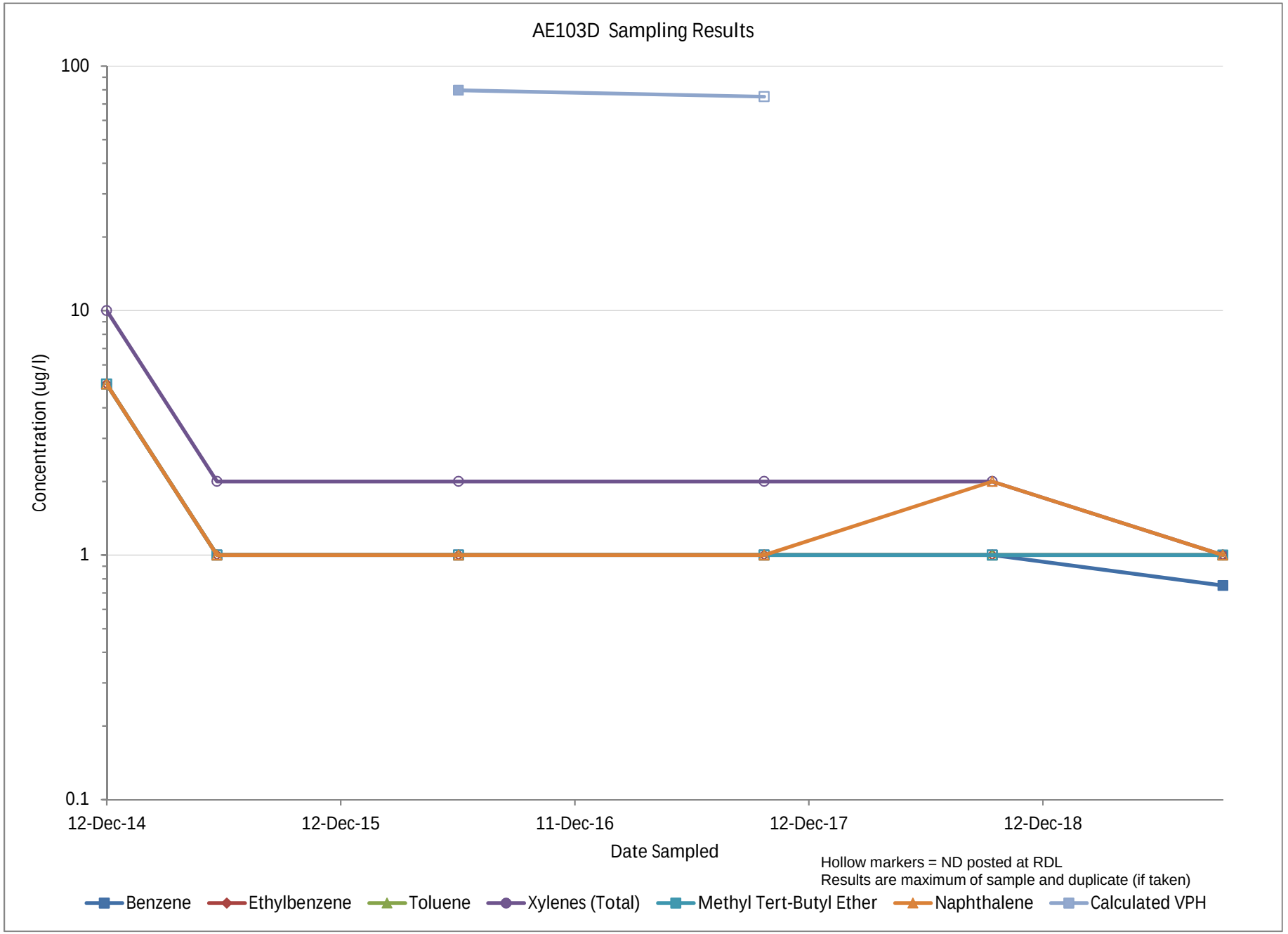

AE102M Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

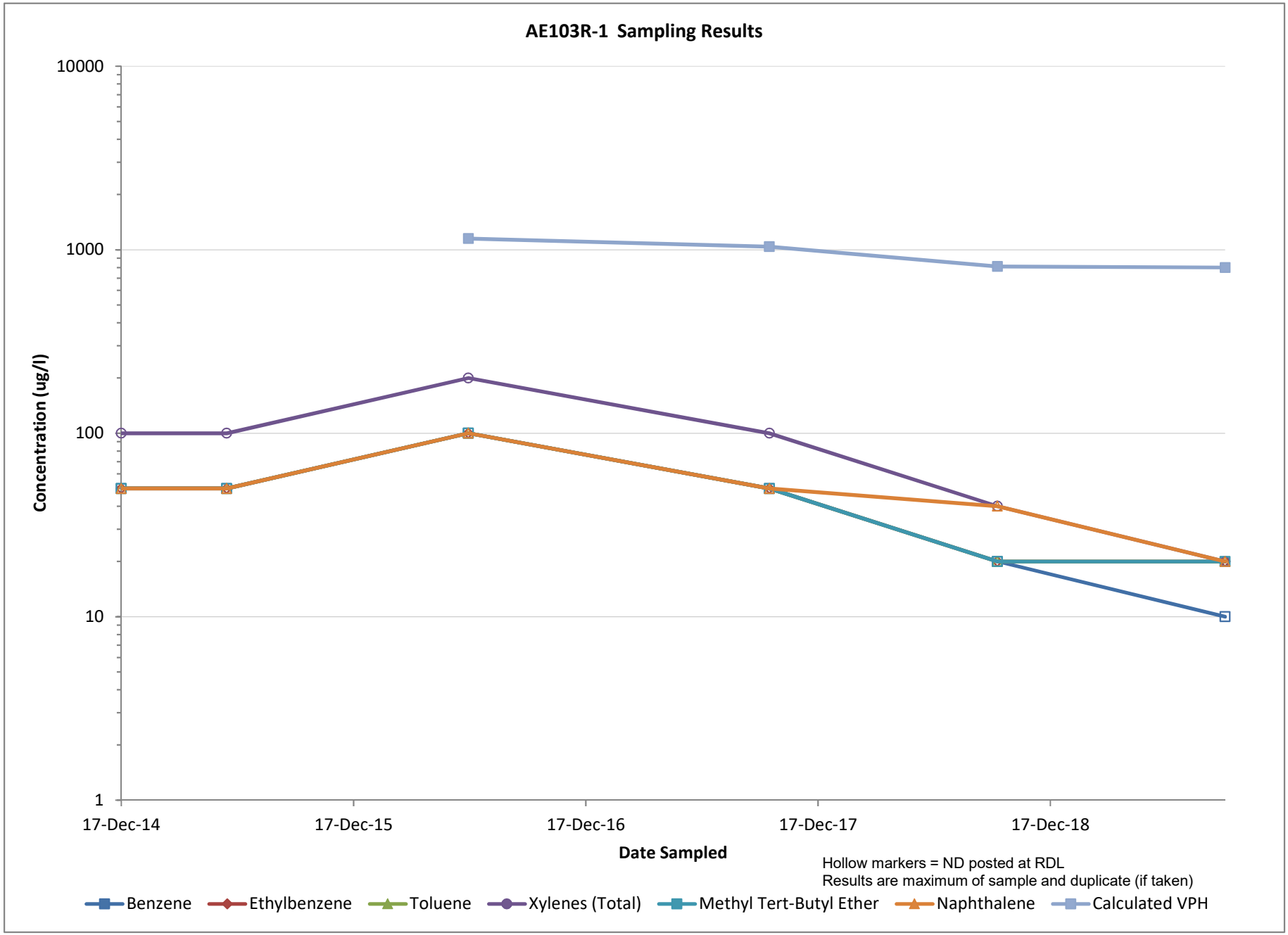

AE102RR-2 Sampling Results
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

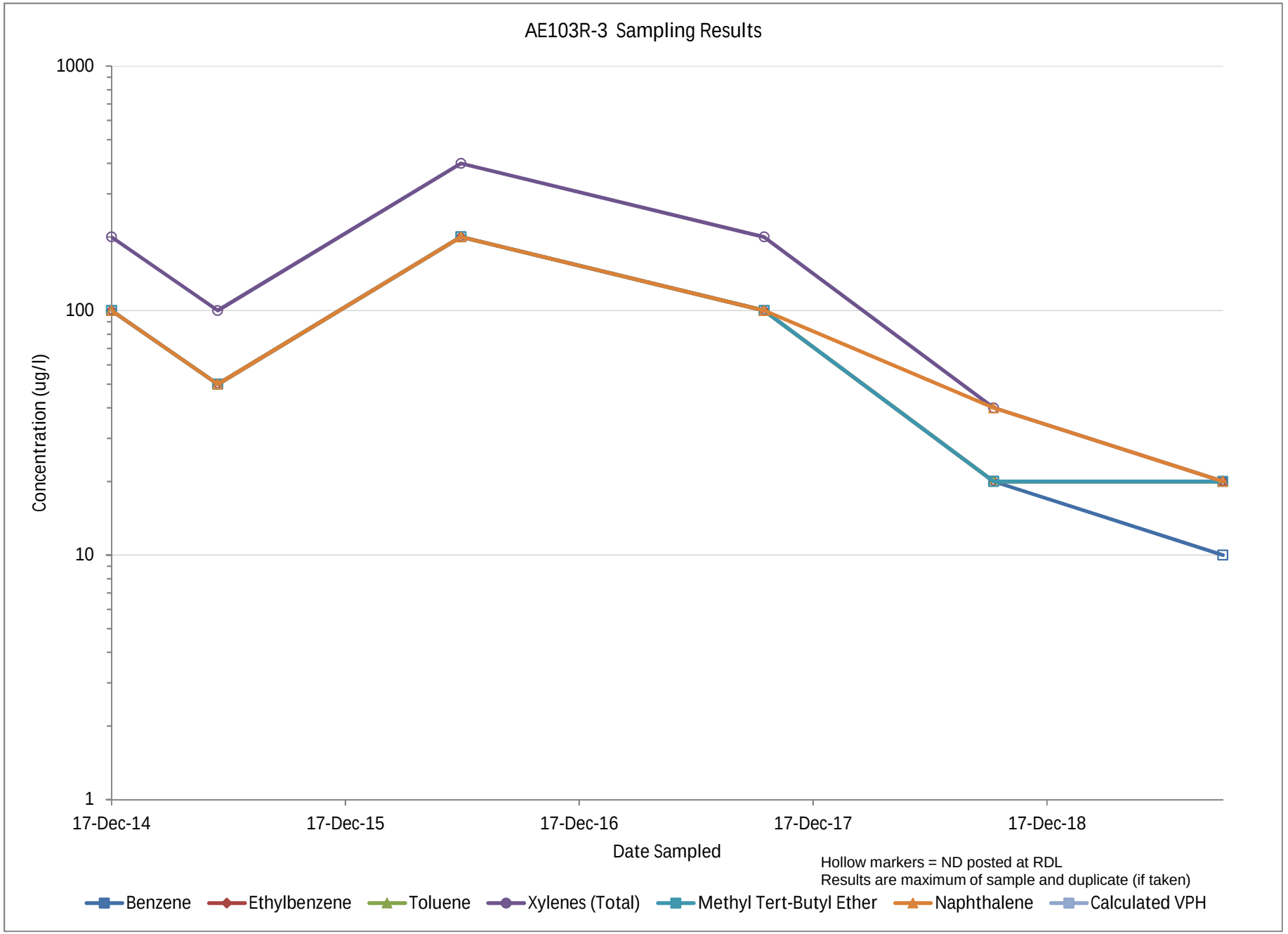

AE102RR-4 Sampling Results
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

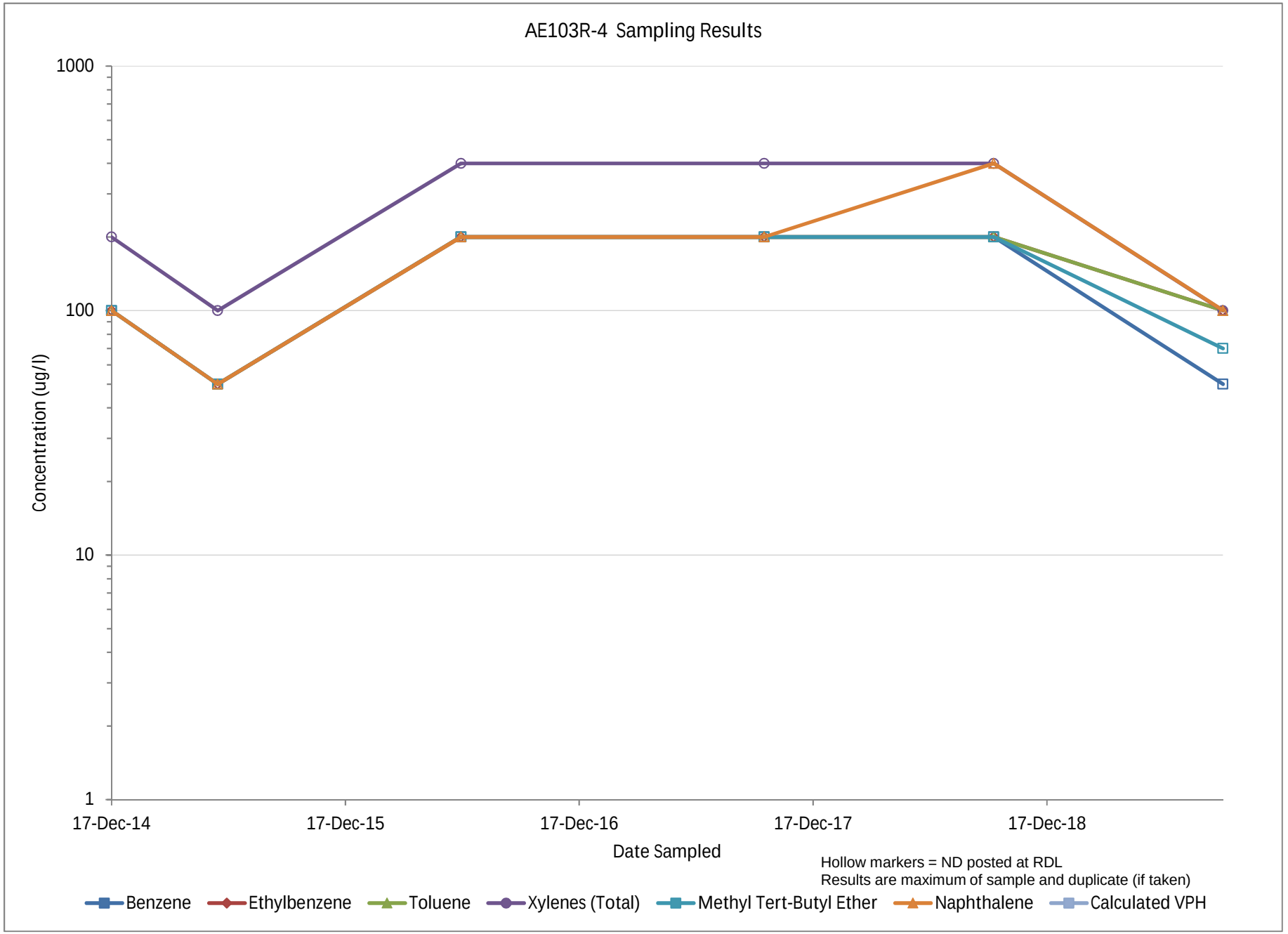

AE102RR-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

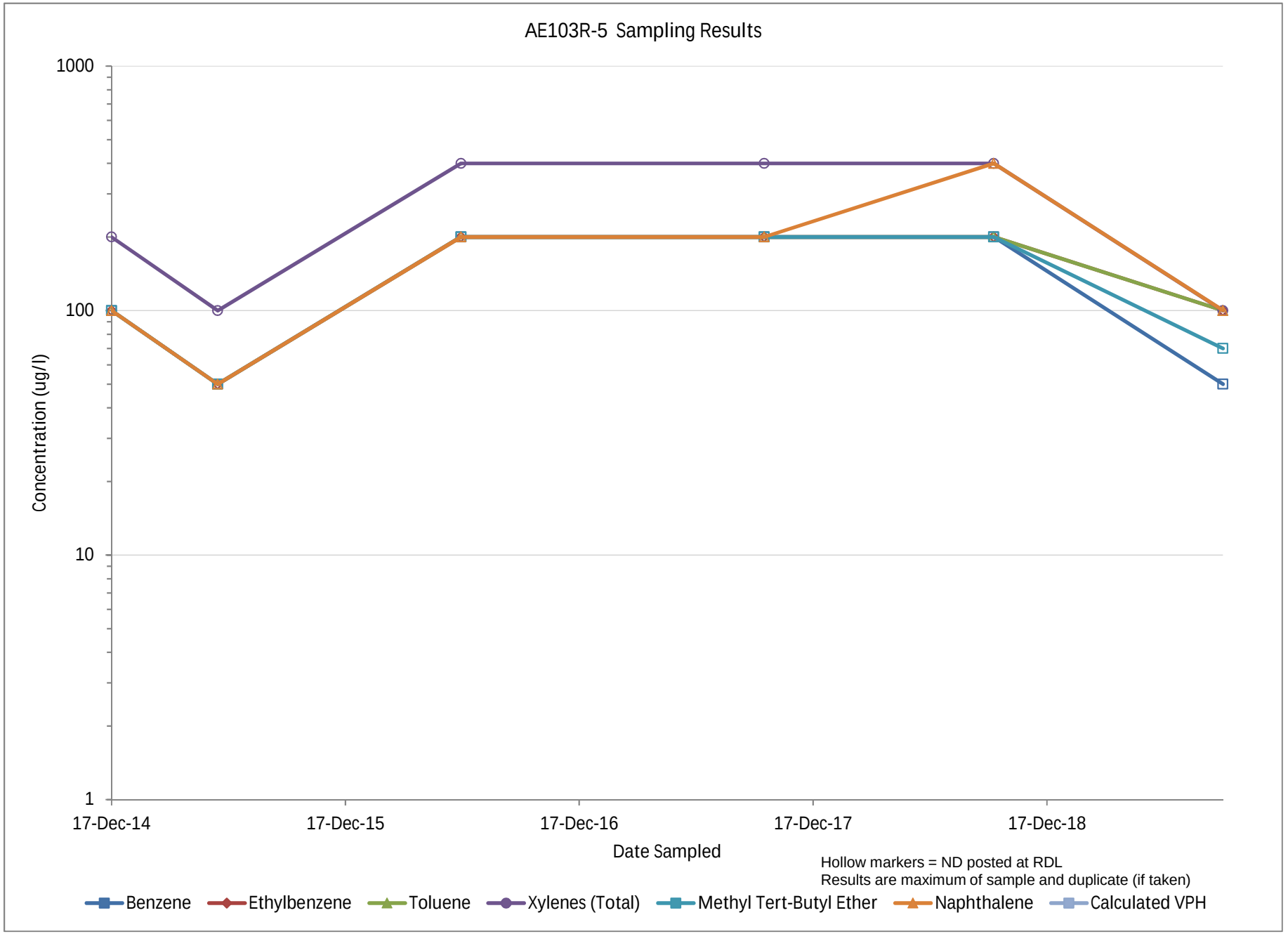

AE102RR-6 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

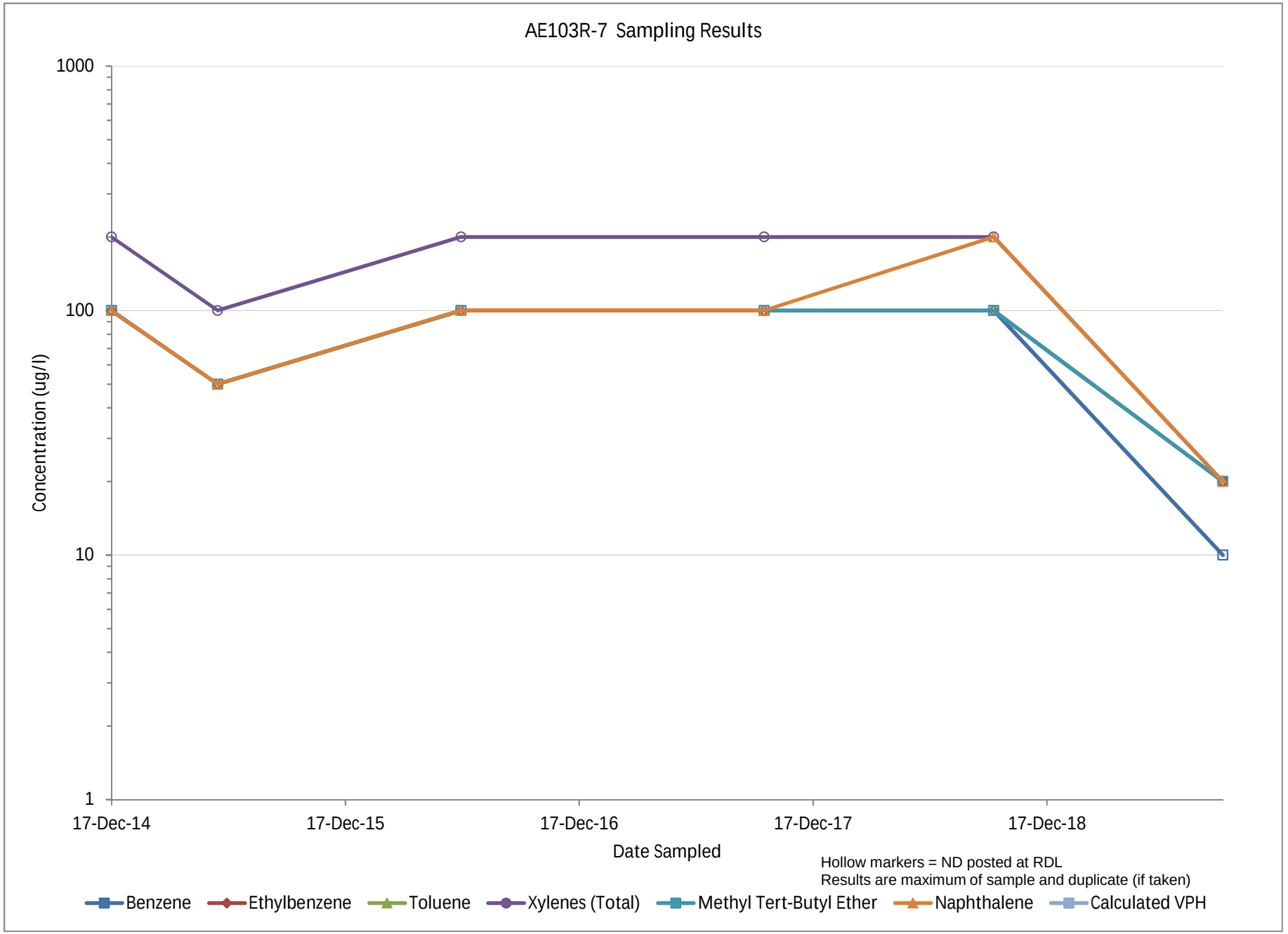

AE103D Sampling Results
100
10
1
0.1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

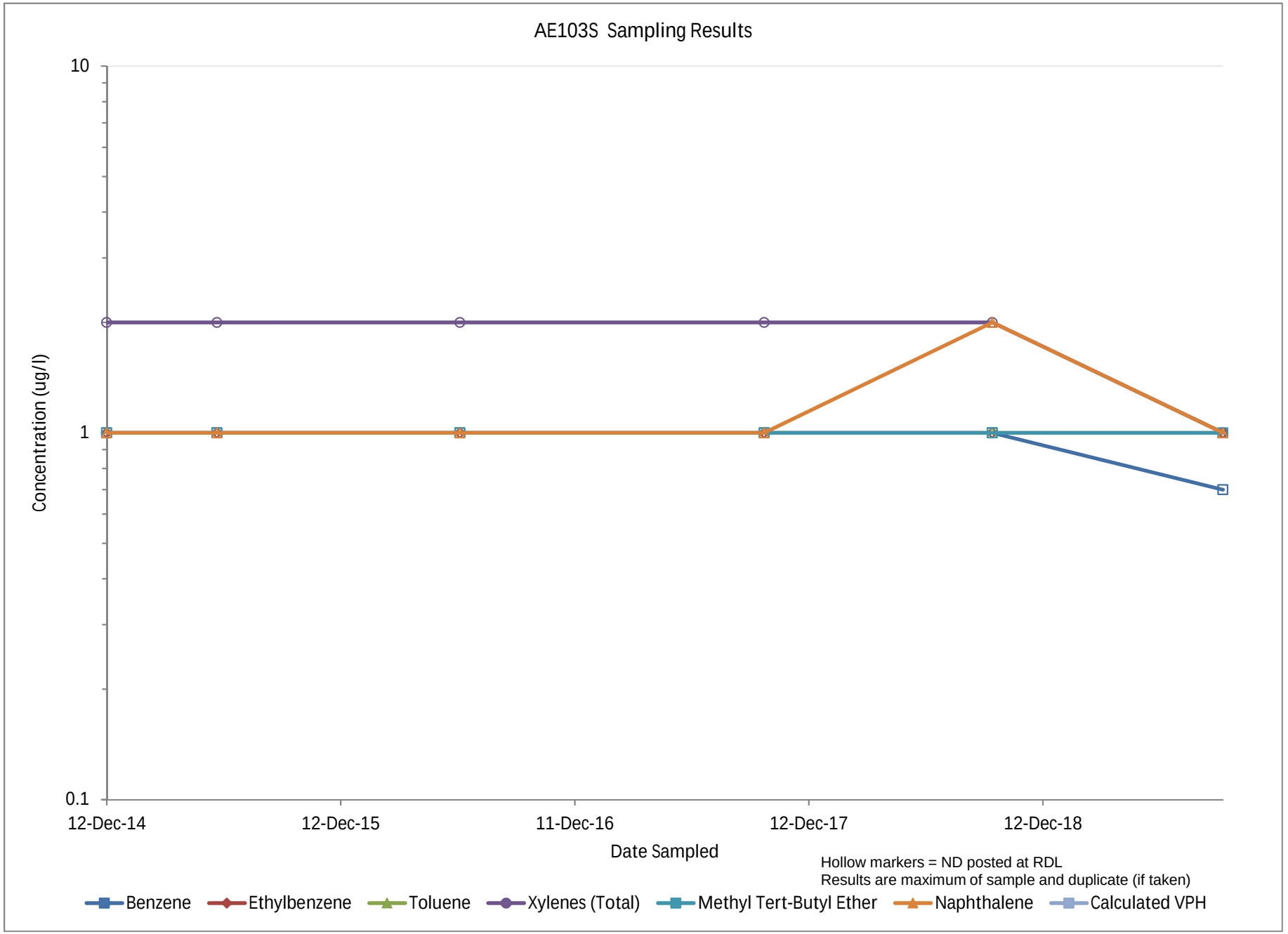

AE103R-1 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

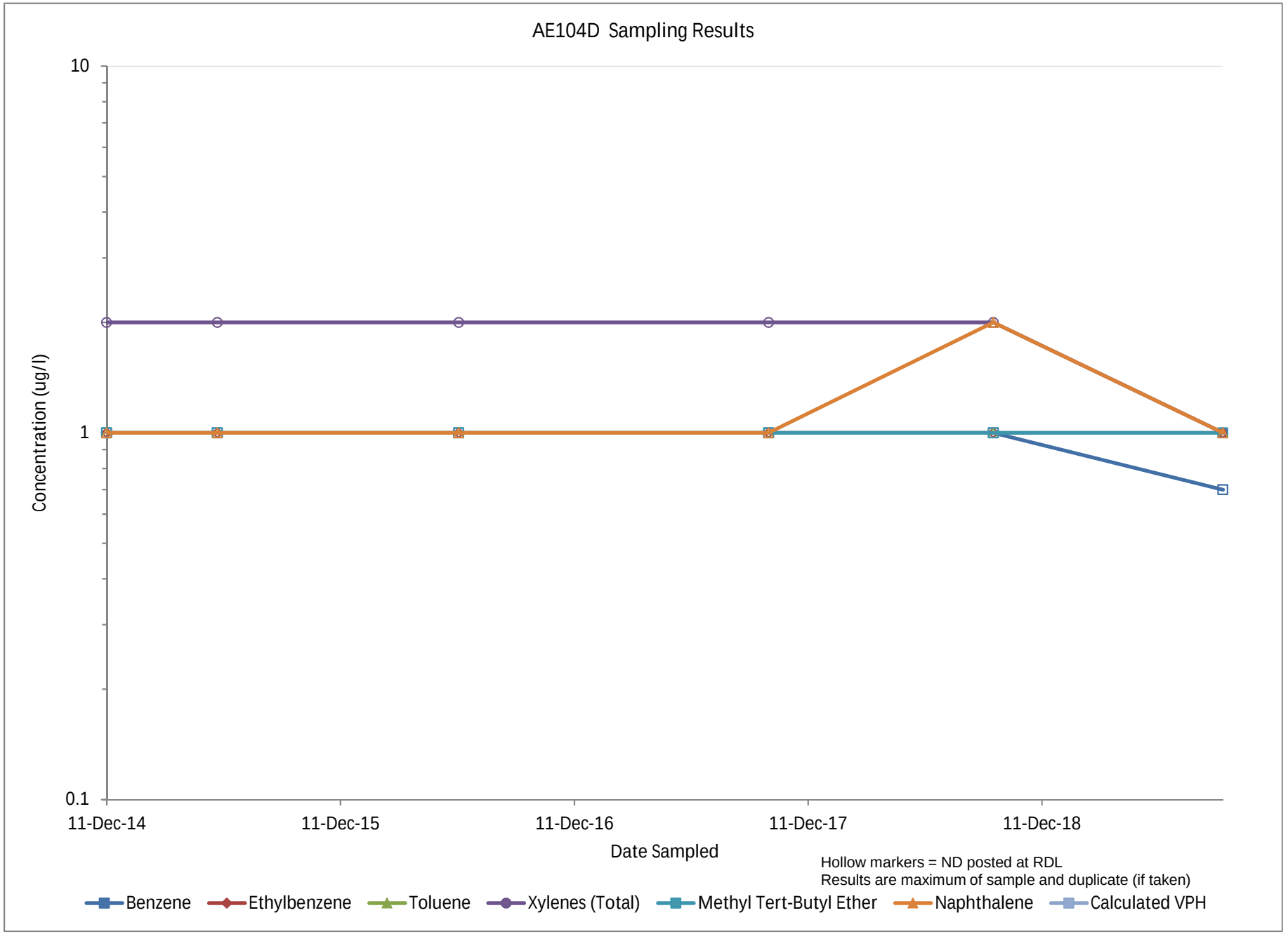

AE103R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

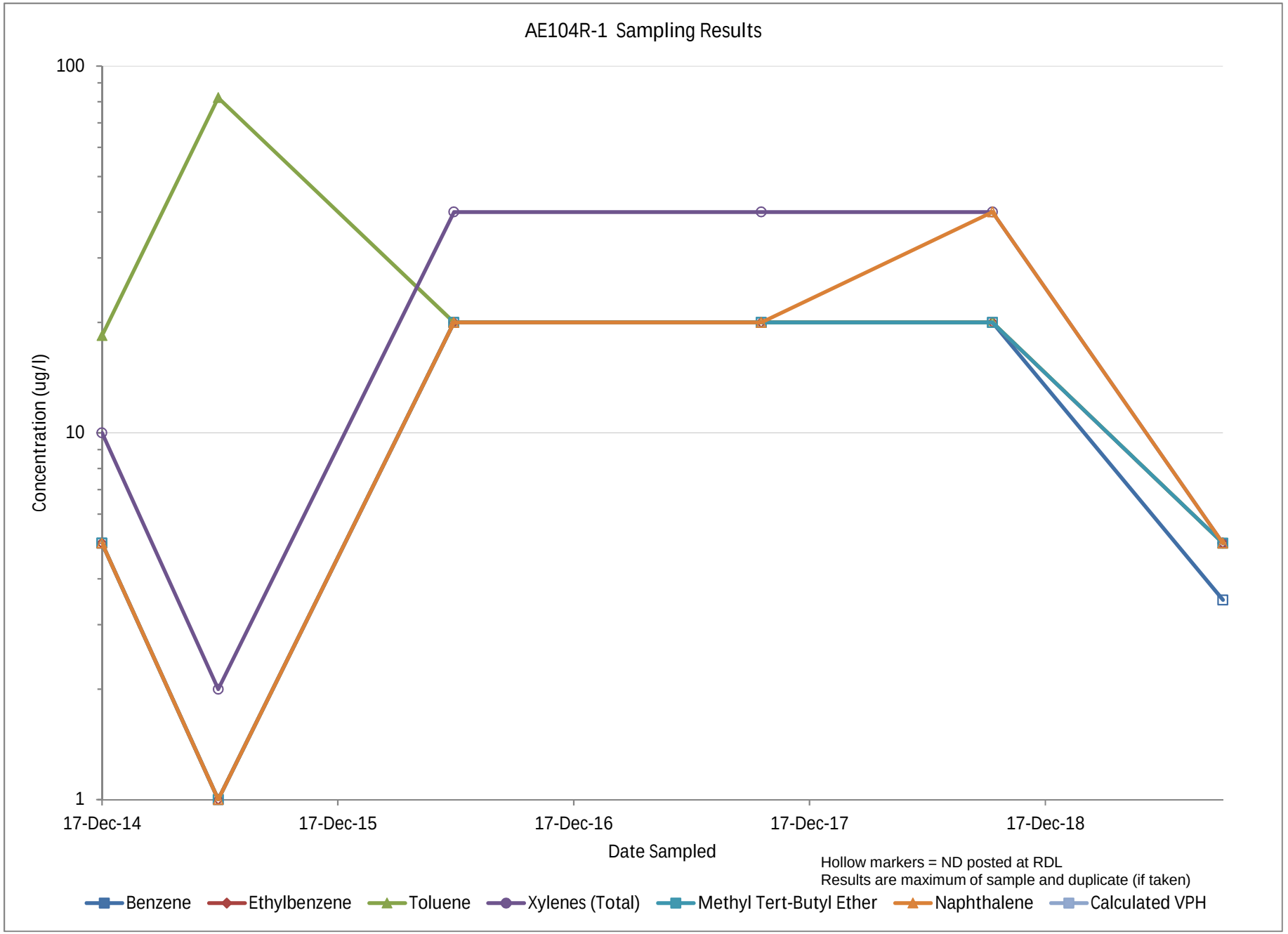

AE103R-4 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

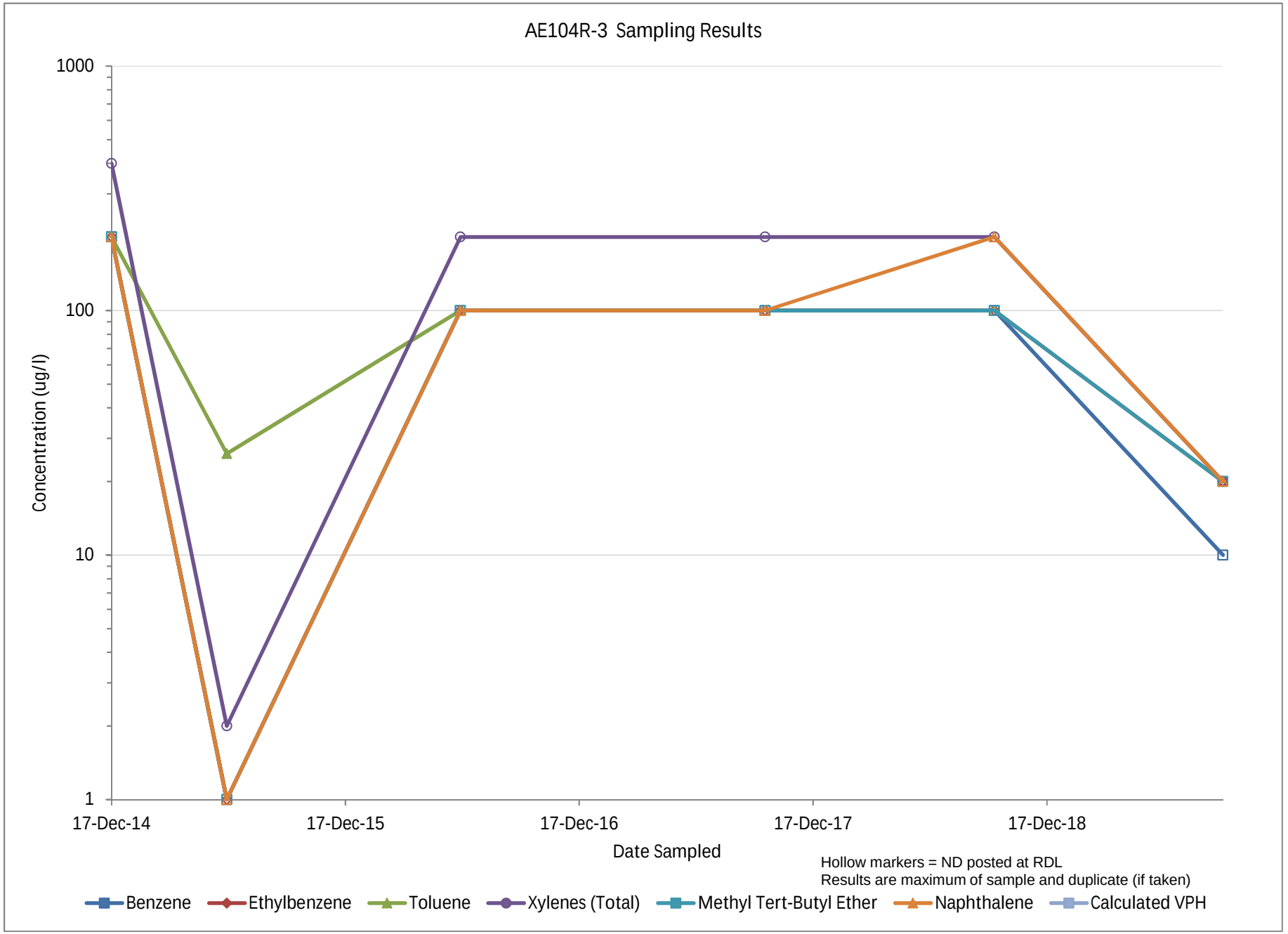

AE103R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

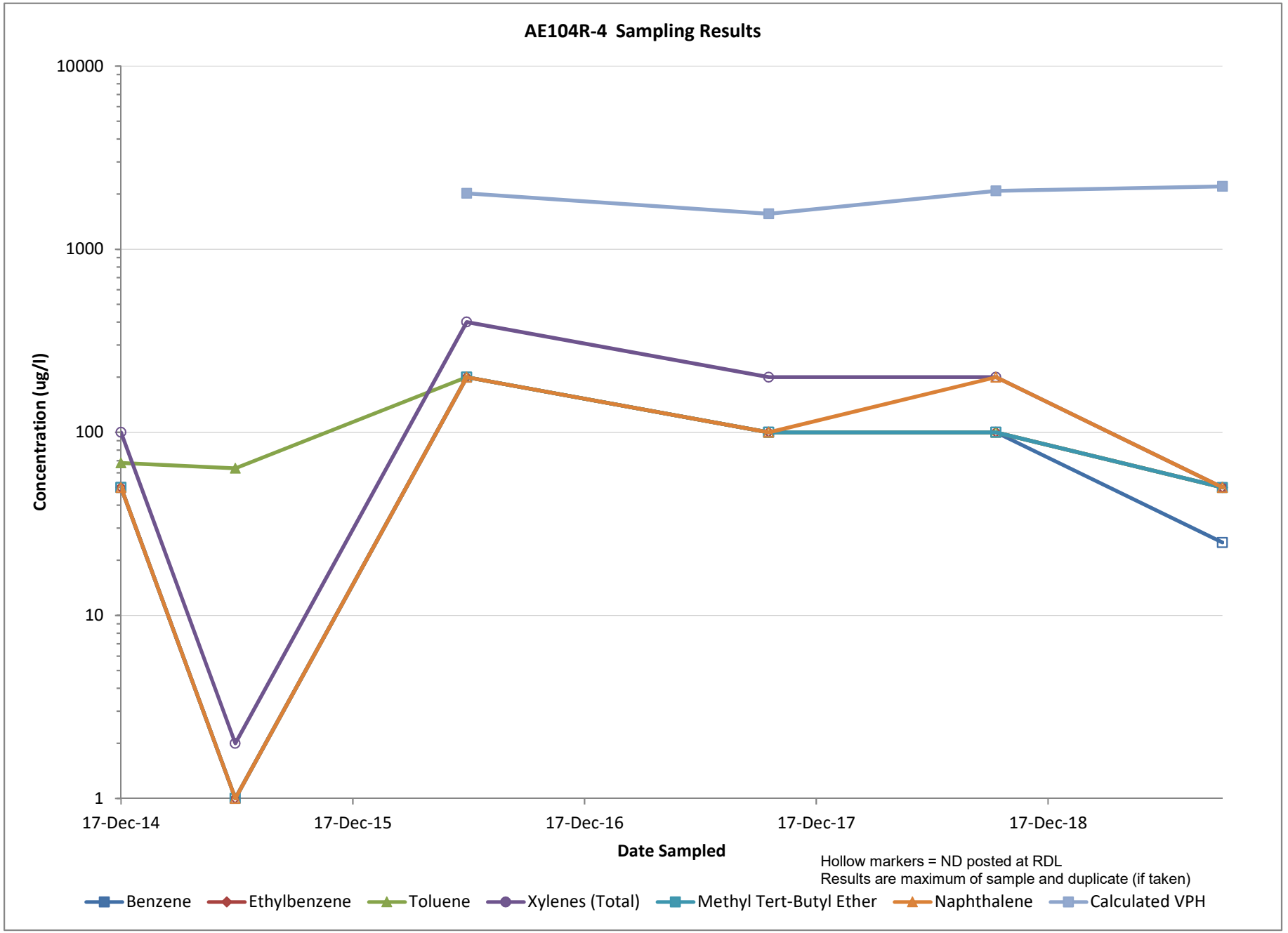

AE103R-7 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

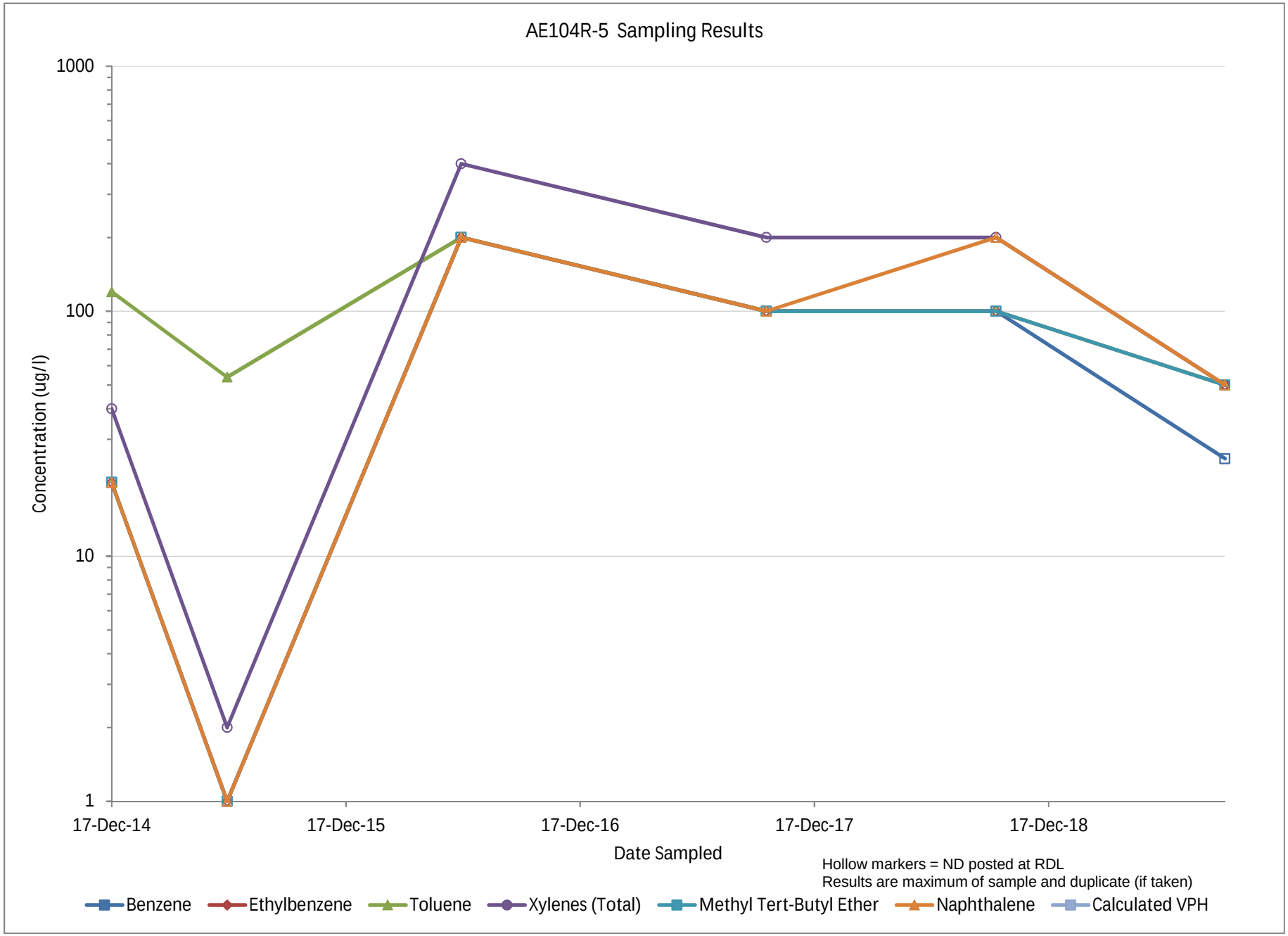

AE103S Sampling Results
10
1
0.1
Concentration (ug/l)
12-Dec-14
12-Dec-15
11-Dec-16
12-Dec-17
12-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

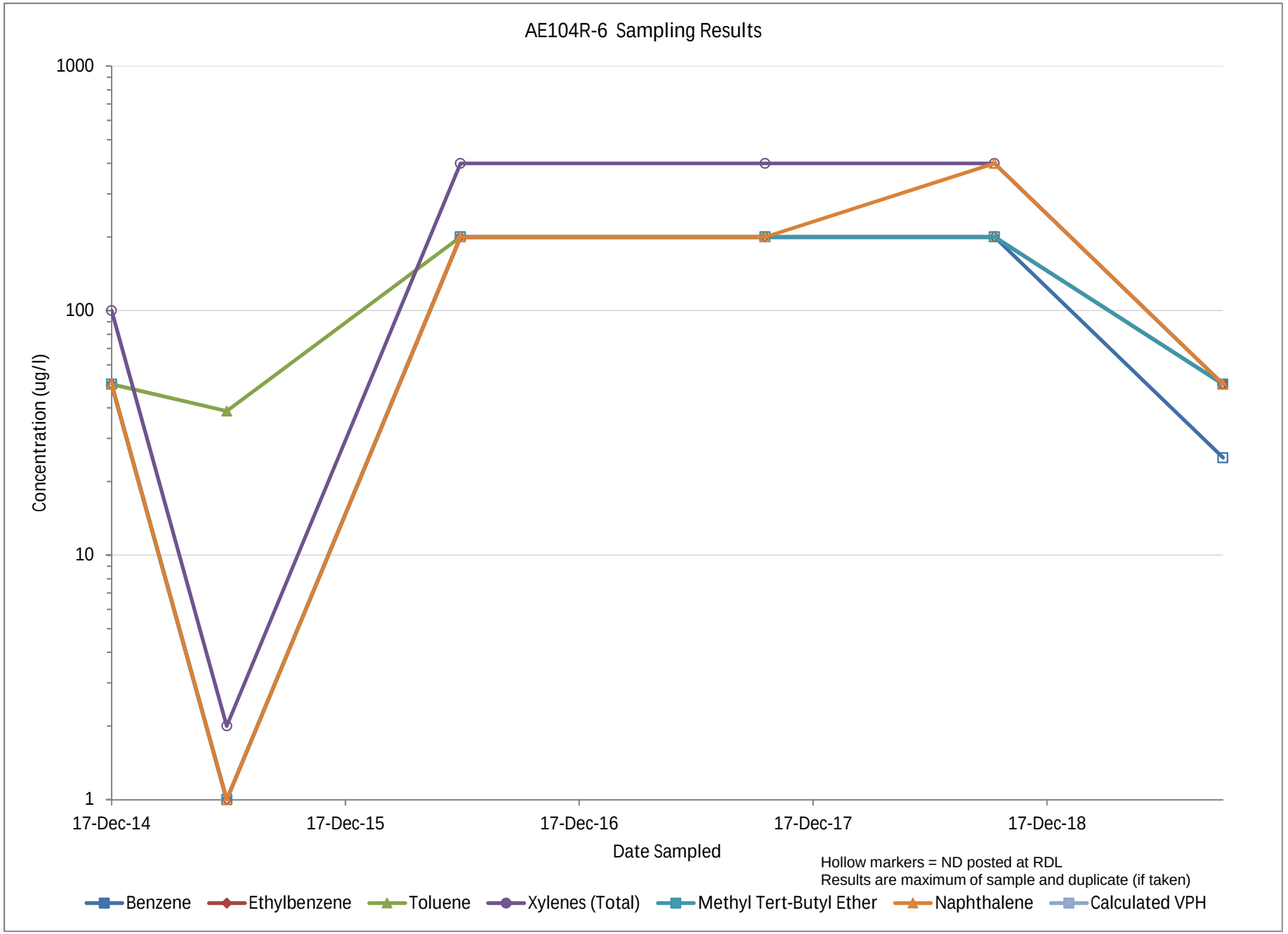

AE104D Sampling Results
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
11-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

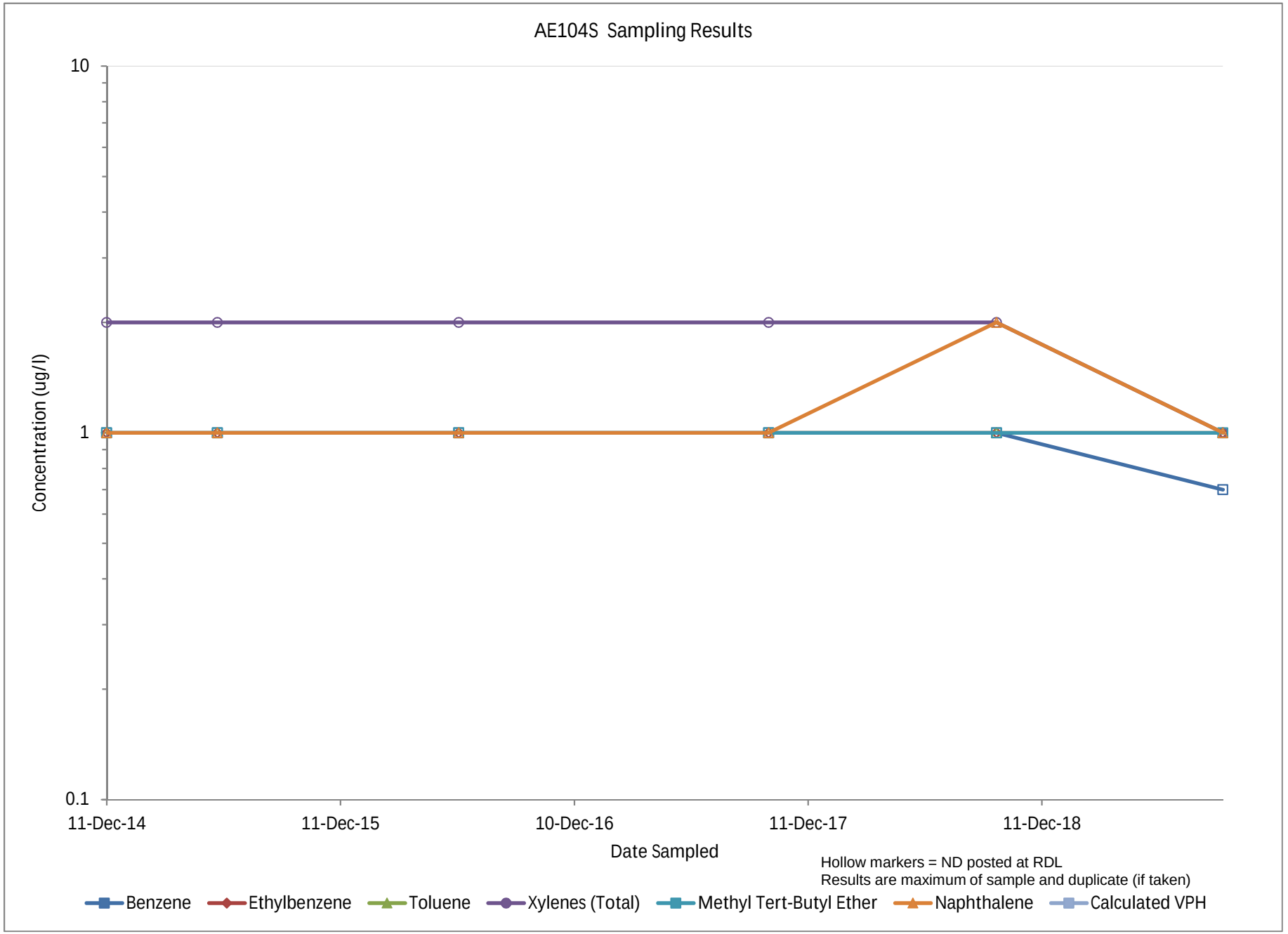

AE104R-1 Sampling Results
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

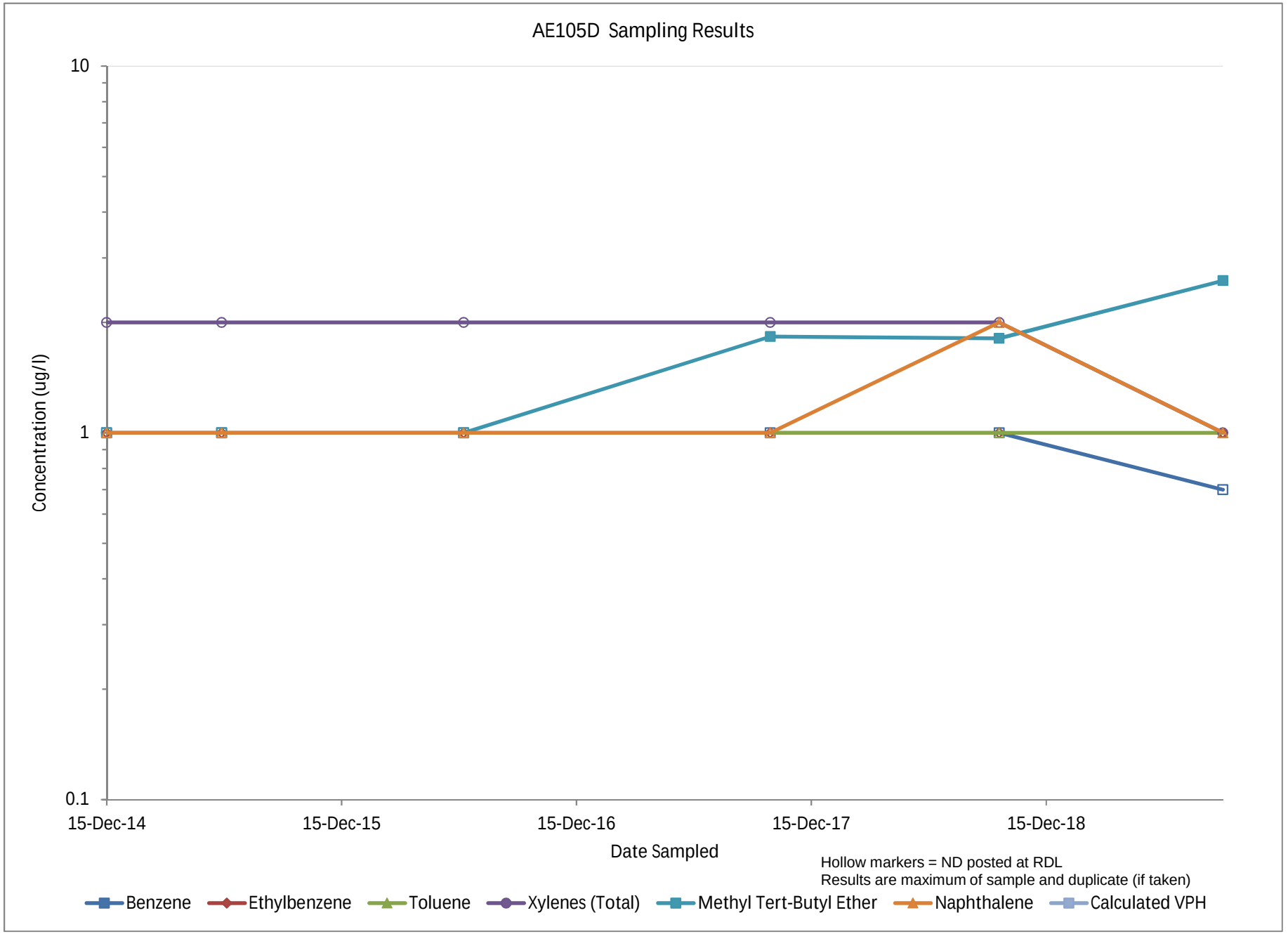

AE104R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

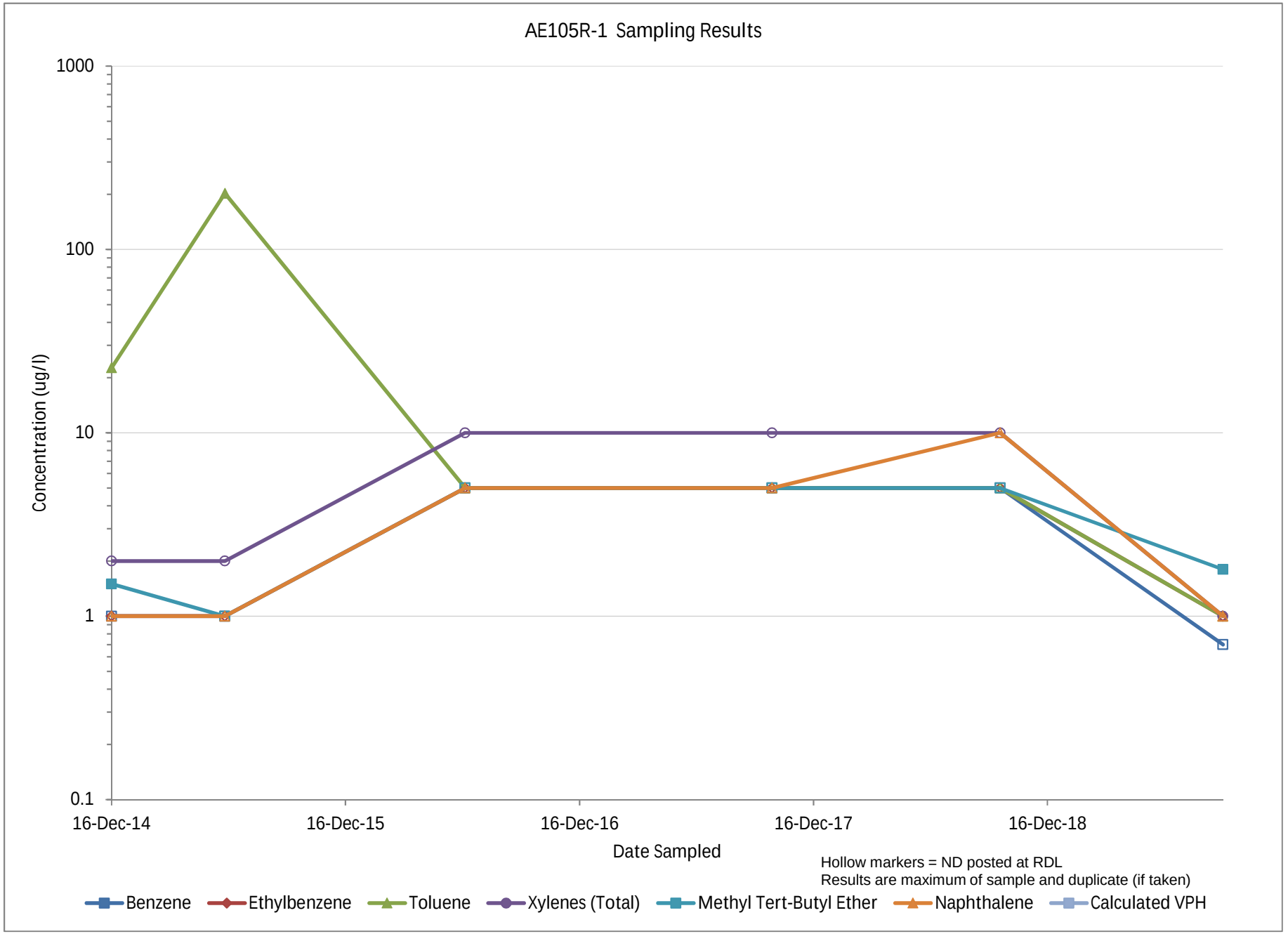

AE104R-4 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

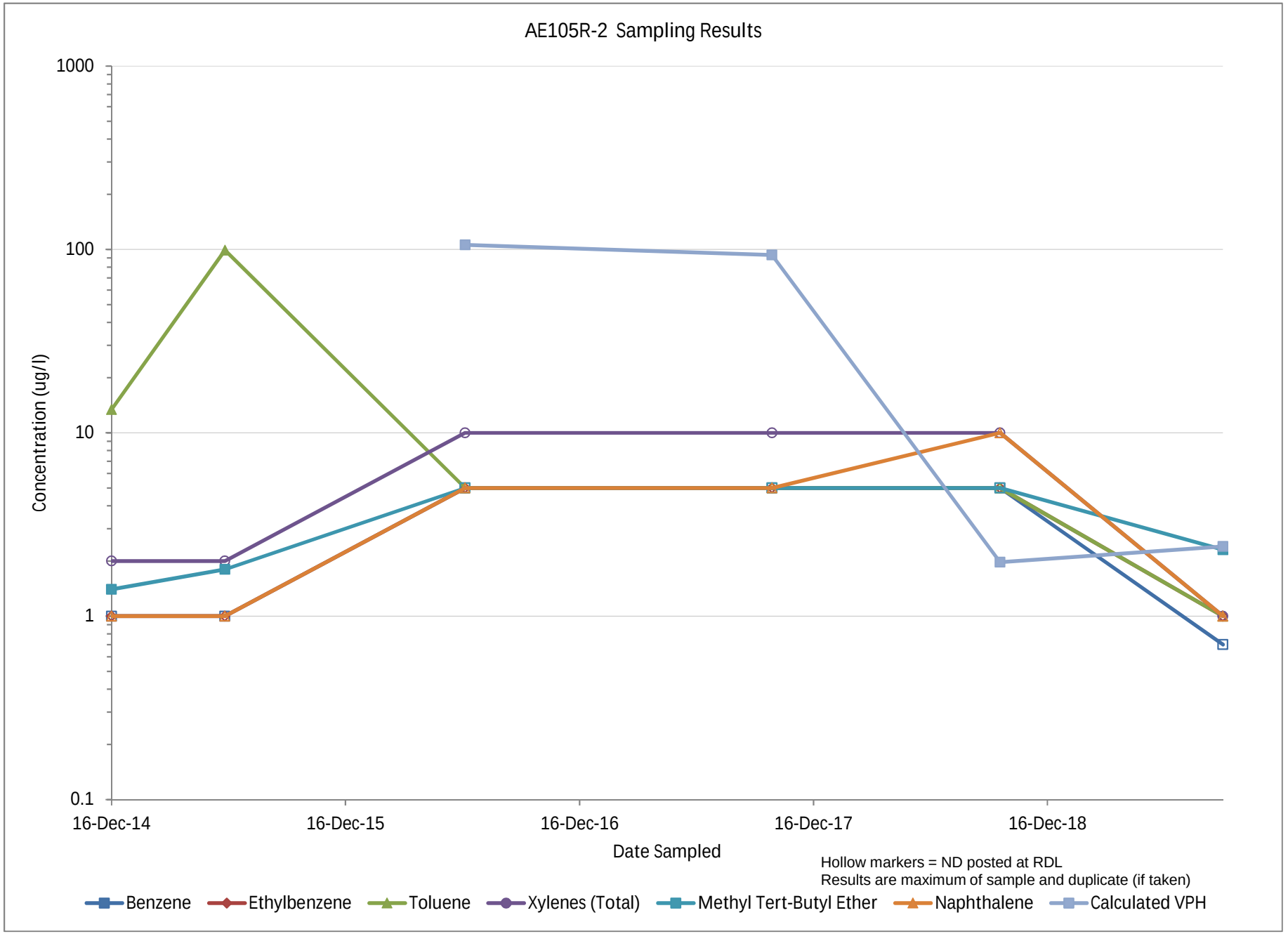

AE104R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

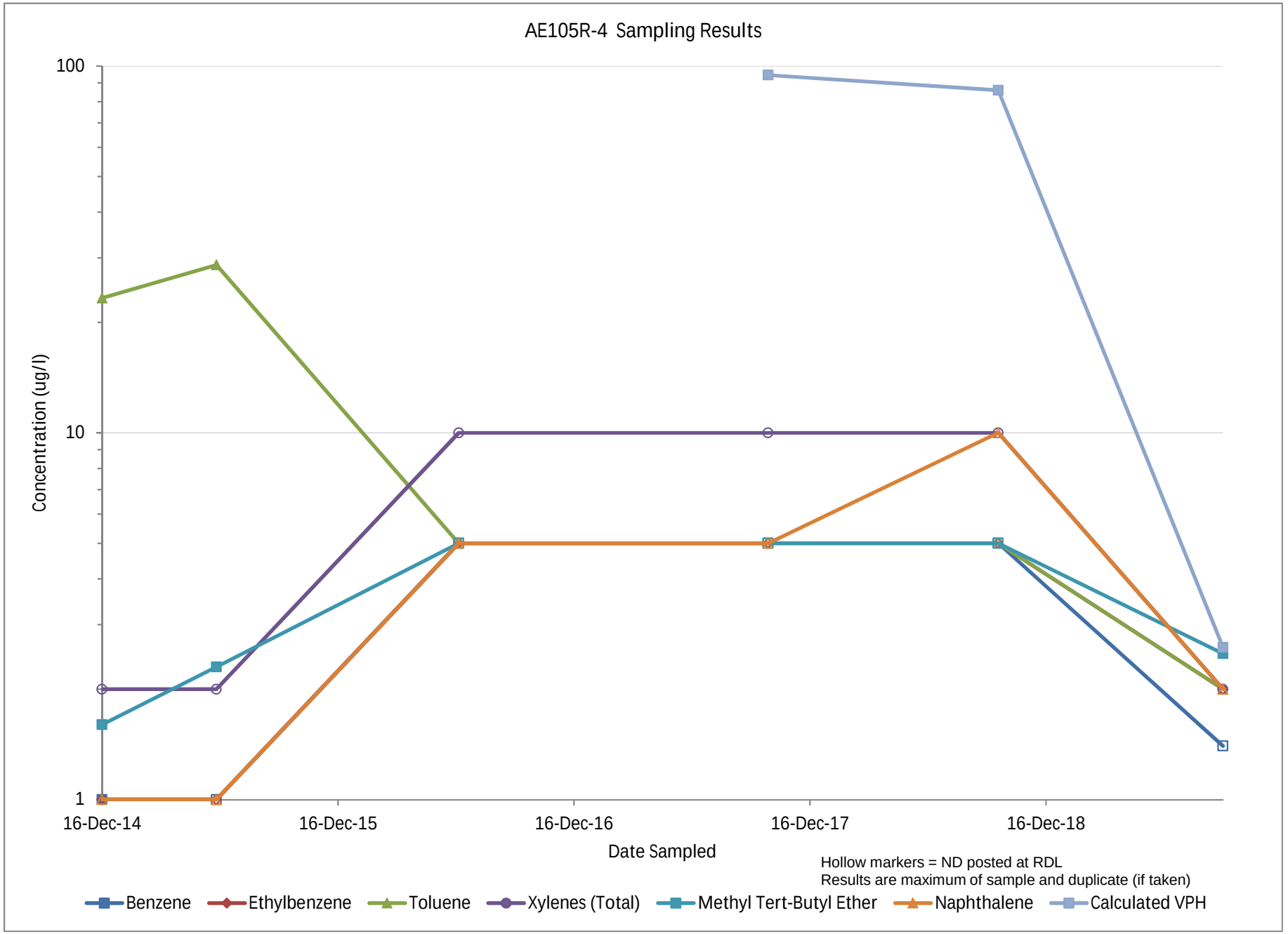

AE104R-6 Sampling Results
1000
100
10
1
Concentration (ug/l)
17-Dec-14
17-Dec-15
17-Dec-16
17-Dec-17
17-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

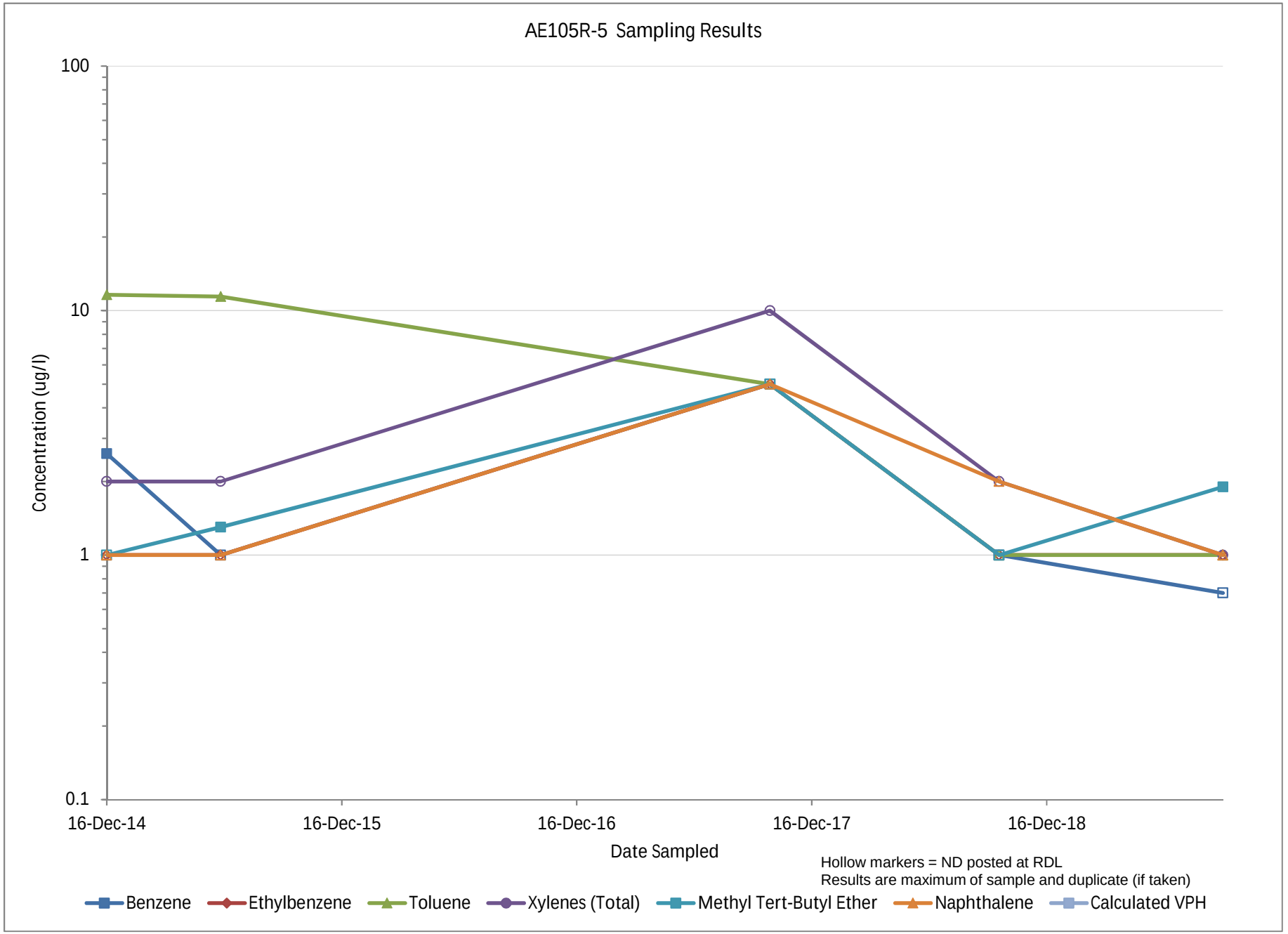

AE104S Sampling Results
10
1
0.1
Concentration (ug/l)
11-Dec-14
11-Dec-15
10-Dec-16
11-Dec-17
11-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

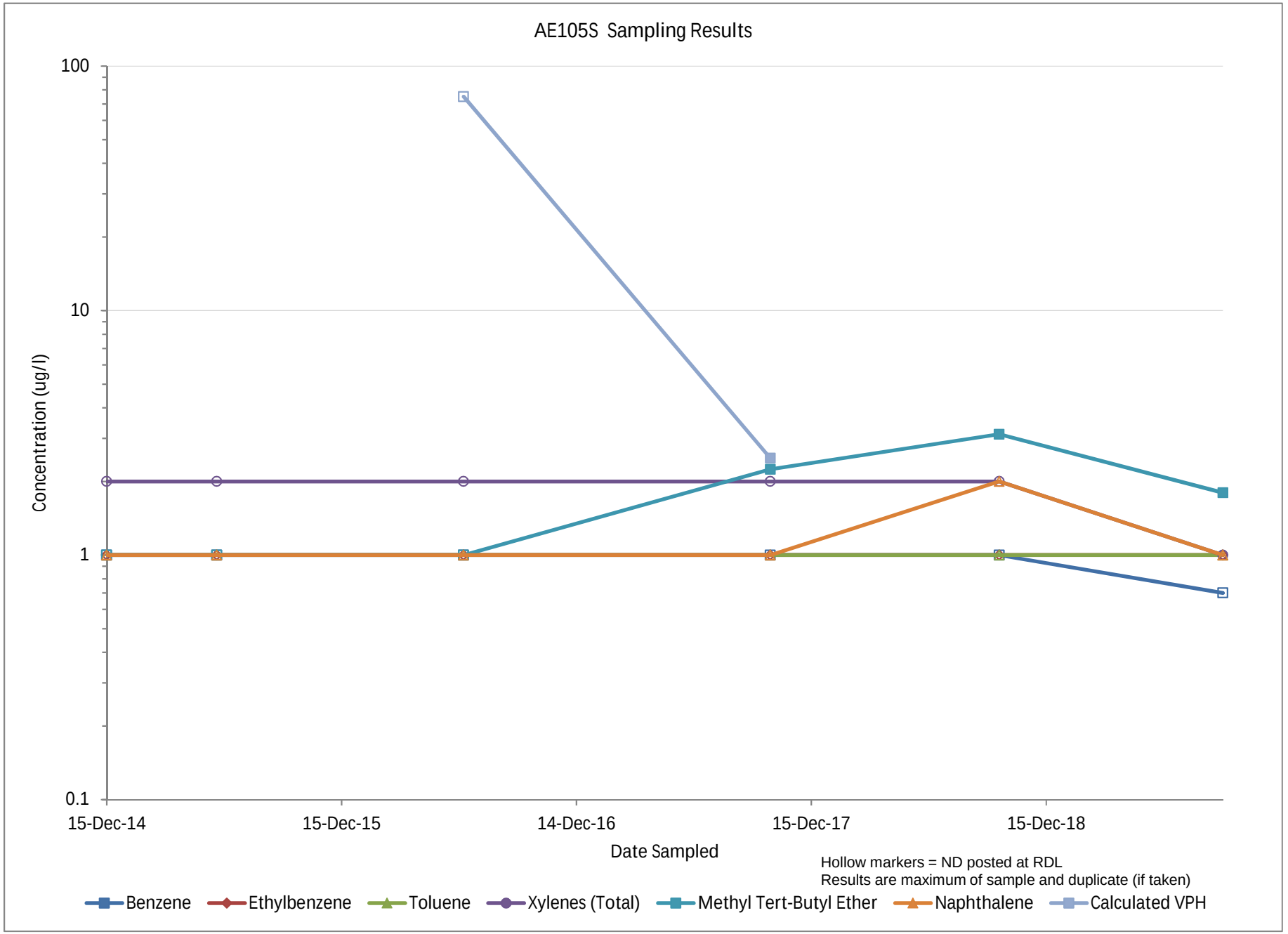

AE105D Sampling Results
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

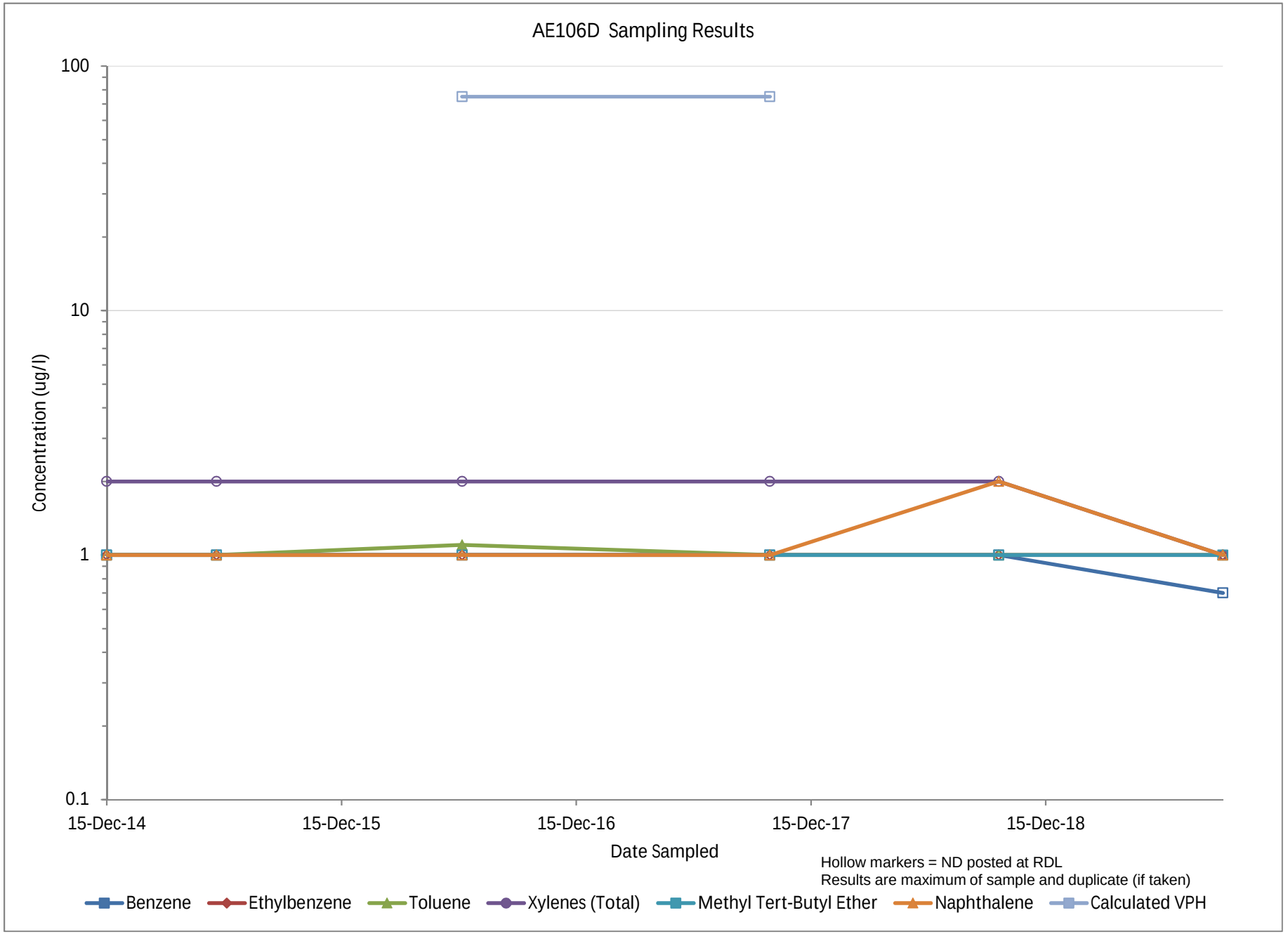

AE105R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

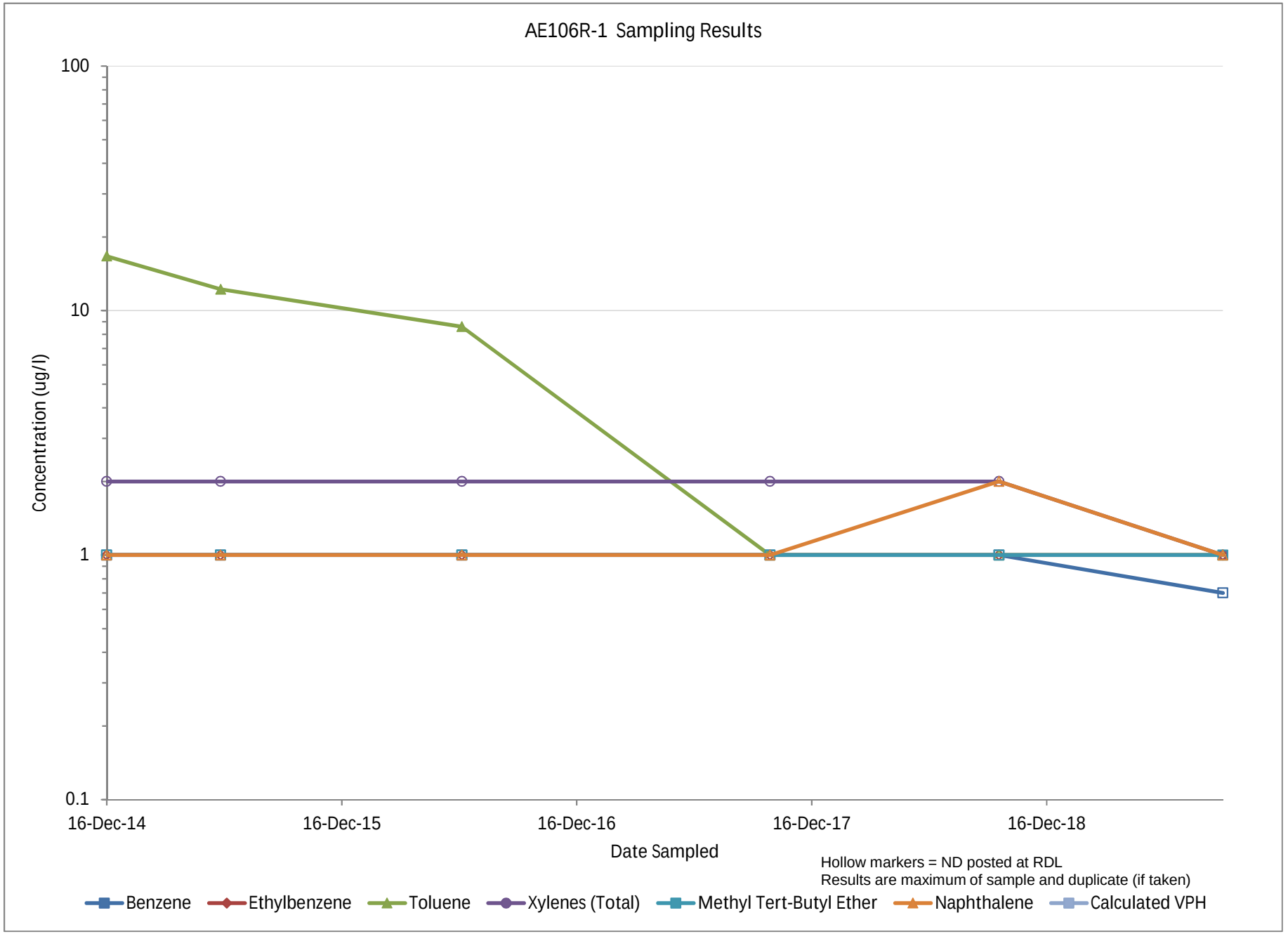

AE105R-2 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

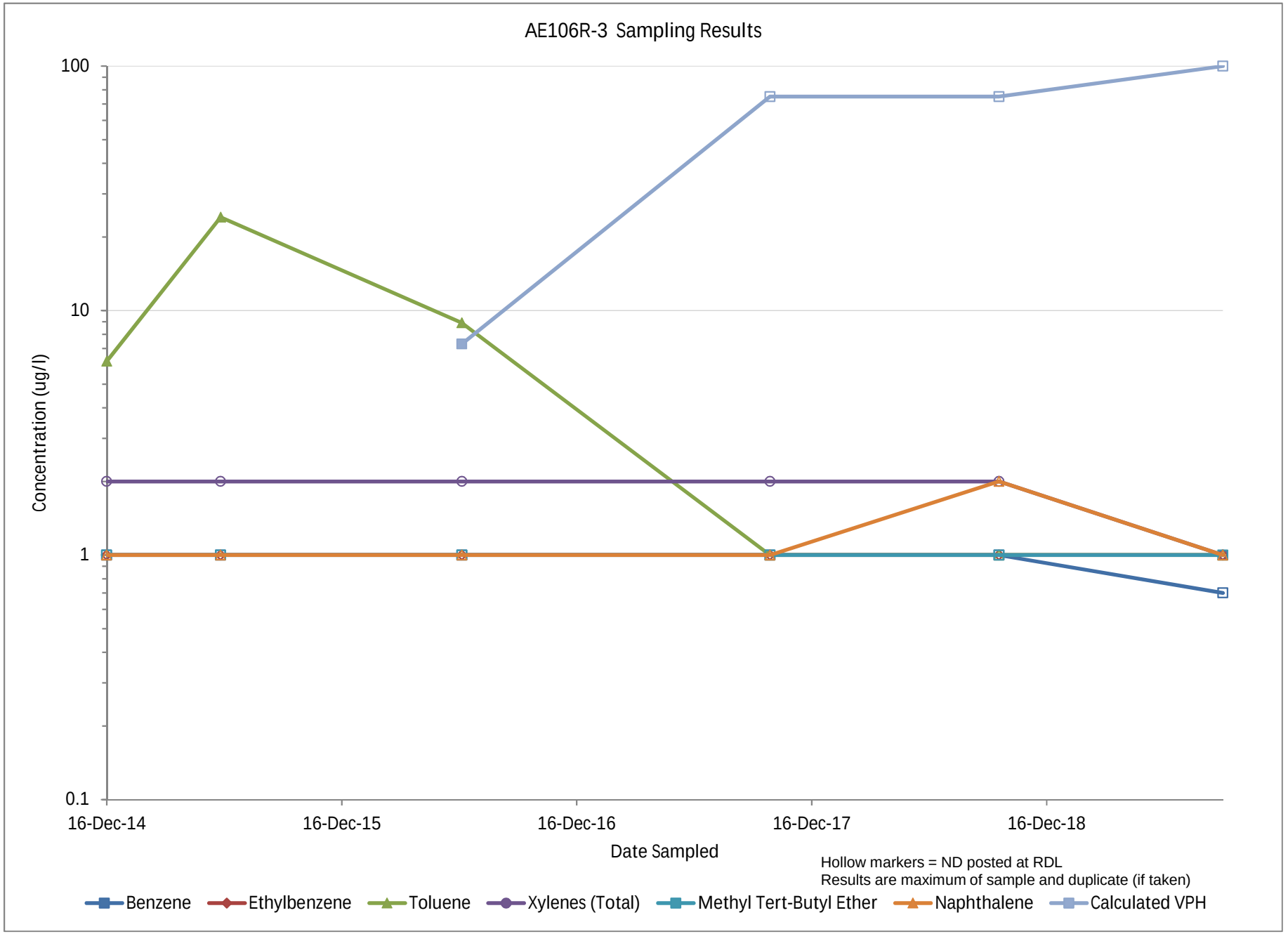

AE105R-4 Sampling Results
100
10
1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

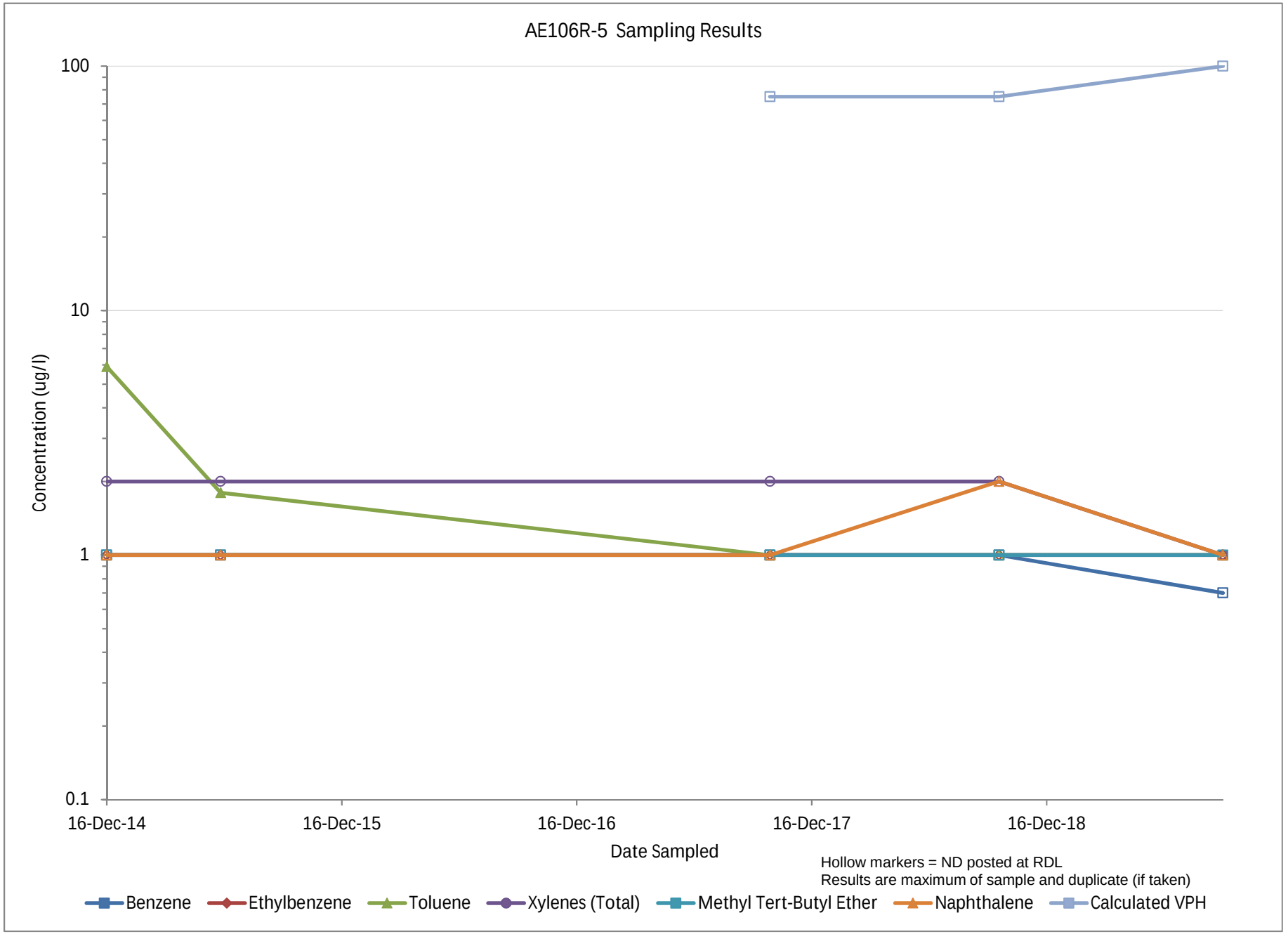

AE105R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

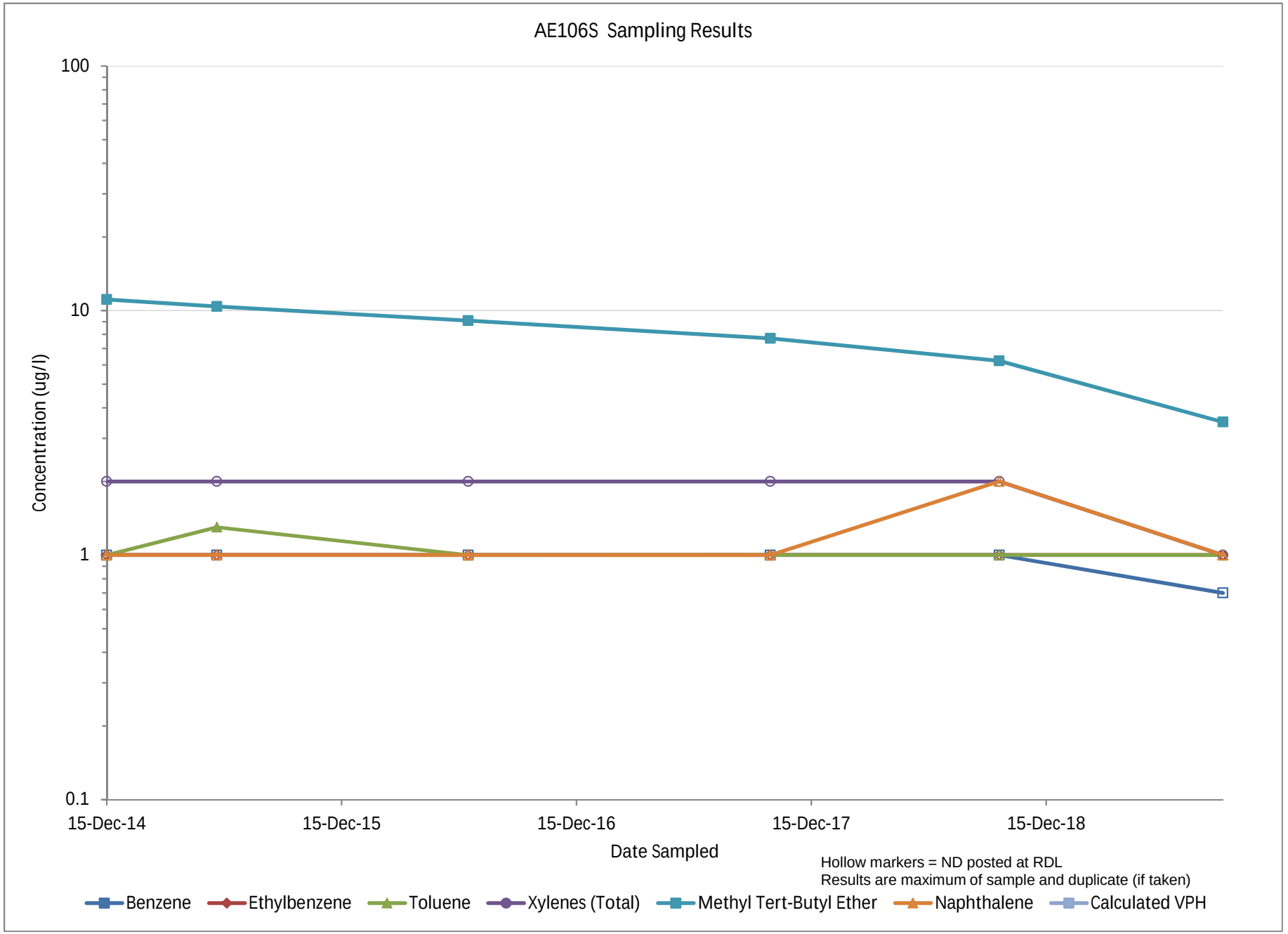

AE105S Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
14-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

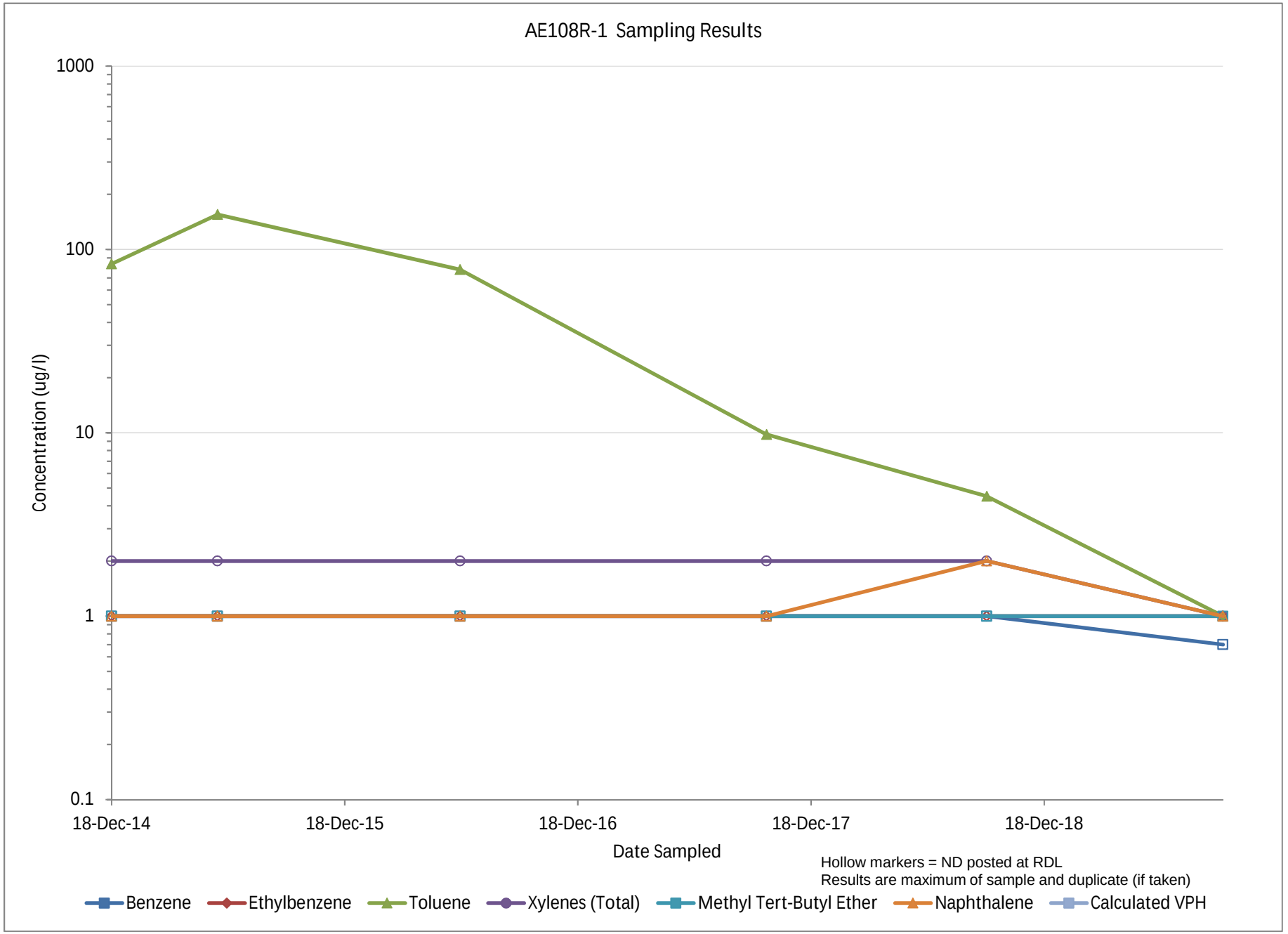

AE106D Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

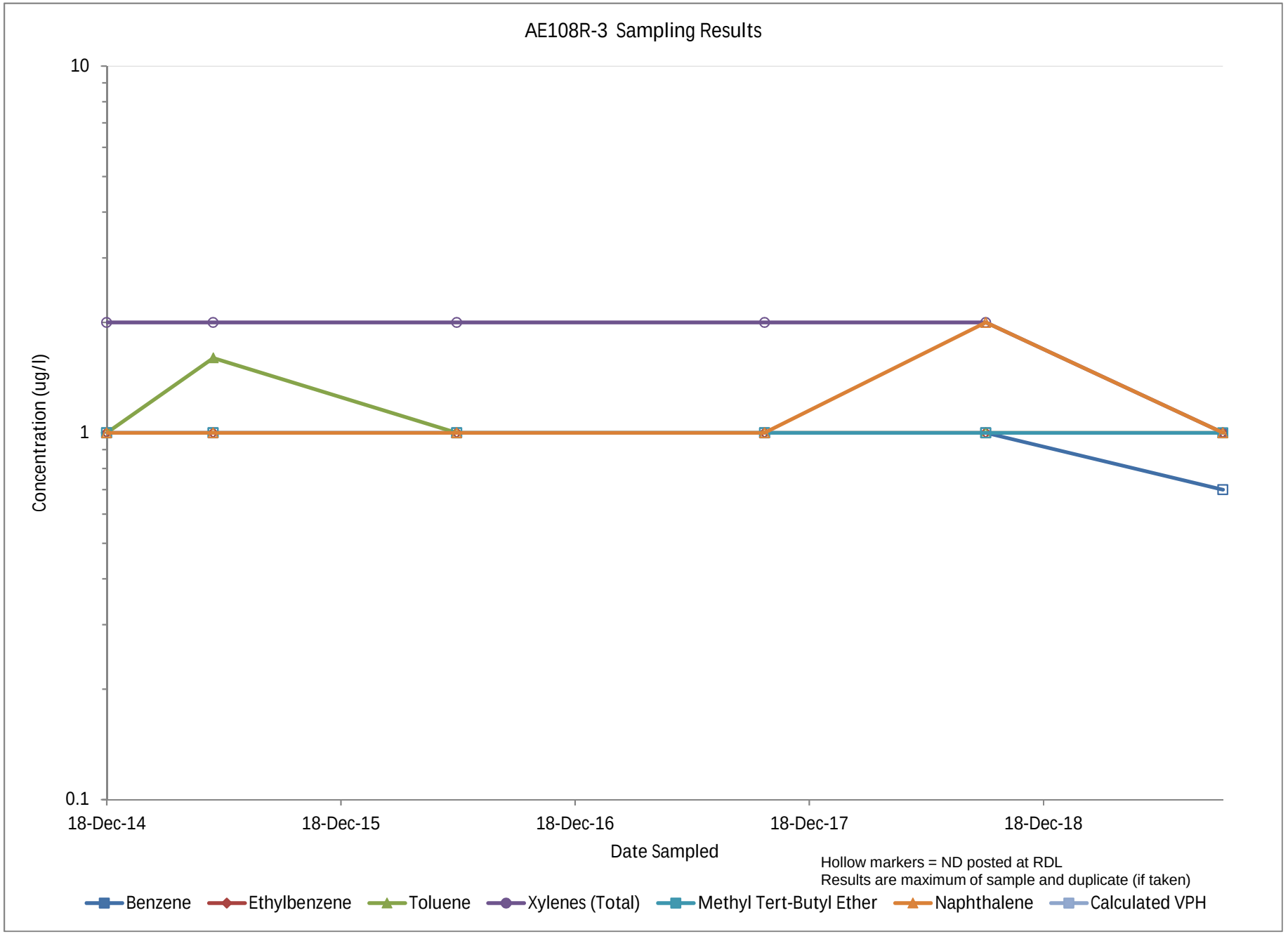

AE106R-1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

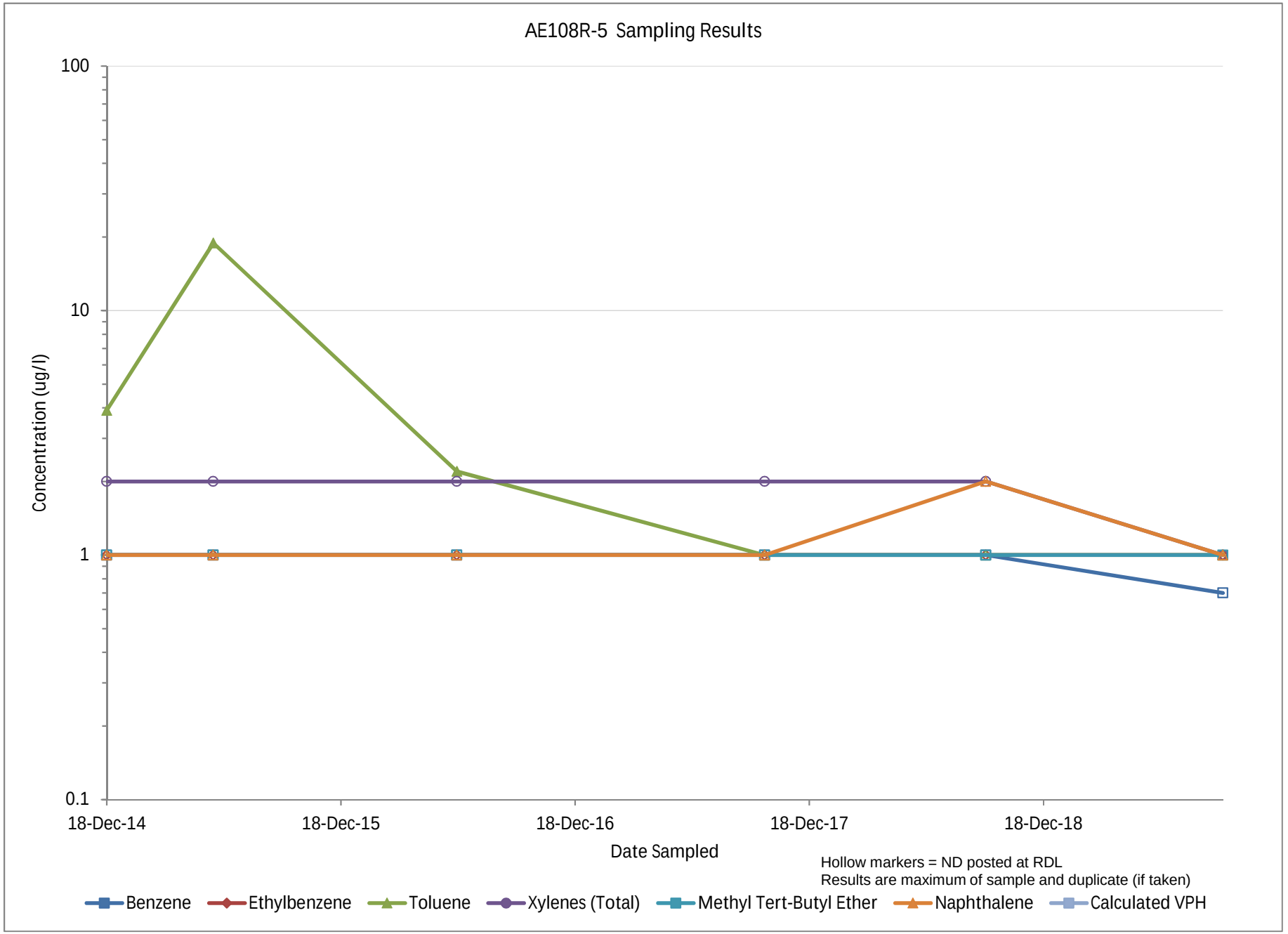

AE106R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

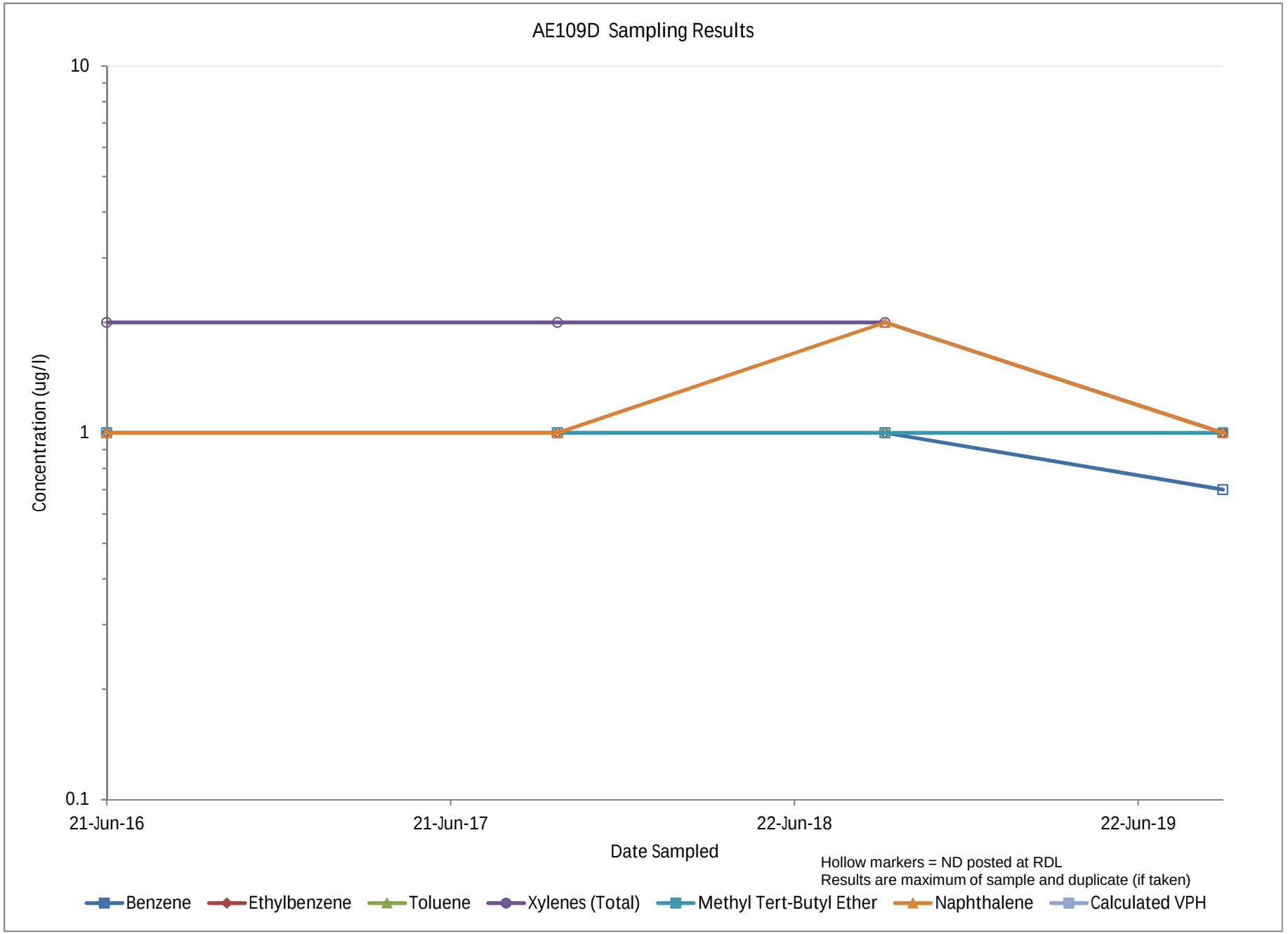

AE106R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

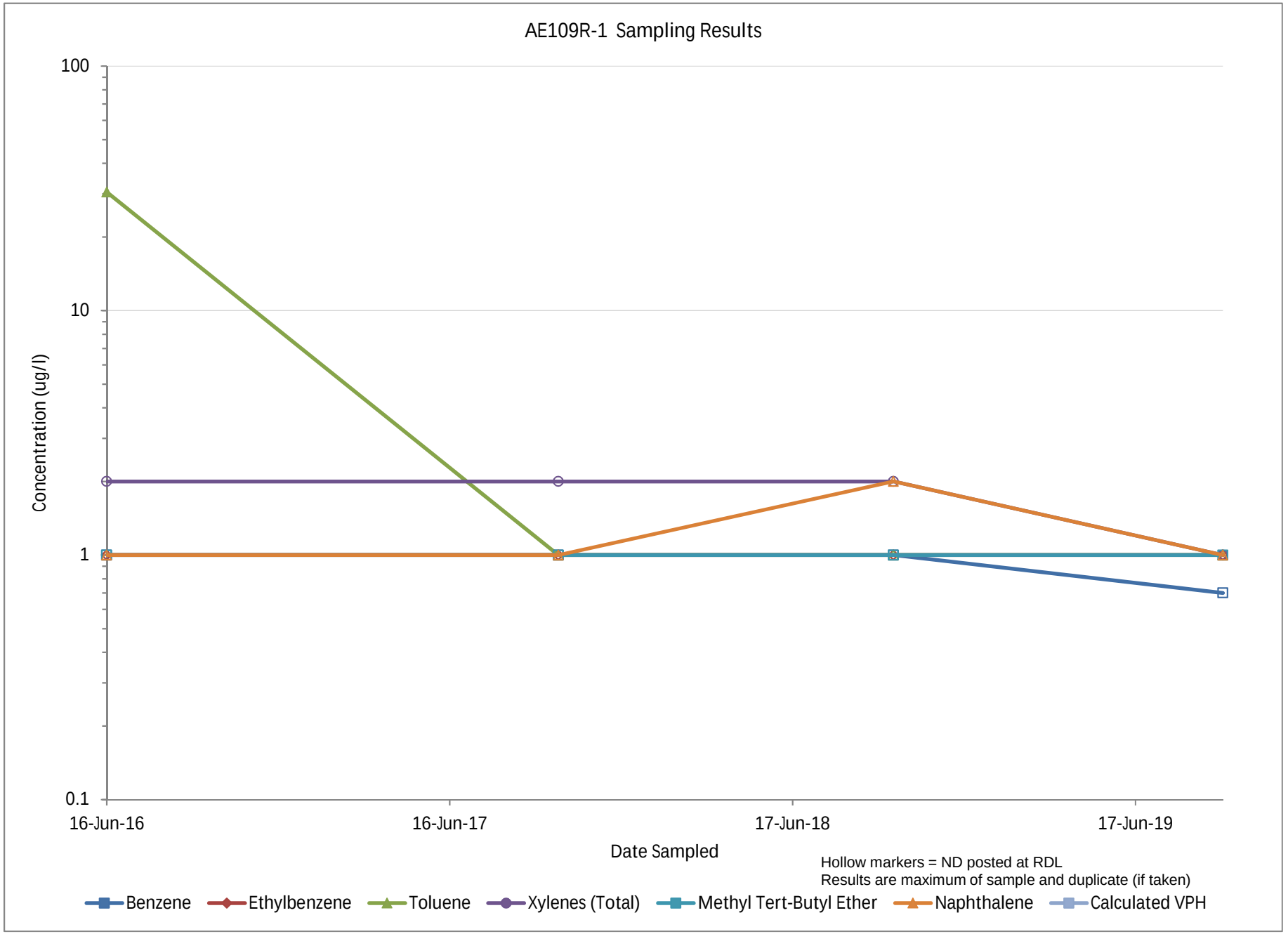

AE106S Sampling Results
100
10
1
0.1
Concentration (ug/l)
15-Dec-14
15-Dec-15
15-Dec-16
15-Dec-17
15-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

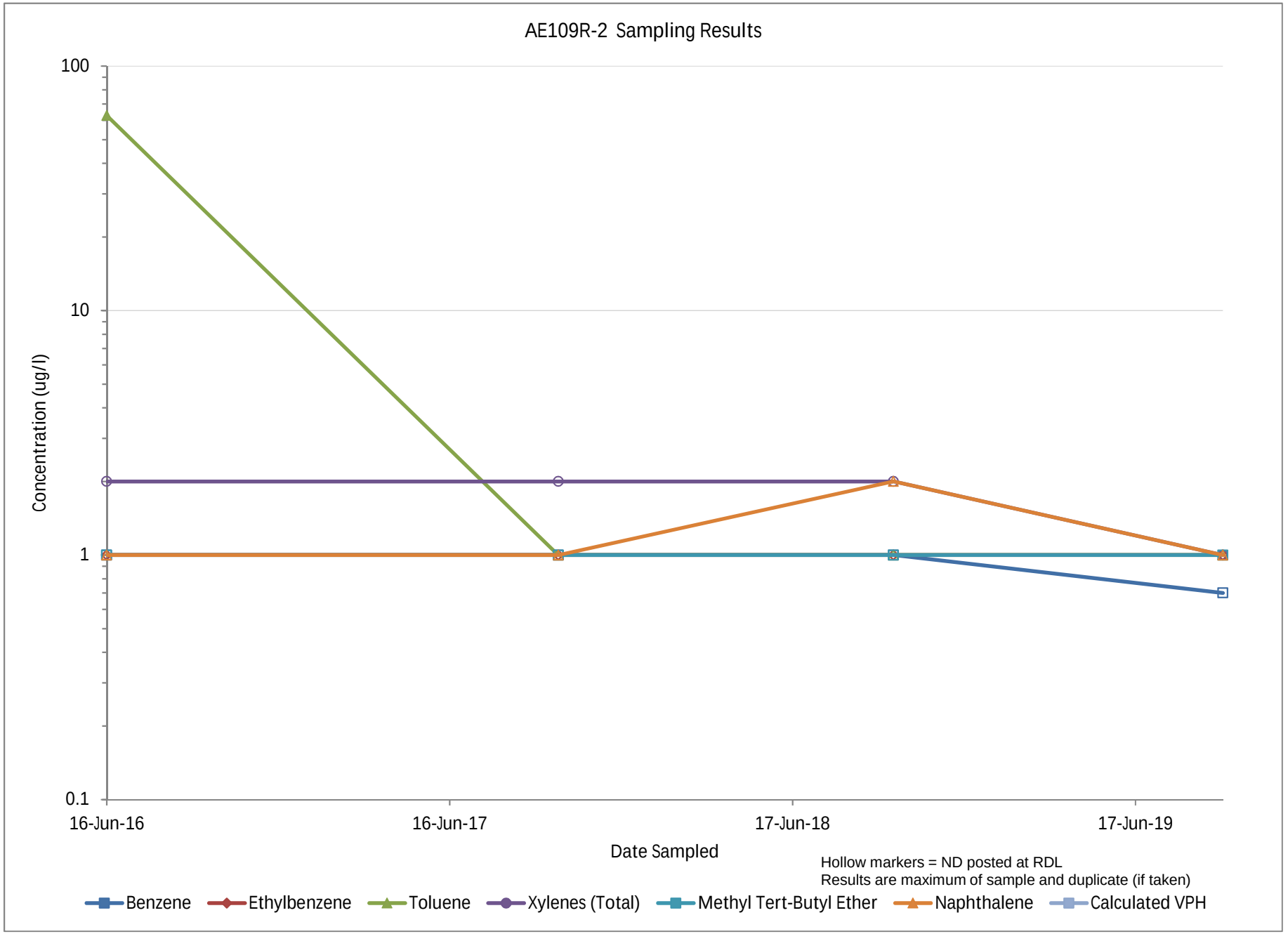

AE108R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

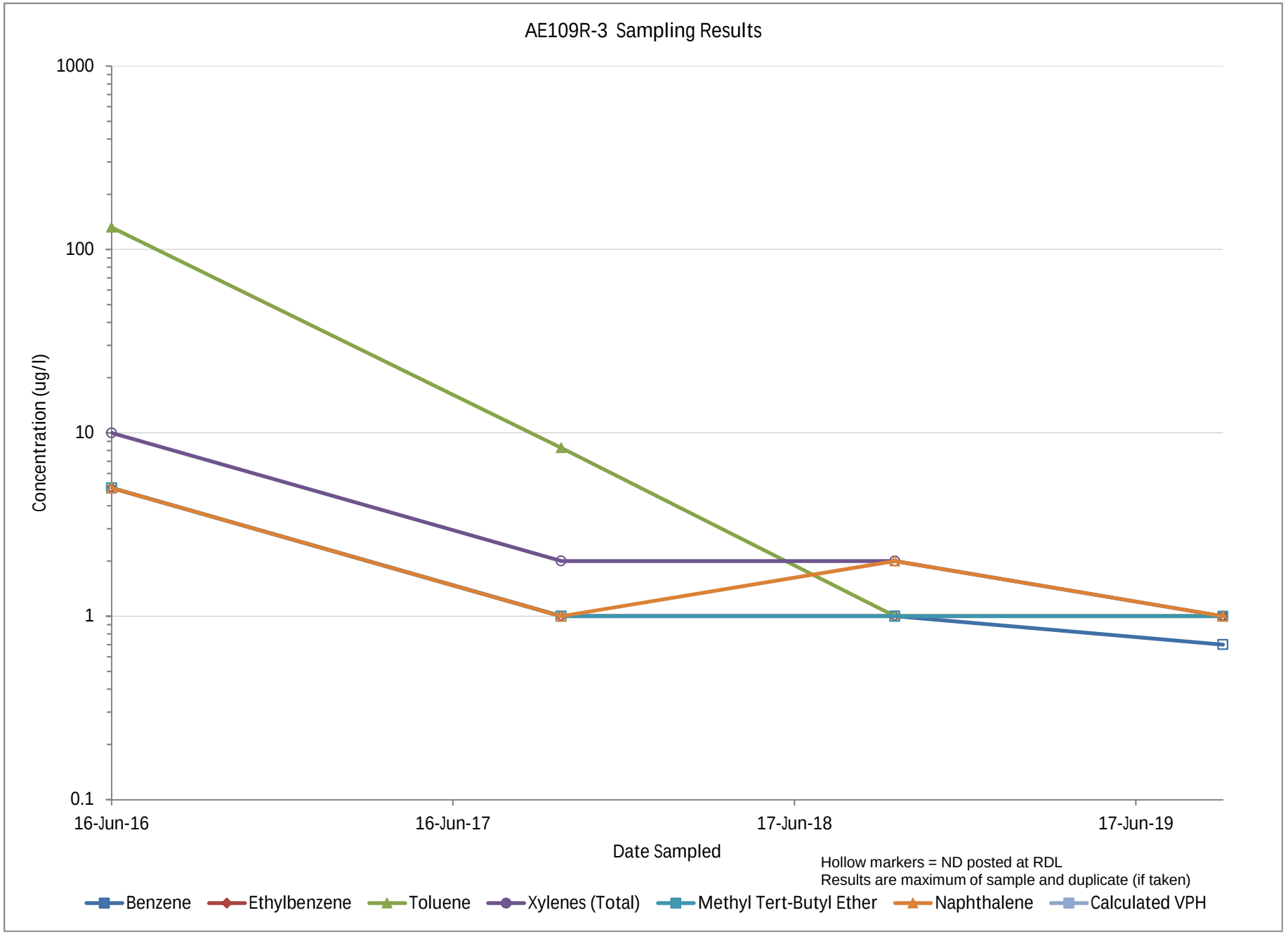

AE108R-3 Sampling Results
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

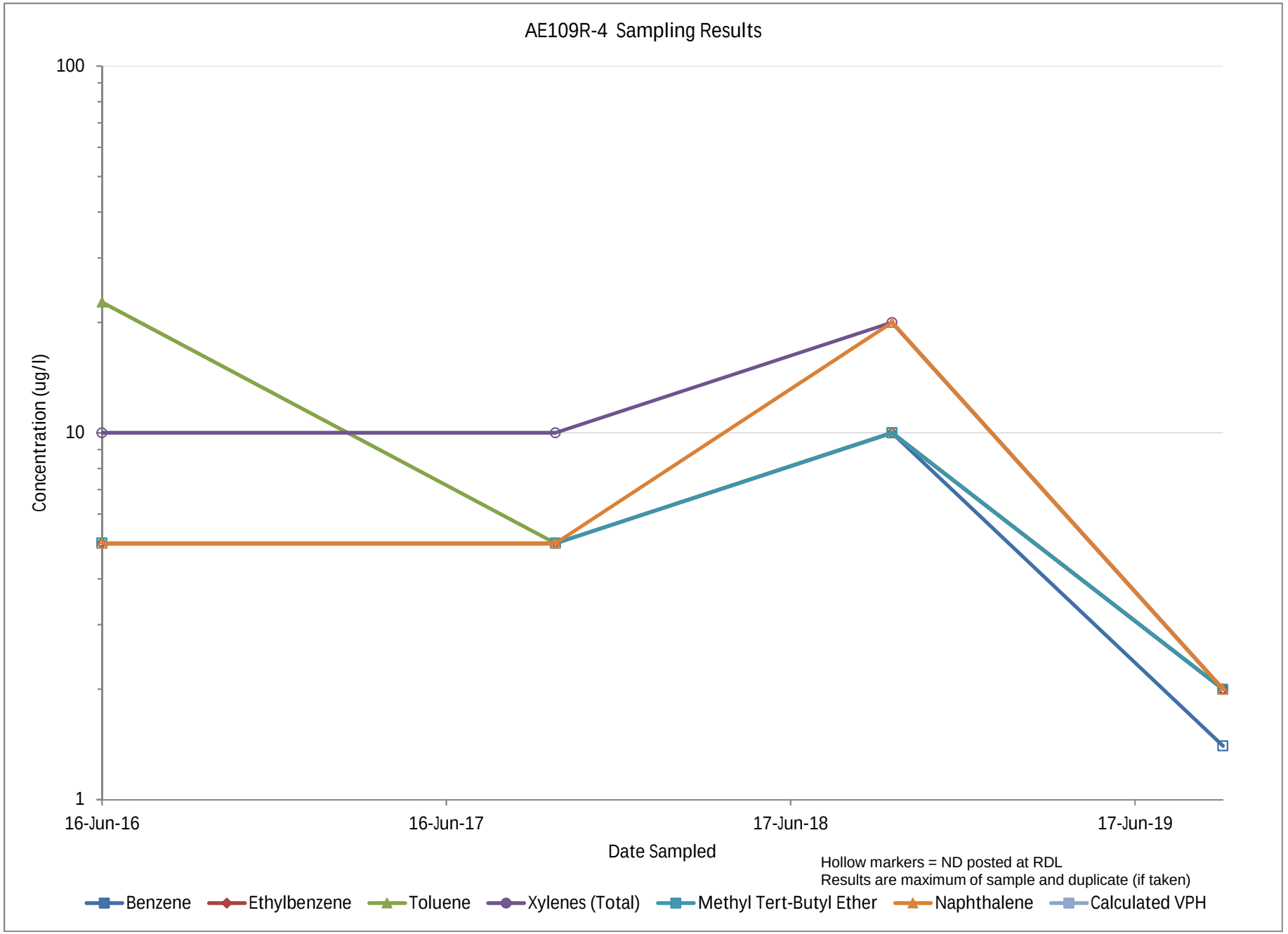

AE108R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
18-Dec-14
18-Dec-15
18-Dec-16
18-Dec-17
18-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

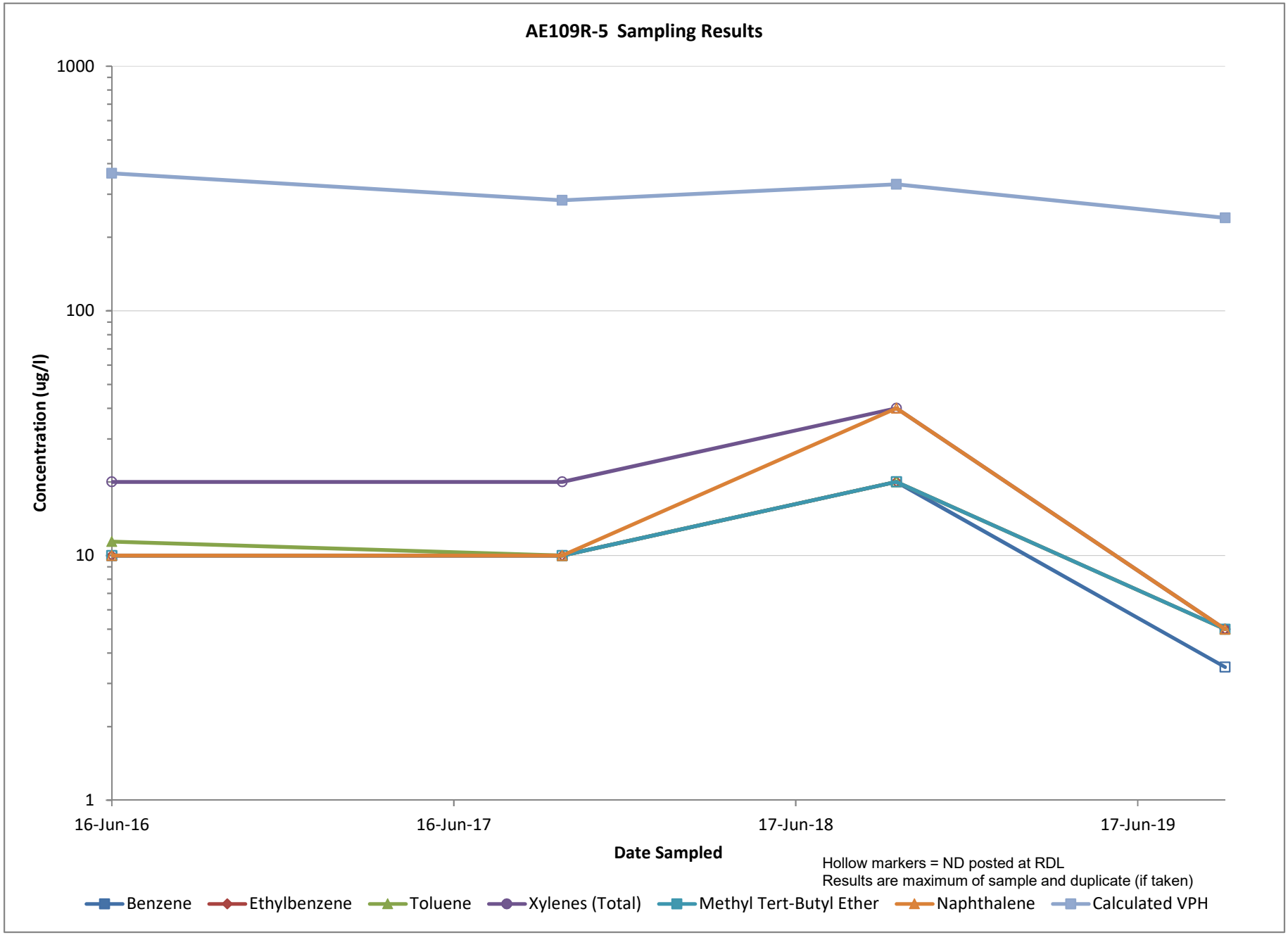

AE109D Sampling Results
10
1
0.1
Concentration (ug/l)
21-Jun-16
21-Jun-17
22-Jun-18
22-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

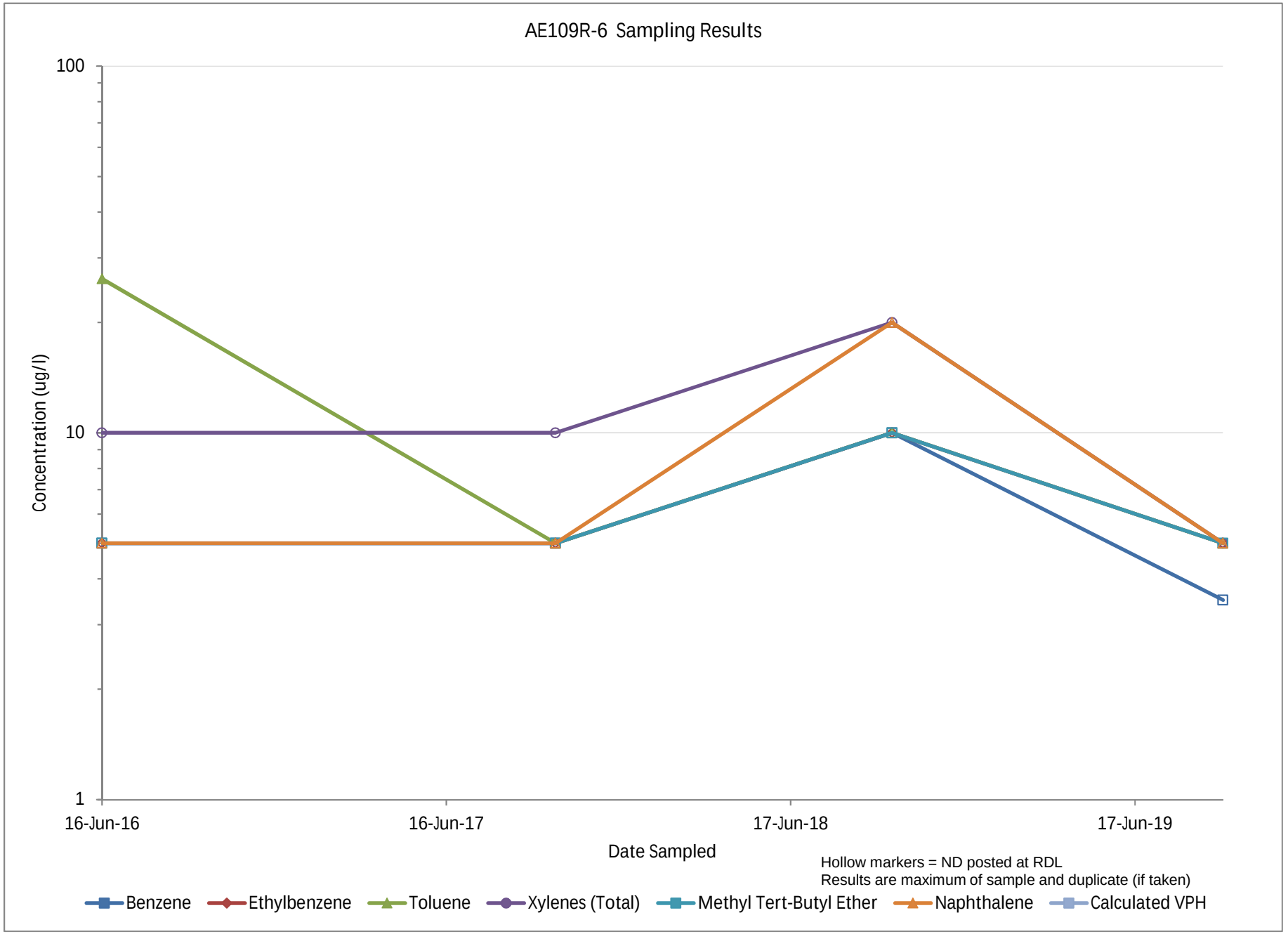

AE109R-1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

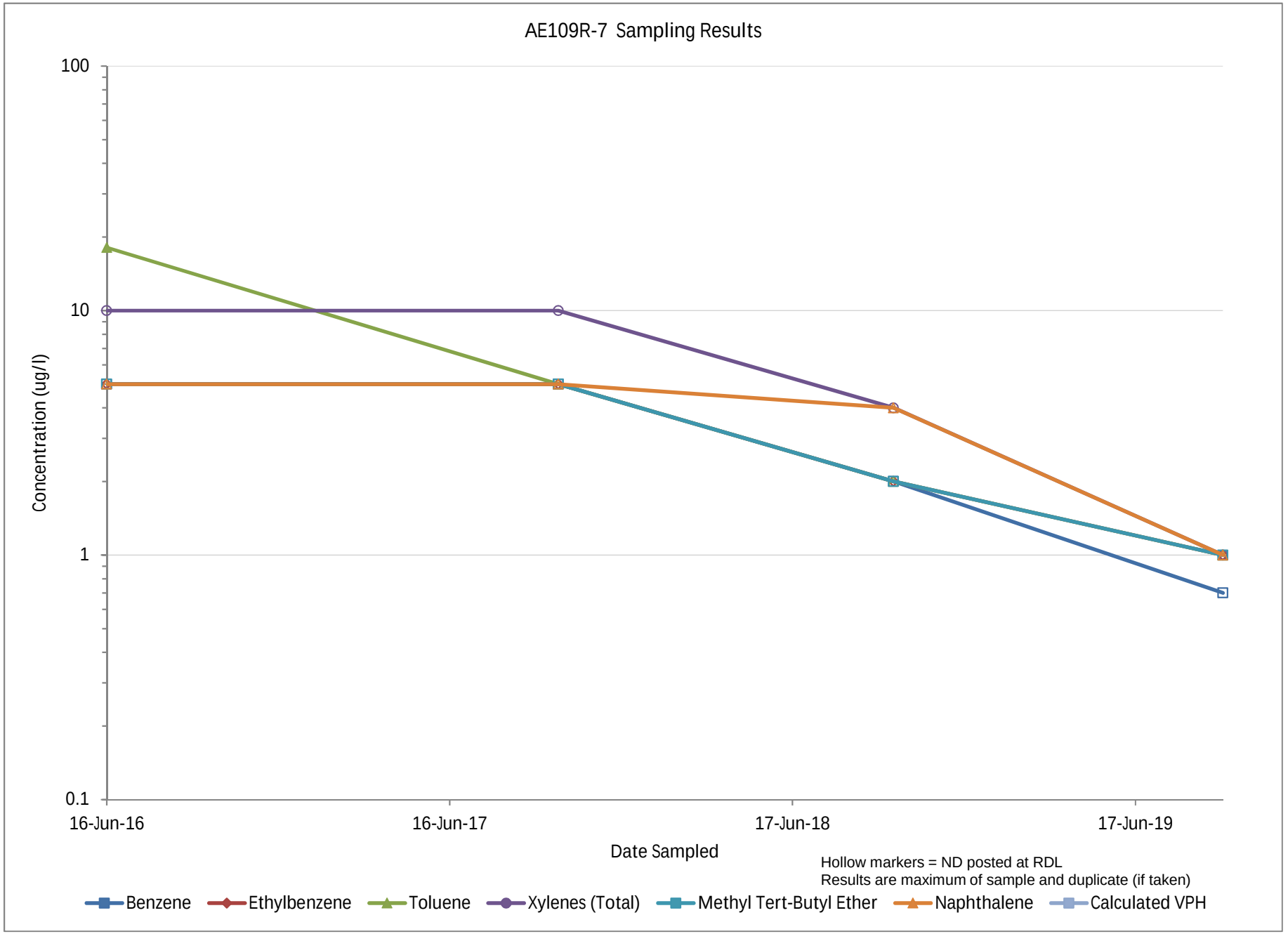

AE109R-2 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

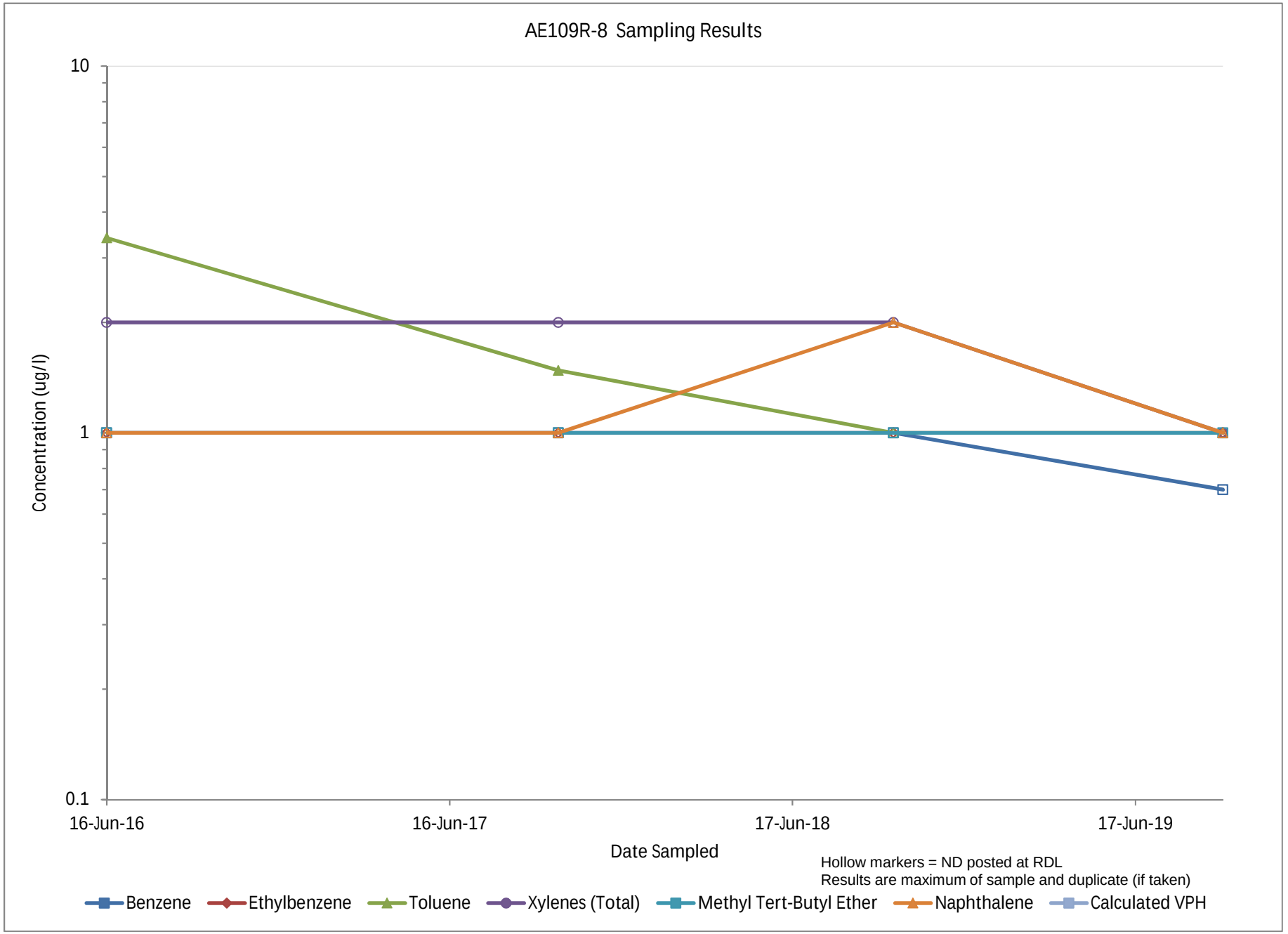

AE109R-3 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

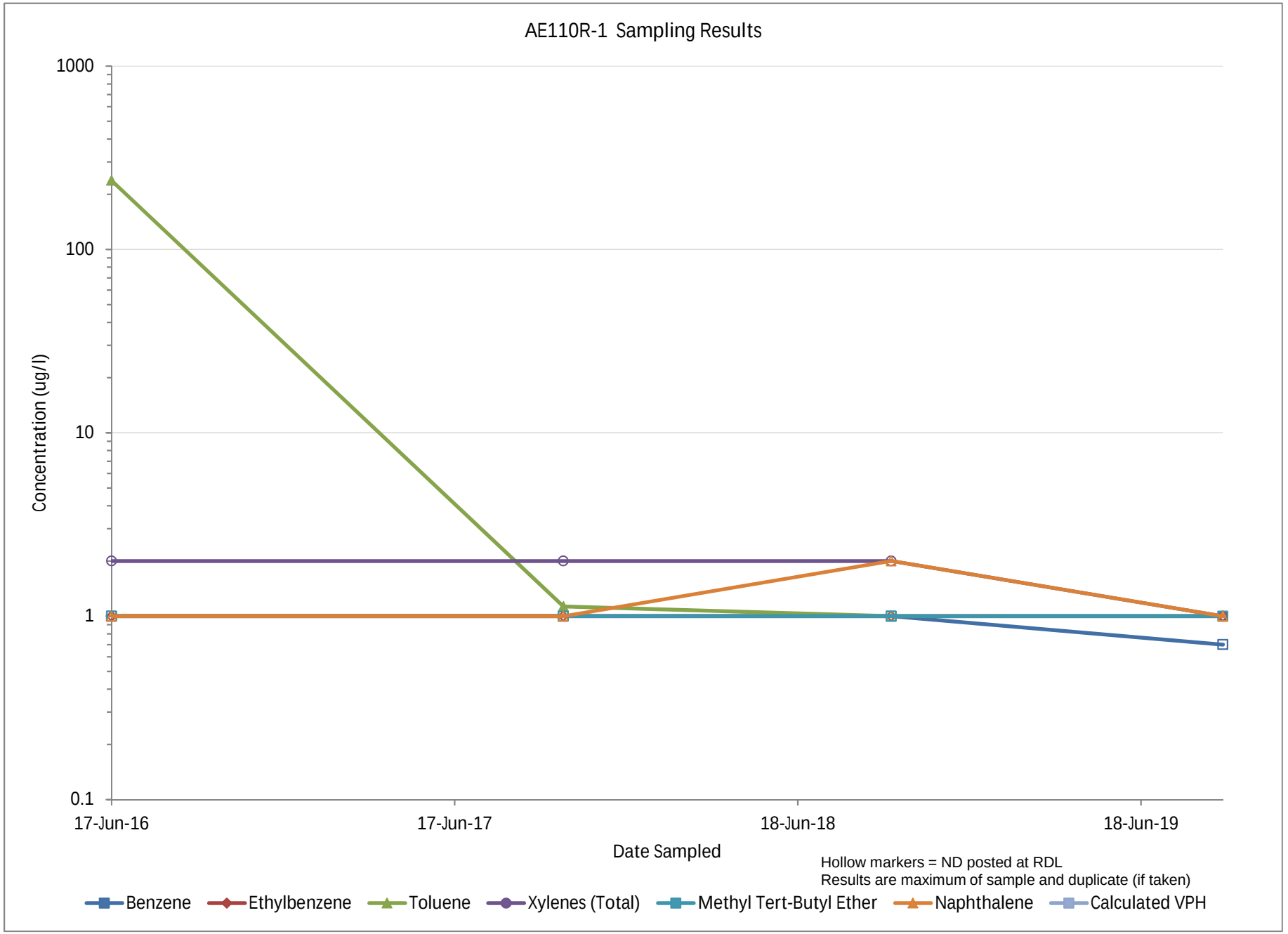

AE109R-4 Sampling Results
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

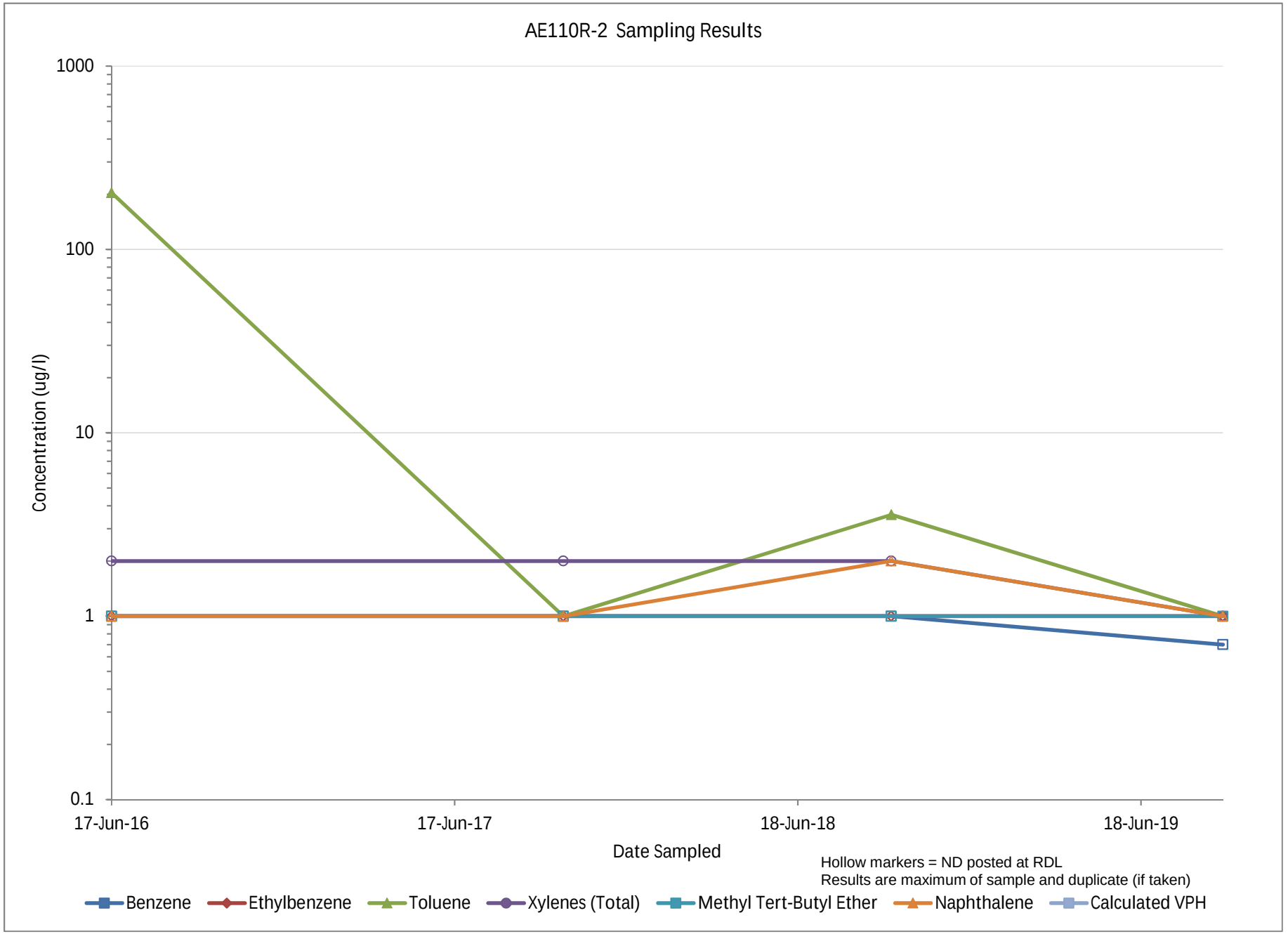

AE109R-5 Sampling Results
1000
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

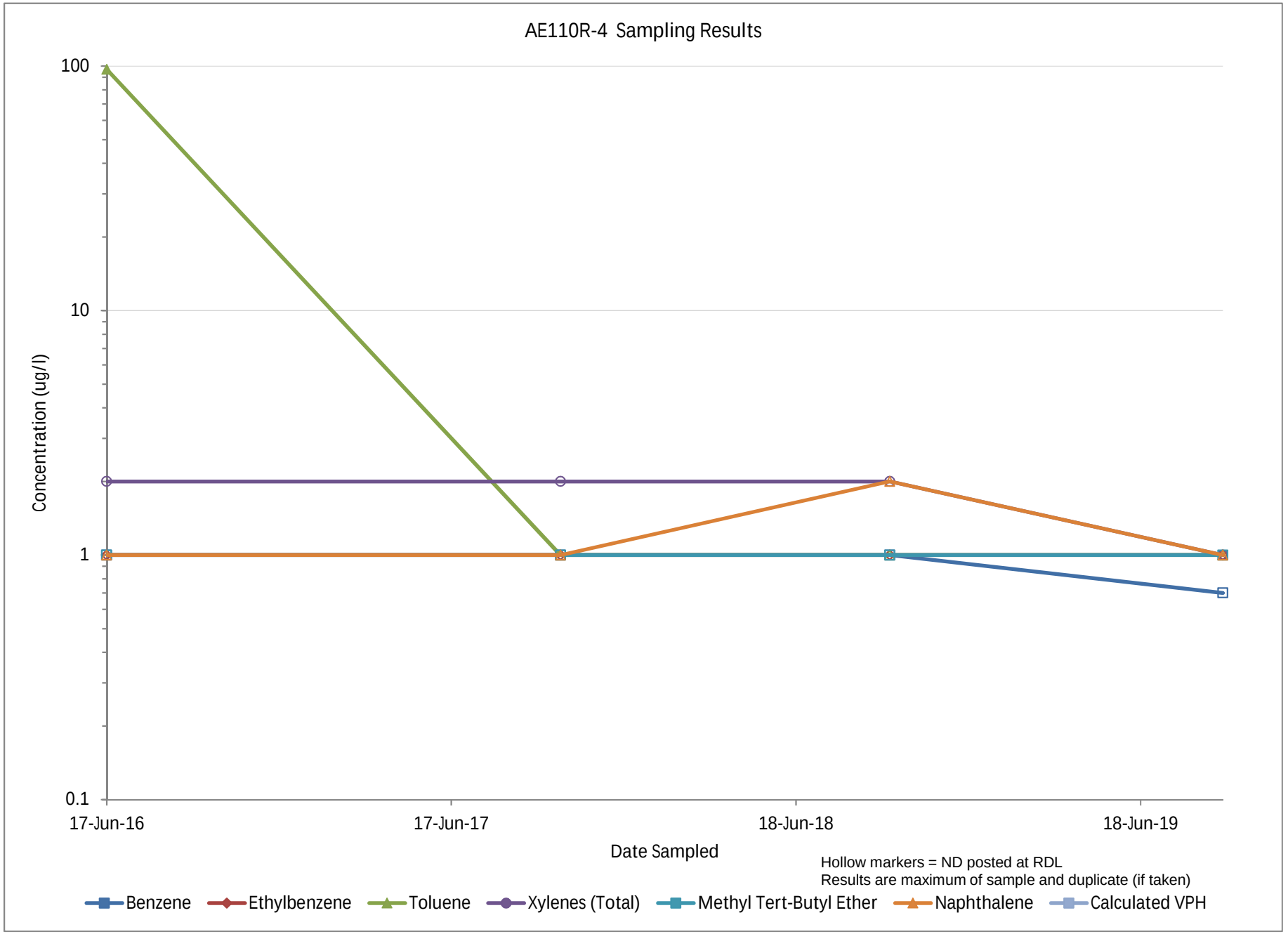

AE109R-6 Sampling Results
100
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

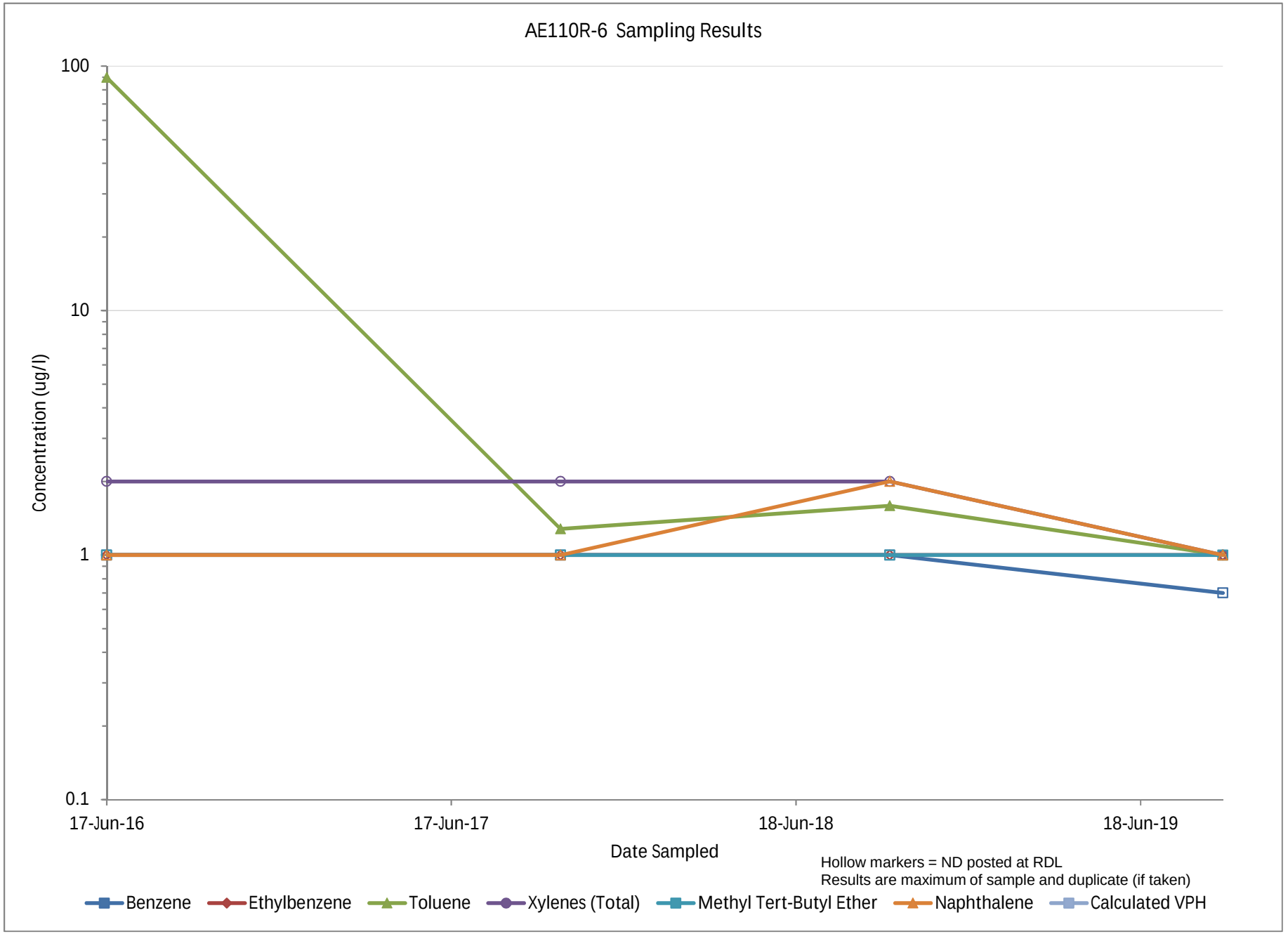

AE109R-7 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

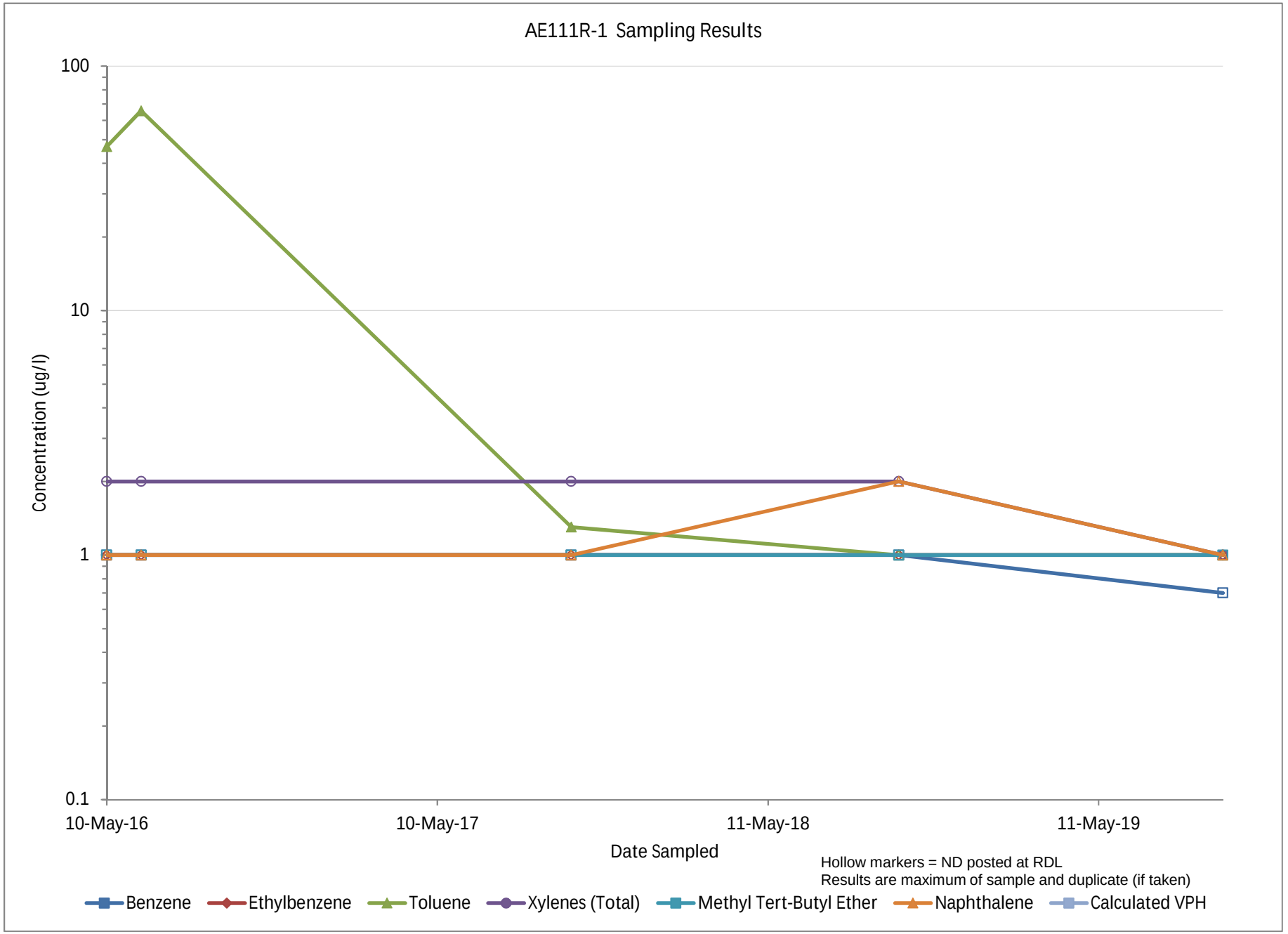

AE109R-8 Sampling Results
10
1
0.1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

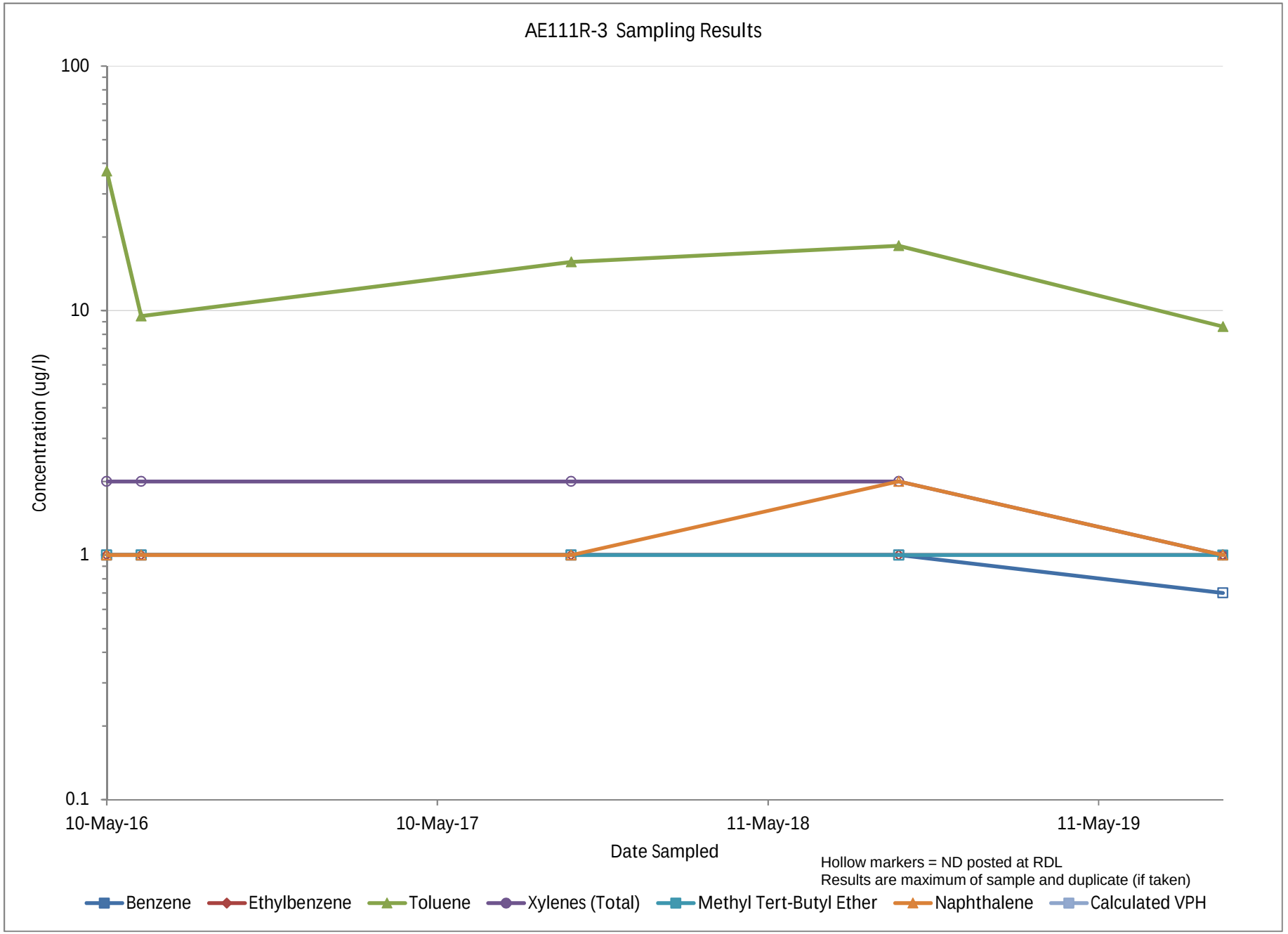

AE110R-1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

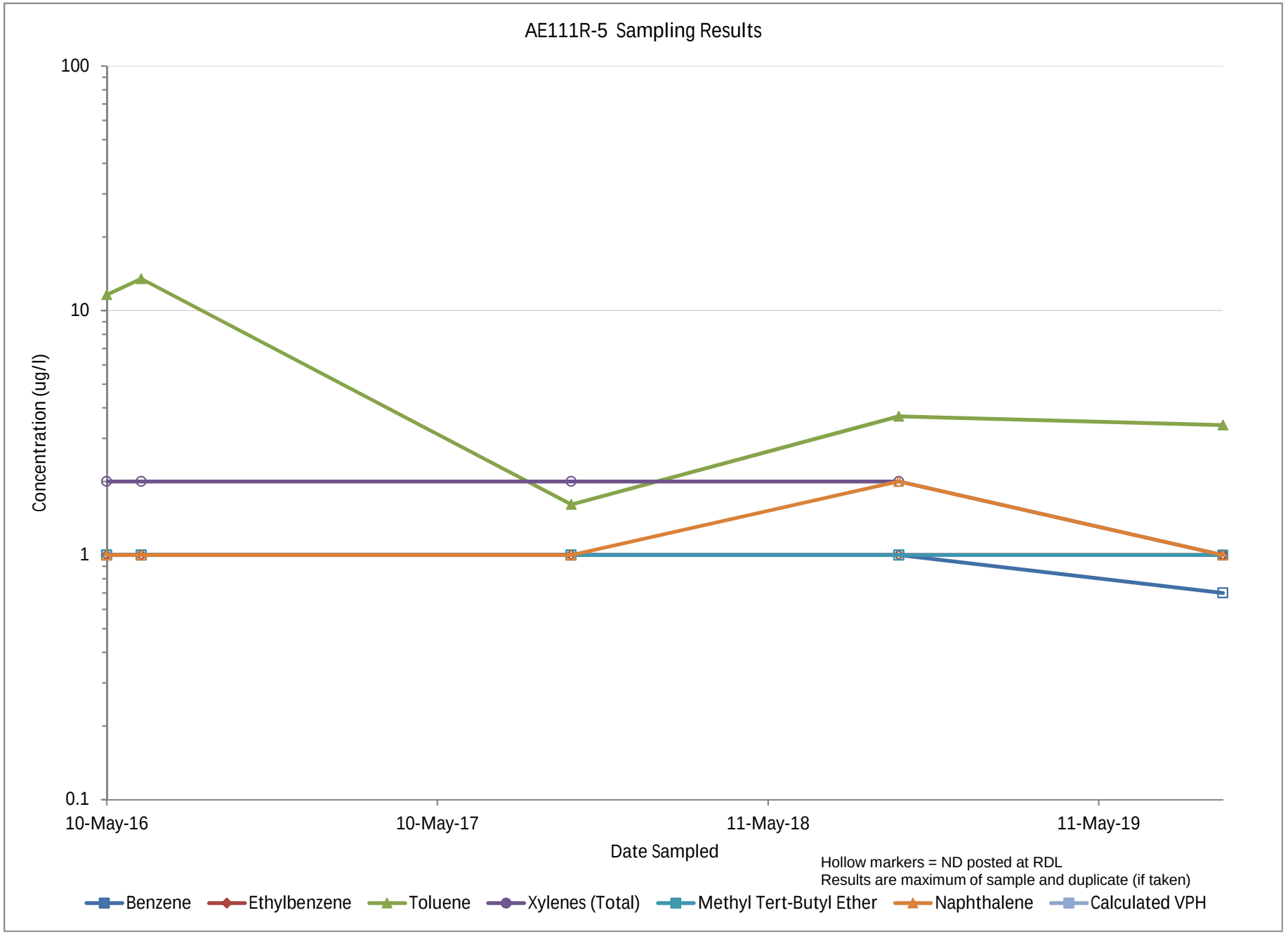

AE110R-2 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

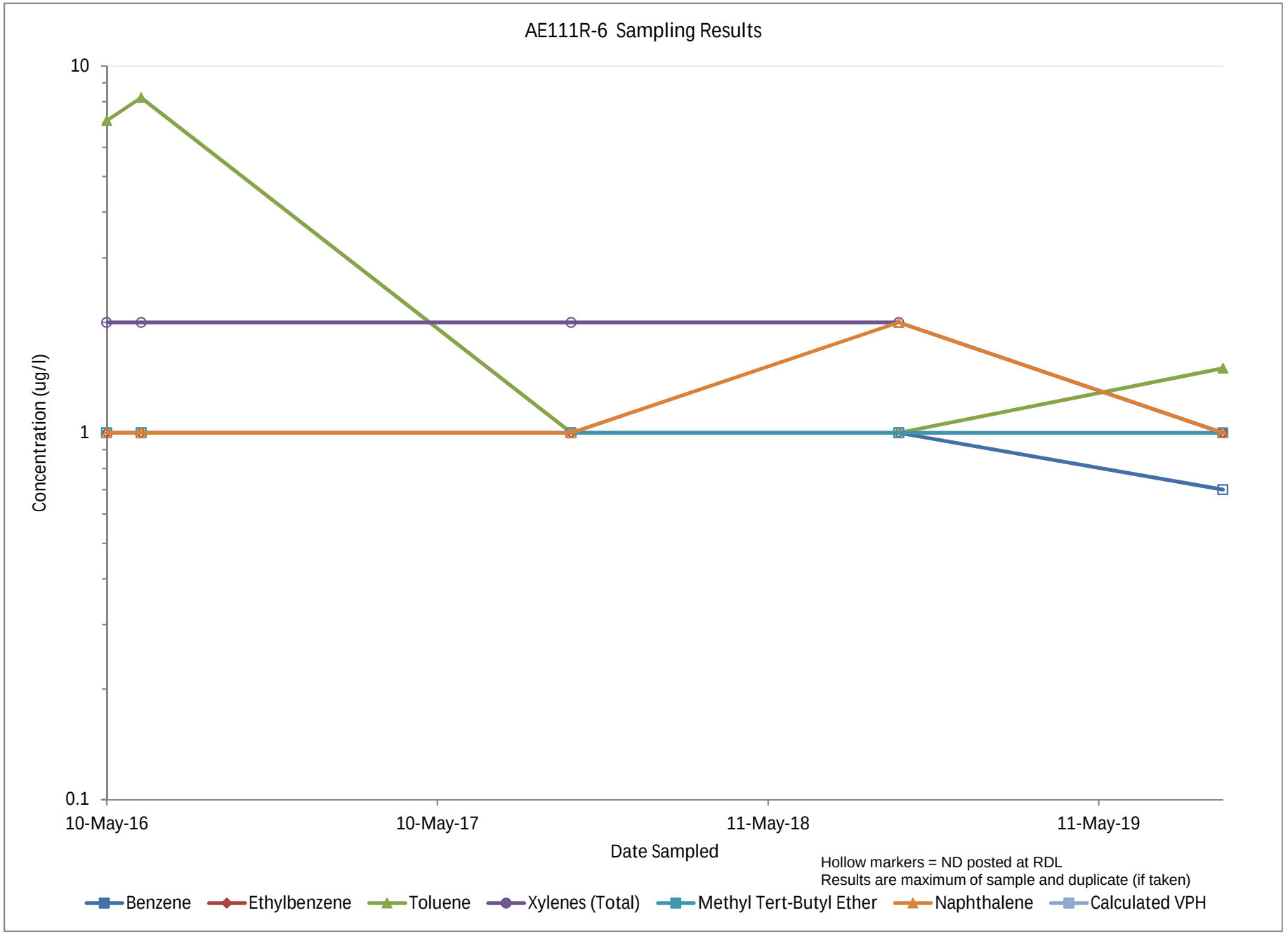

AE110R-4 Sampling Results
100
10
1
0.1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

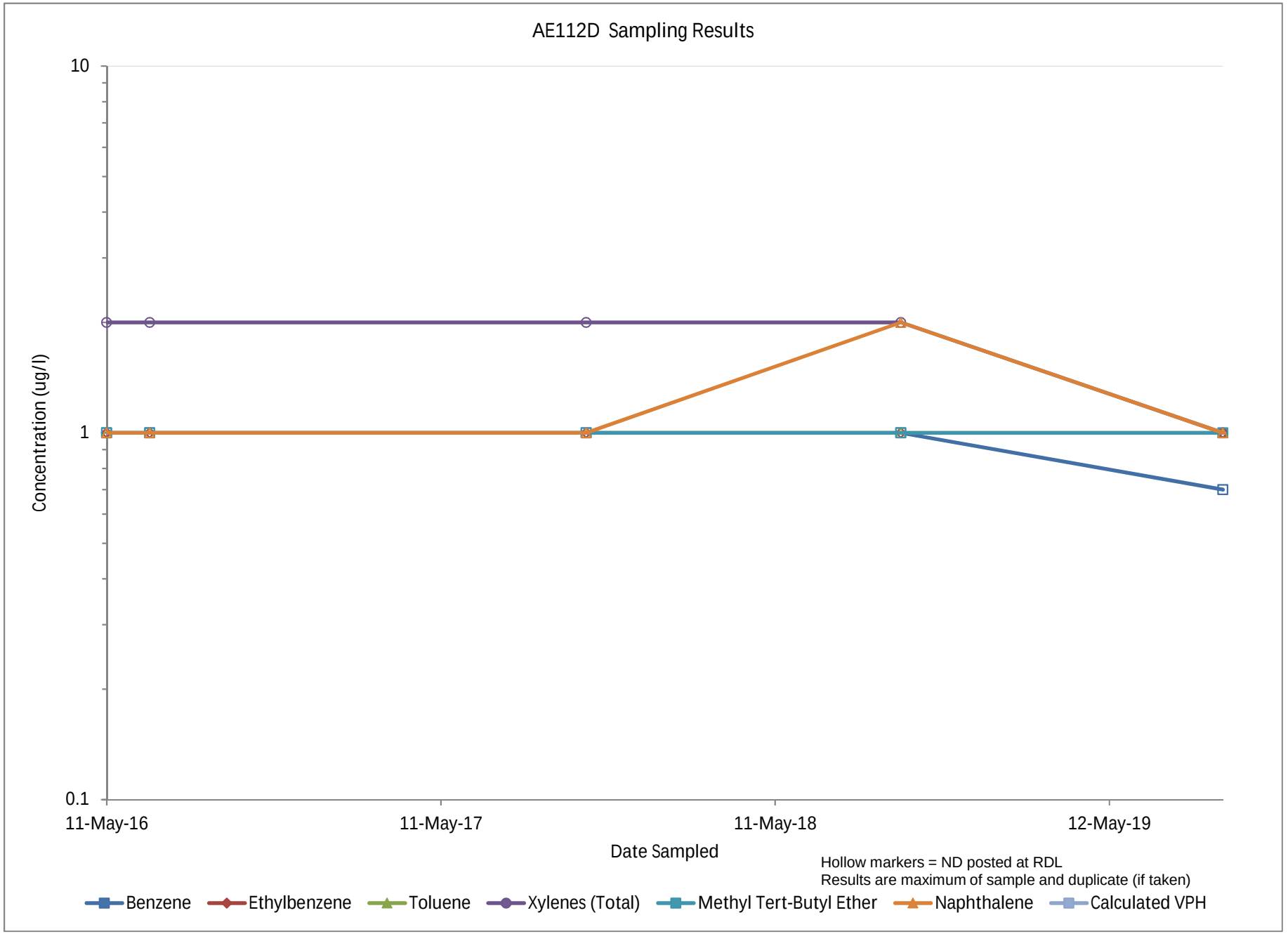

AE110R-6 Sampling Results
100
10
1
0.1
Concentration (ug/l)
17-Jun-16
17-Jun-17
18-Jun-18
18-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

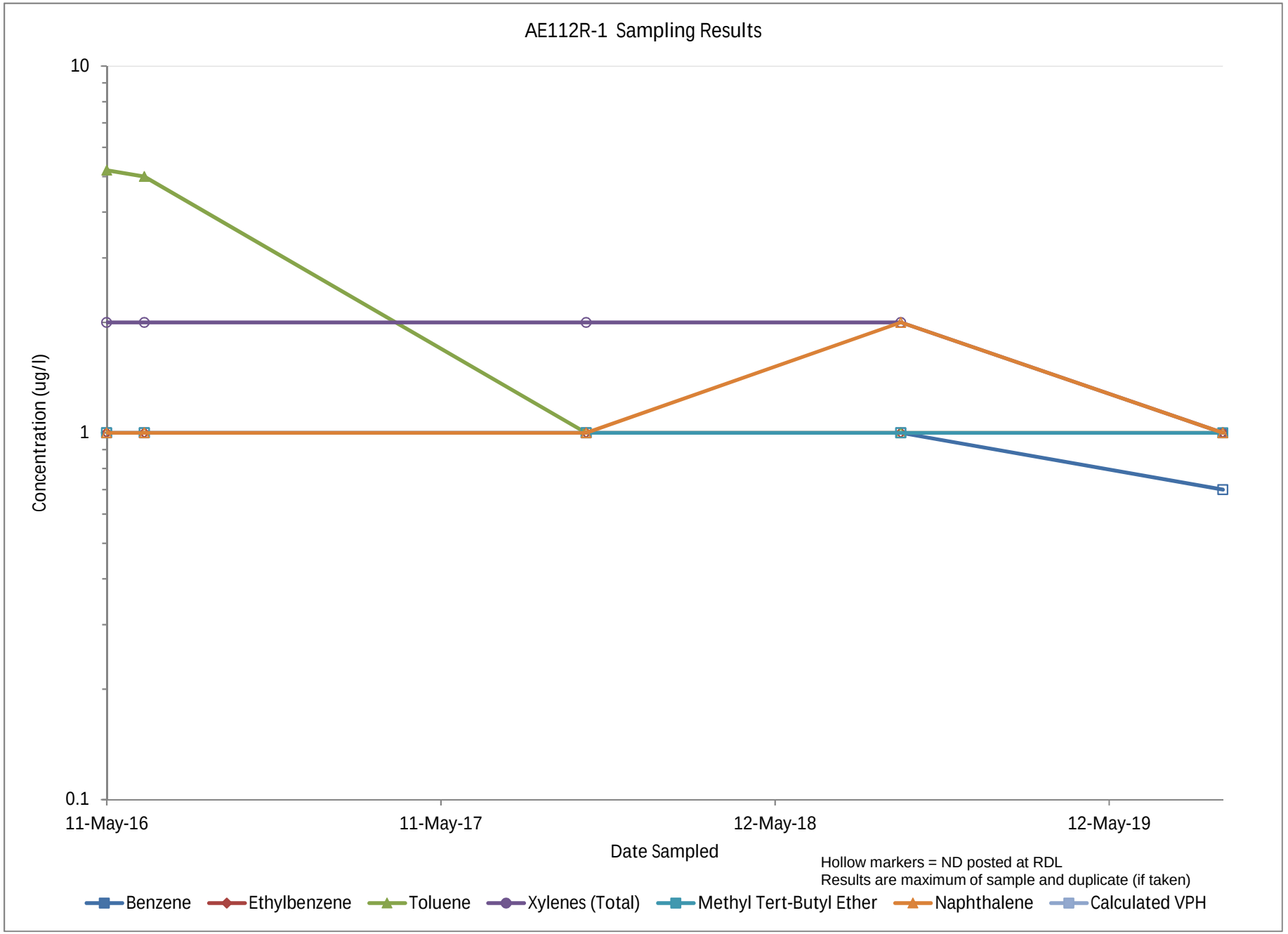

AE111R-1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

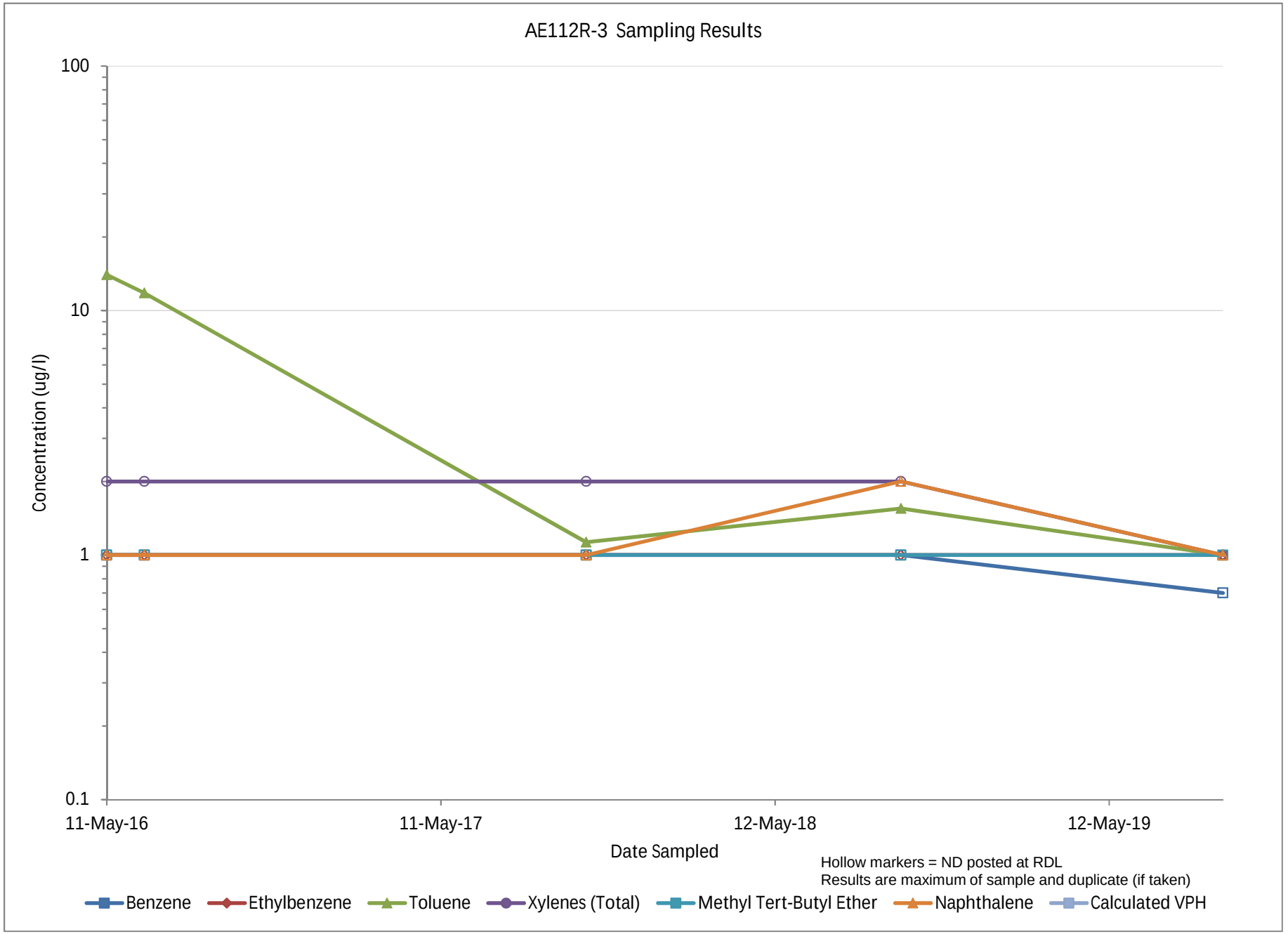

AE111R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

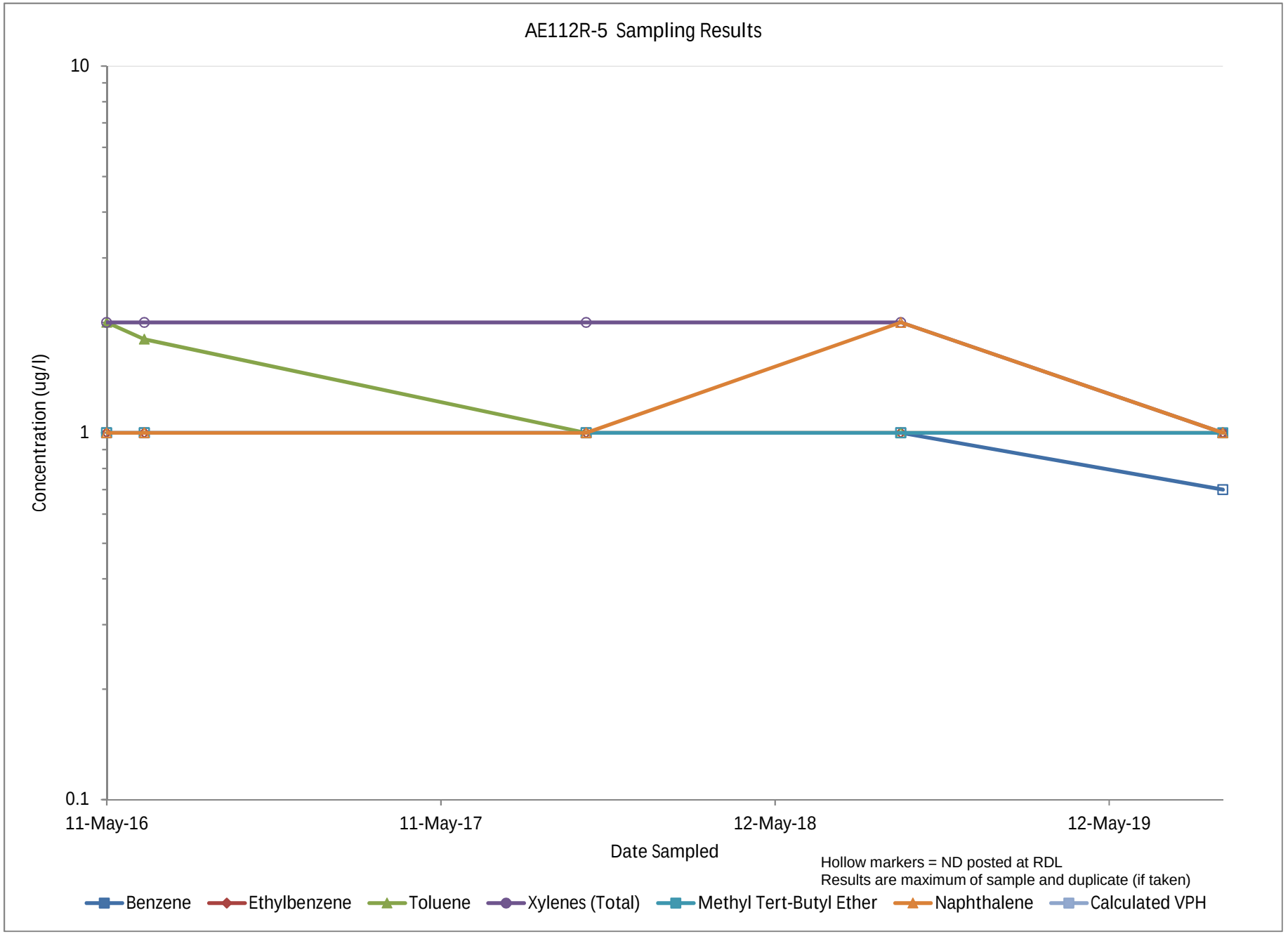

AE111R-5 Sampling Results
100
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

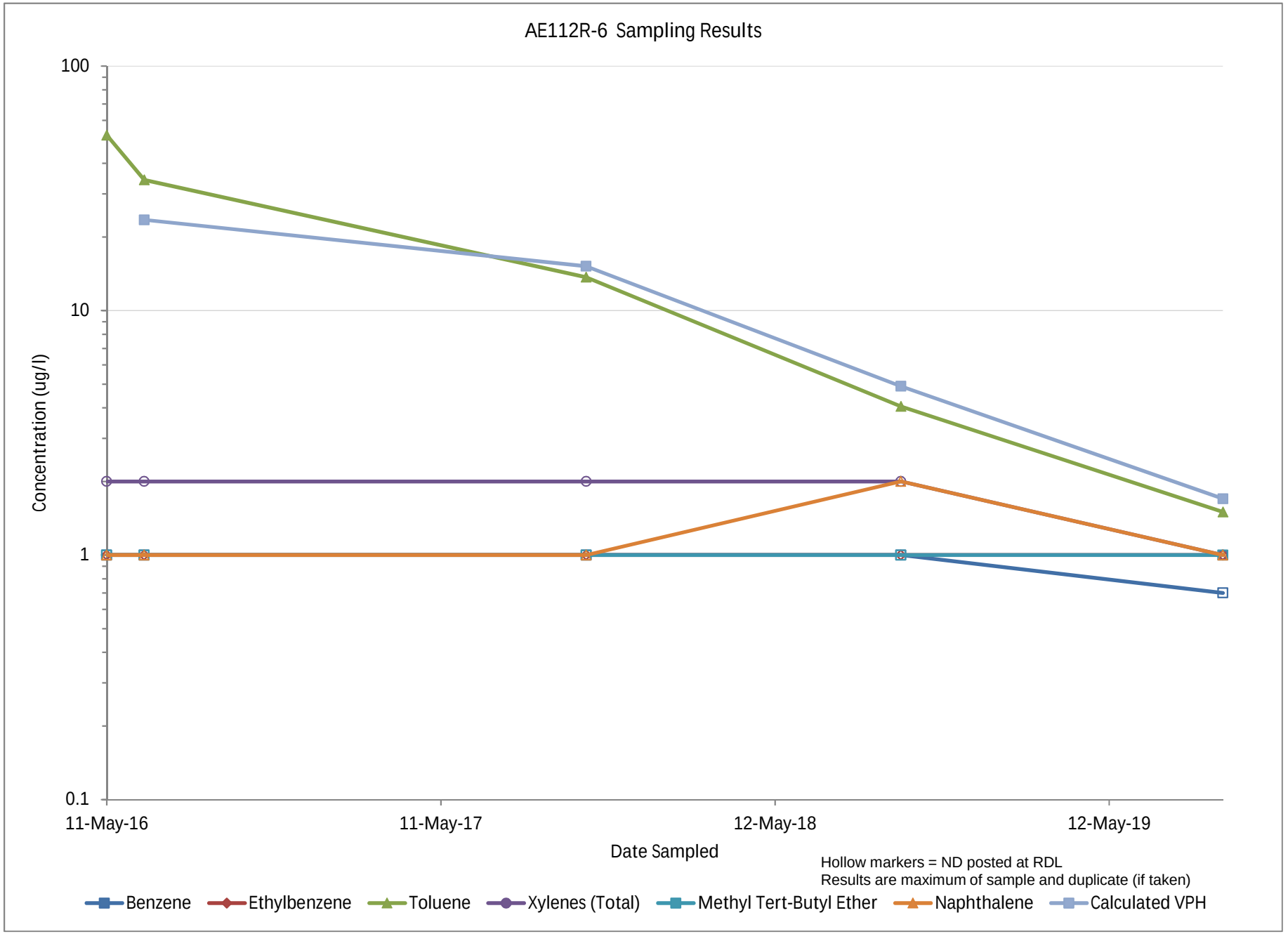

AE111R-6 Sampling Results
10
1
0.1
Concentration (ug/l)
10-May-16
10-May-17
11-May-18
11-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

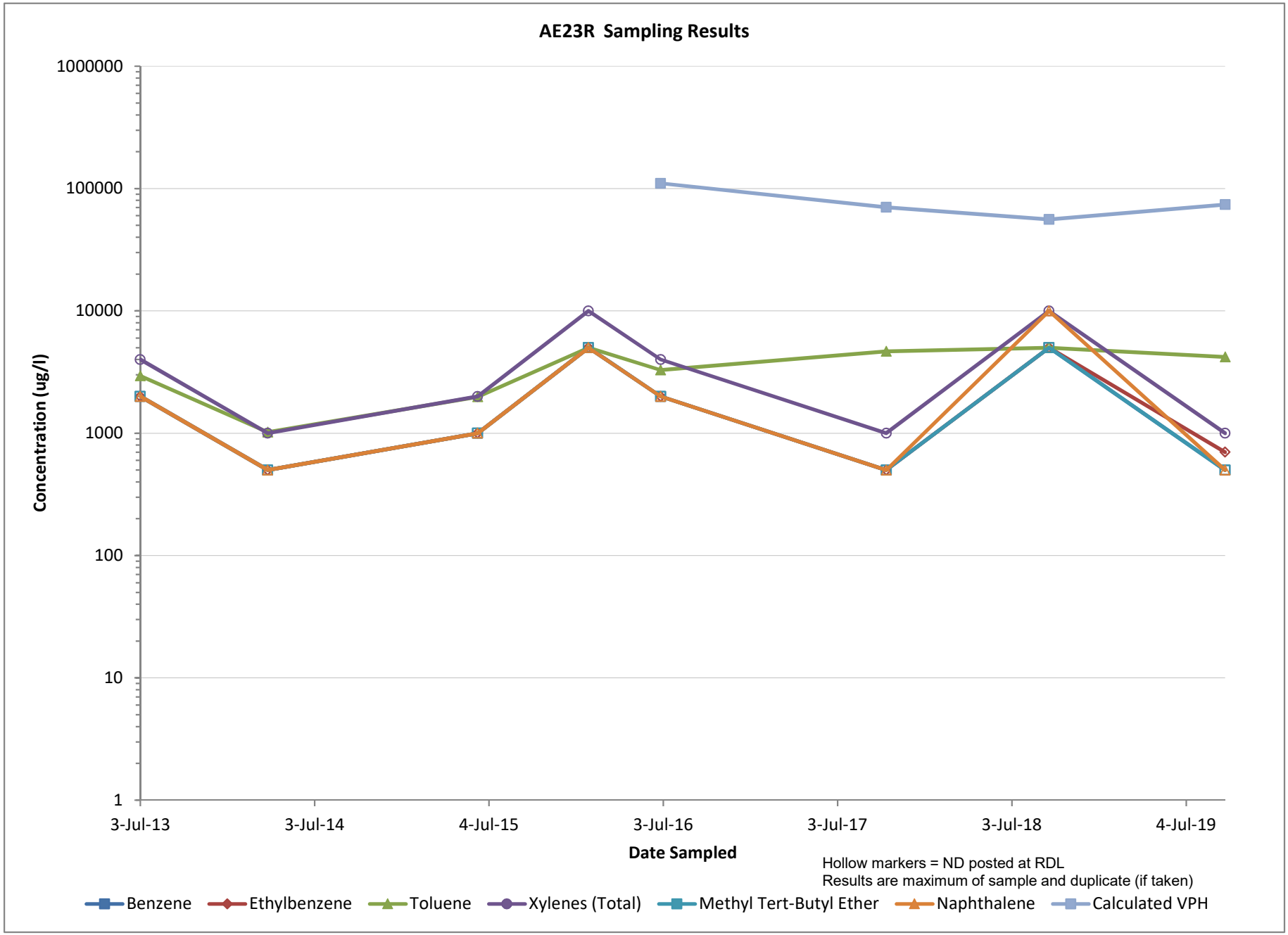

AE112D Sampling Results
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
11-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

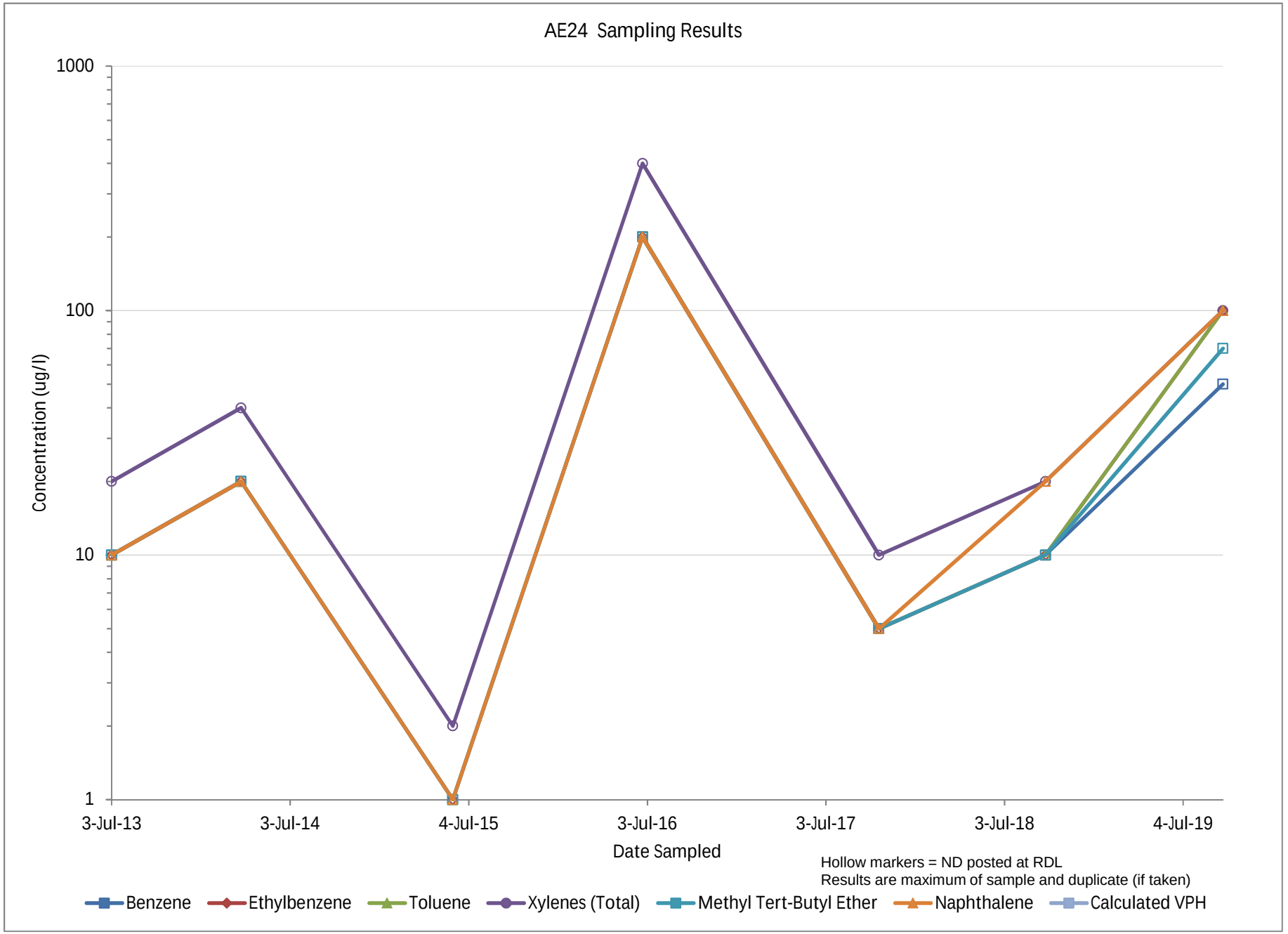

AE112R-1 Sampling Results
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

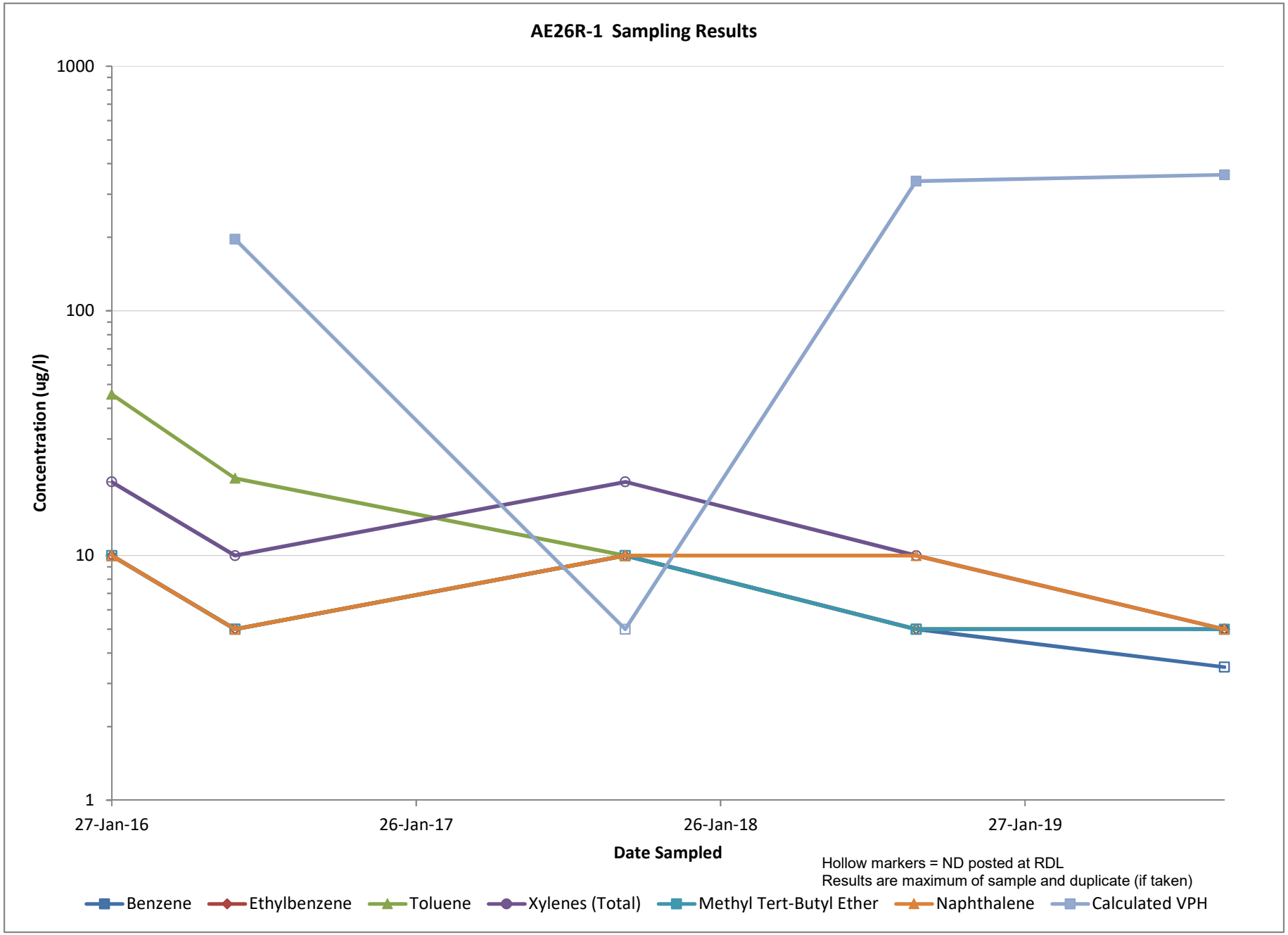

AE112R-3 Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

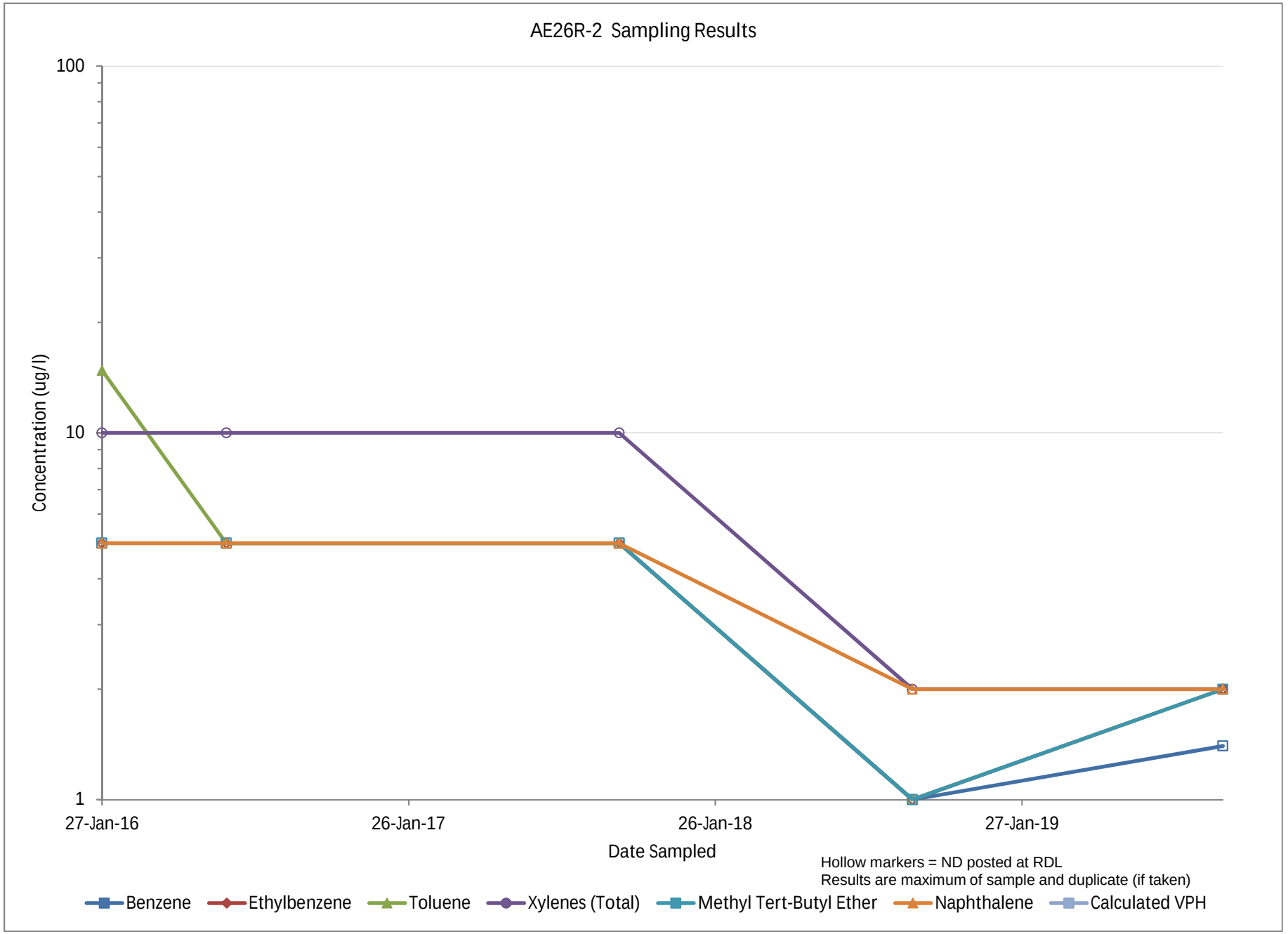

AE112R-5 Sampling Results
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

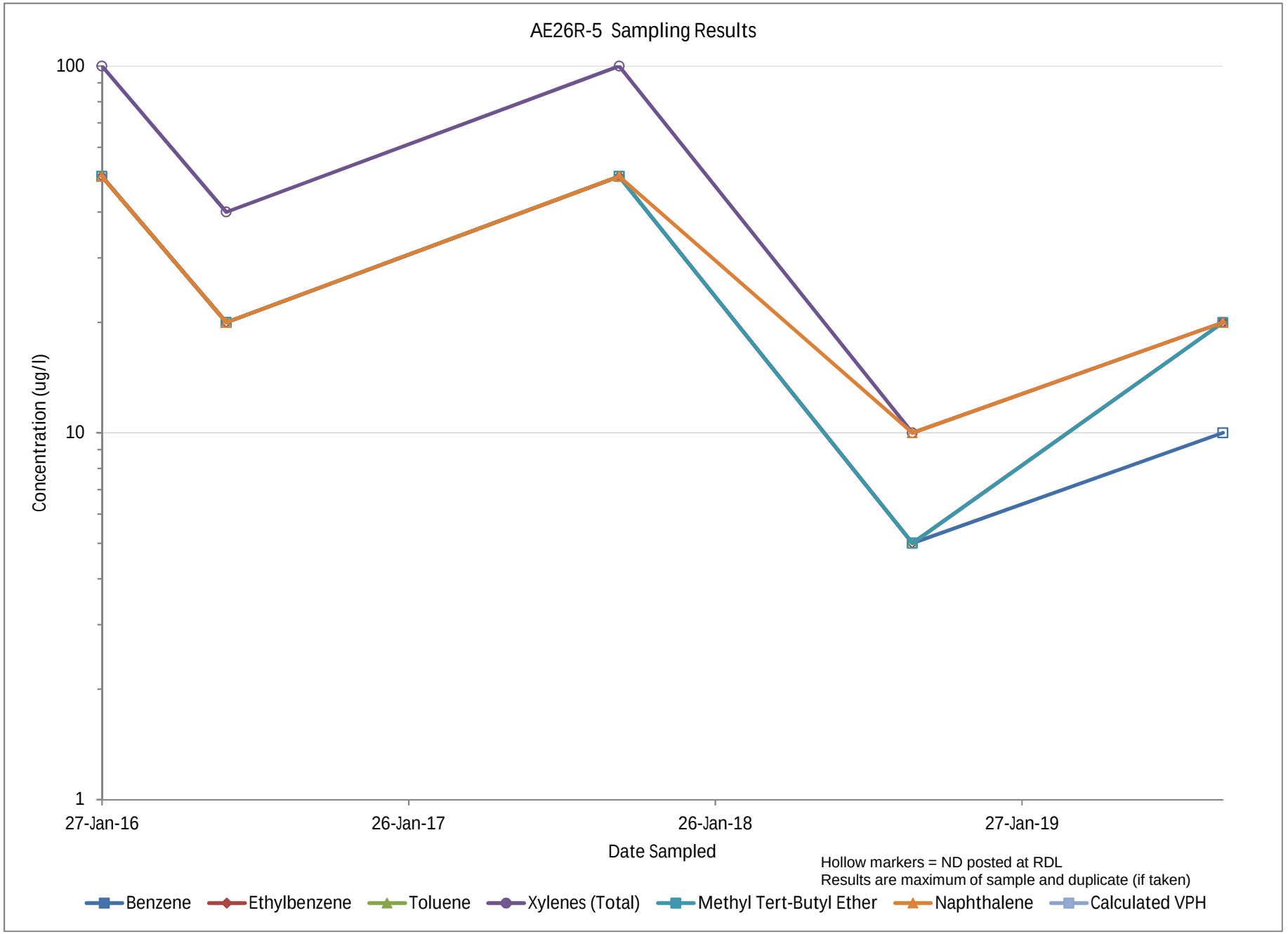

AE112R-6 Sampling Results
100
10
1
0.1
Concentration (ug/l)
11-May-16
11-May-17
12-May-18
12-May-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

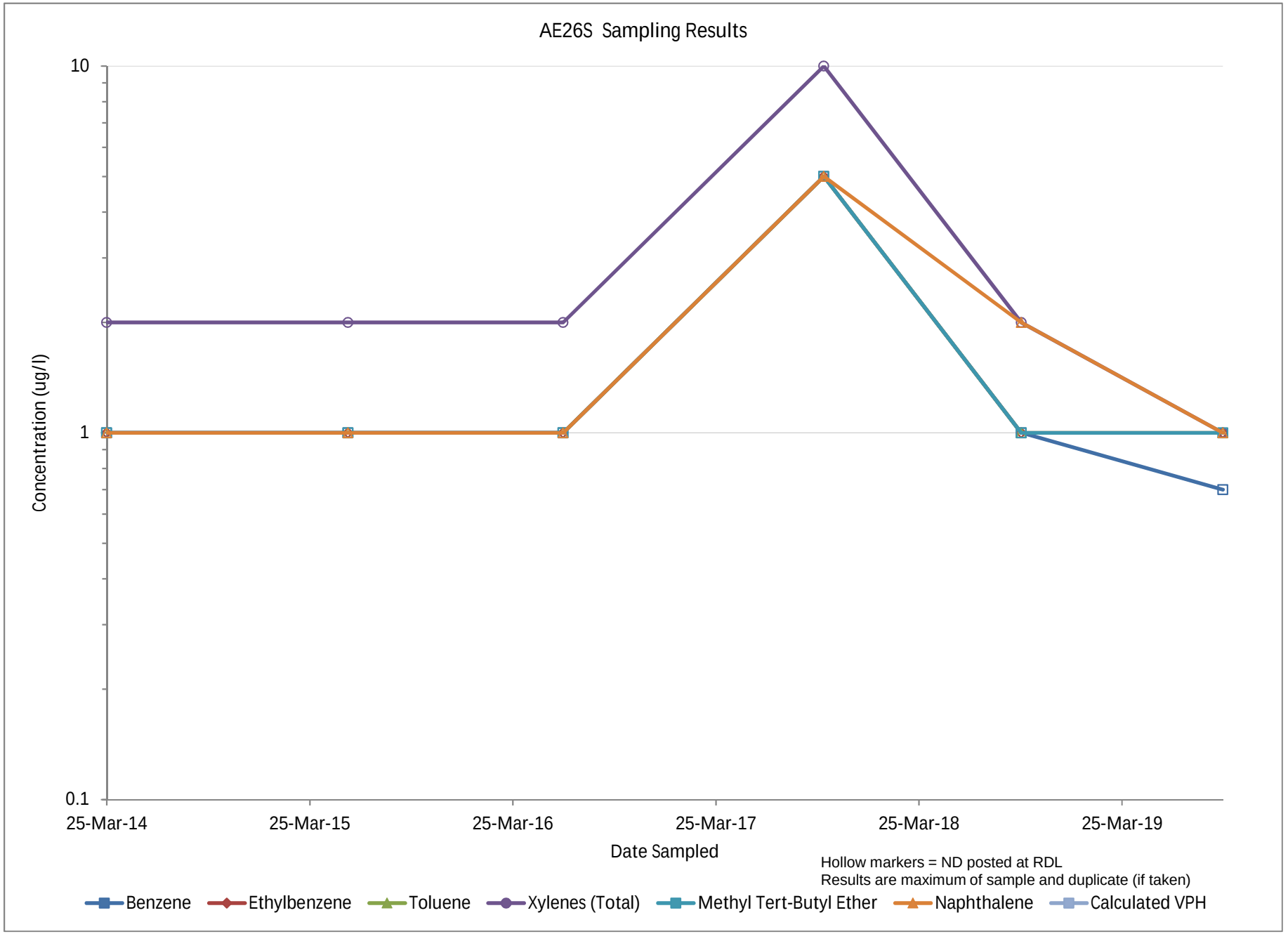

AE23R Sampling Results
1000000
100000
10000
1000
100
10
1
Concentration (ug/l)
3-Jul-13
3-Jul-14
4-Jul-15
3-Jul-16
3-Jul-17
3-Jul-18
4-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

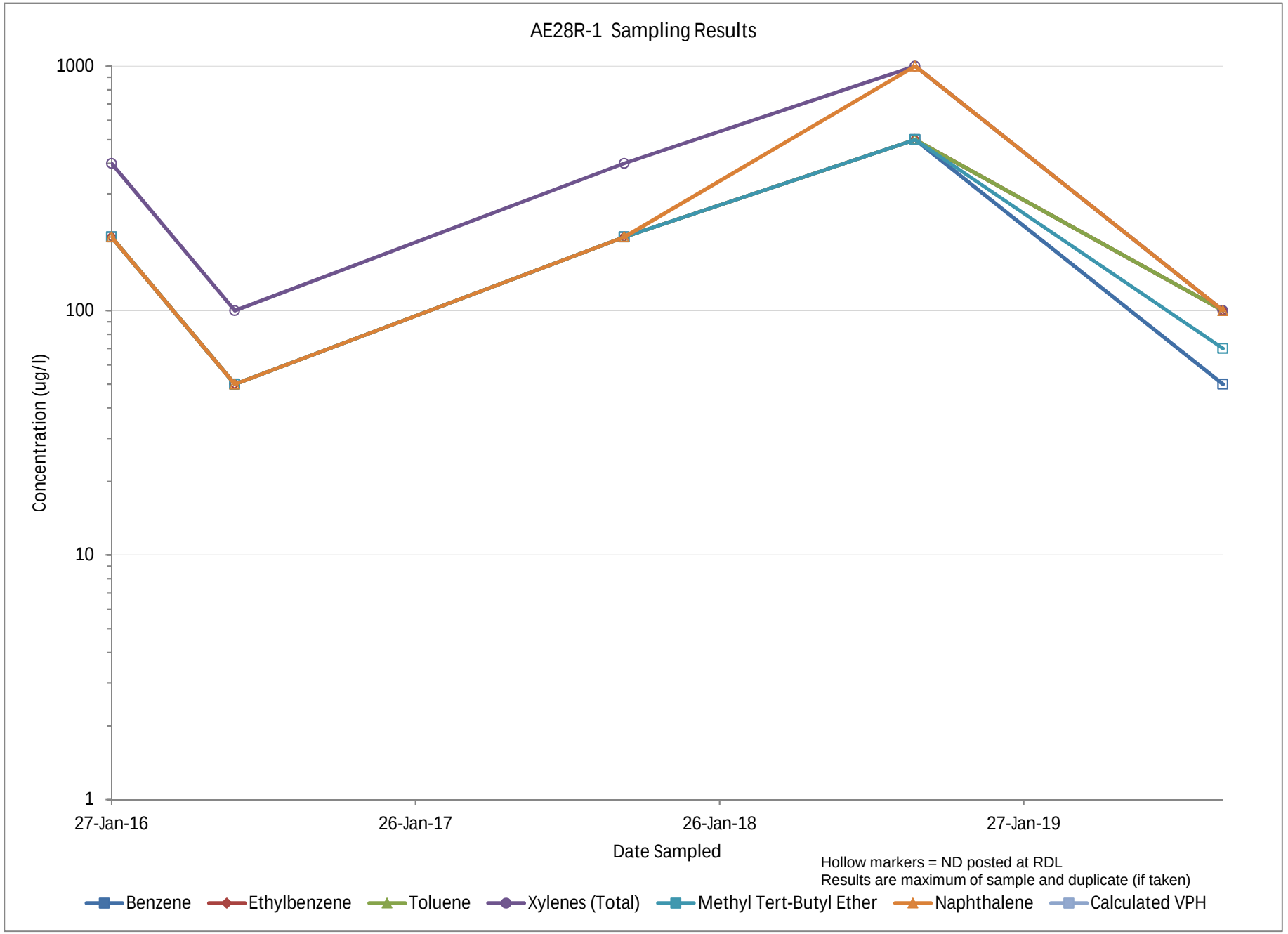

AE24 Sampling Results
1000
100
10
1
Concentration (ug/l)
3-Jul-13
3-Jul-14
4-Jul-15
3-Jul-16
3-Jul-17
3-Jul-18
4-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

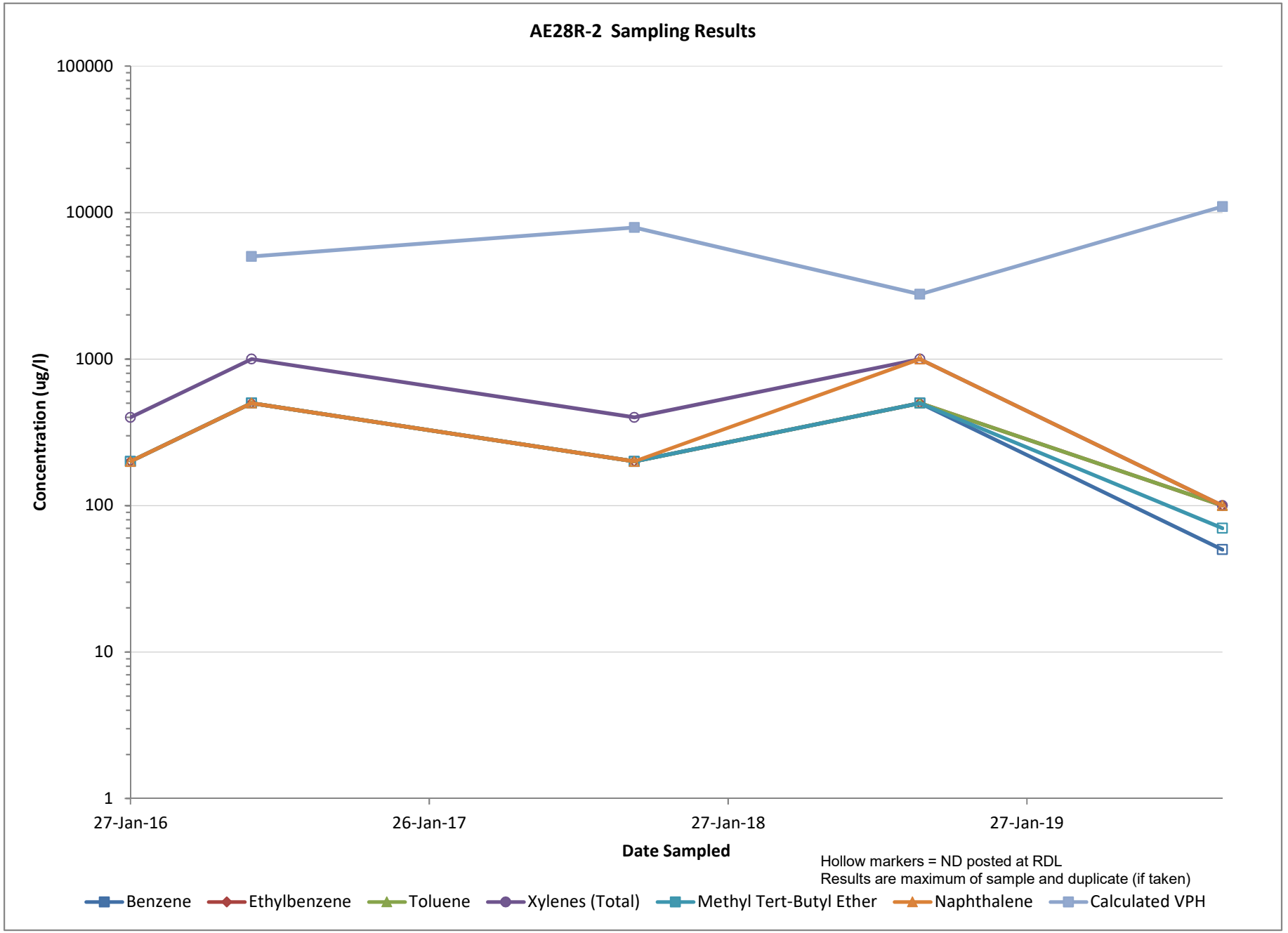

AE26R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

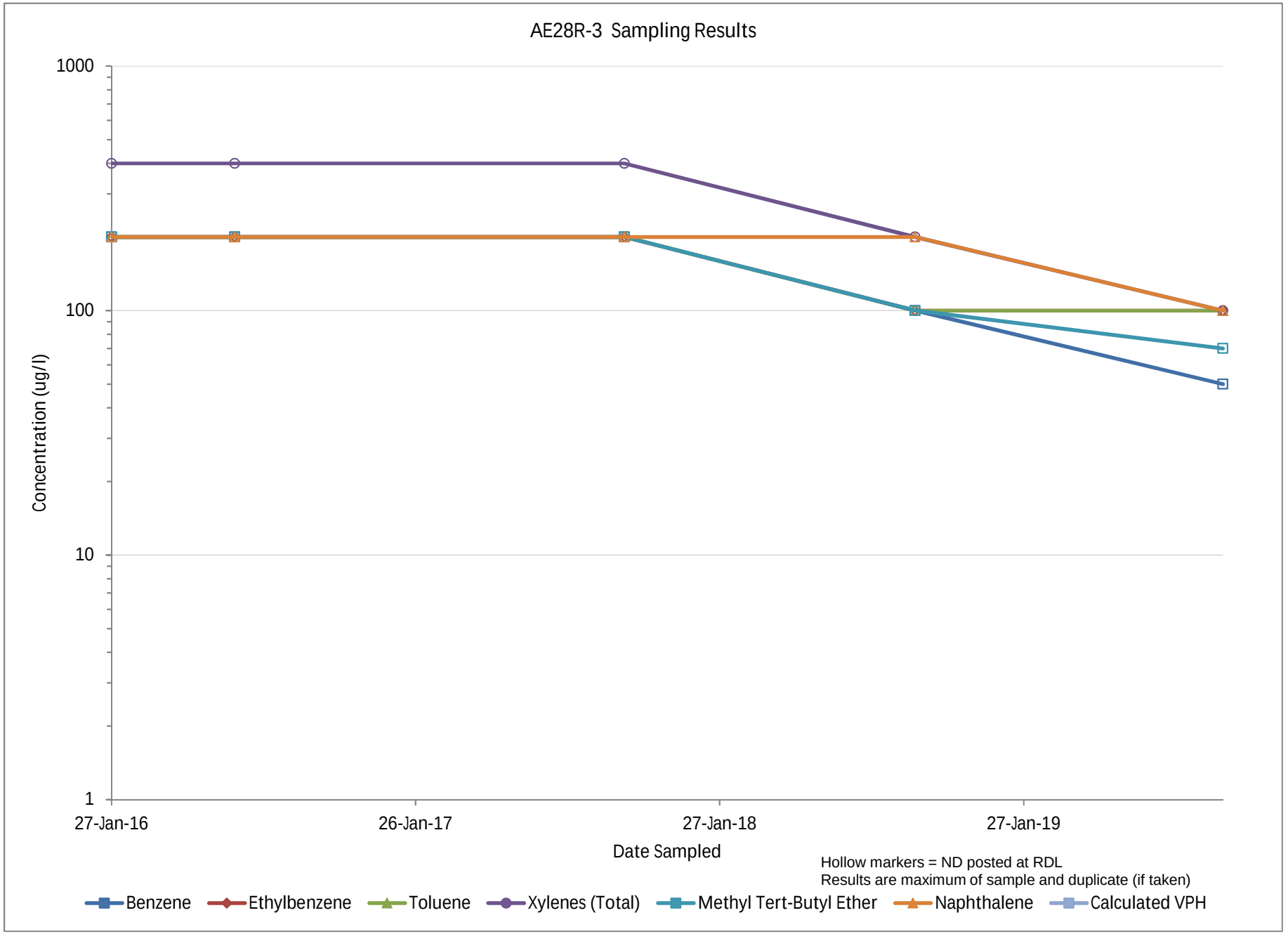

AE26R-2 Sampling Results
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

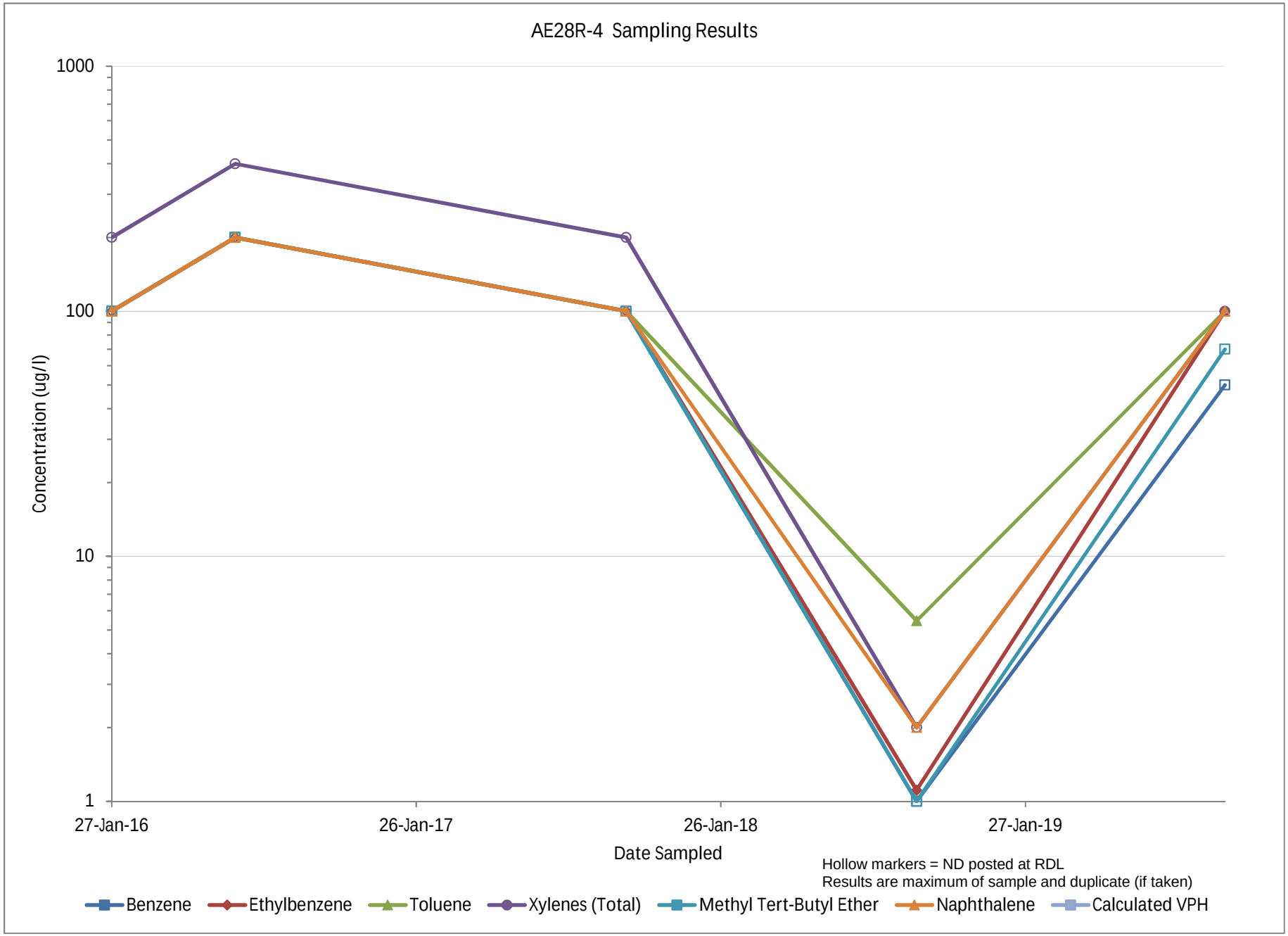

AE26R-5 Sampling Results
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

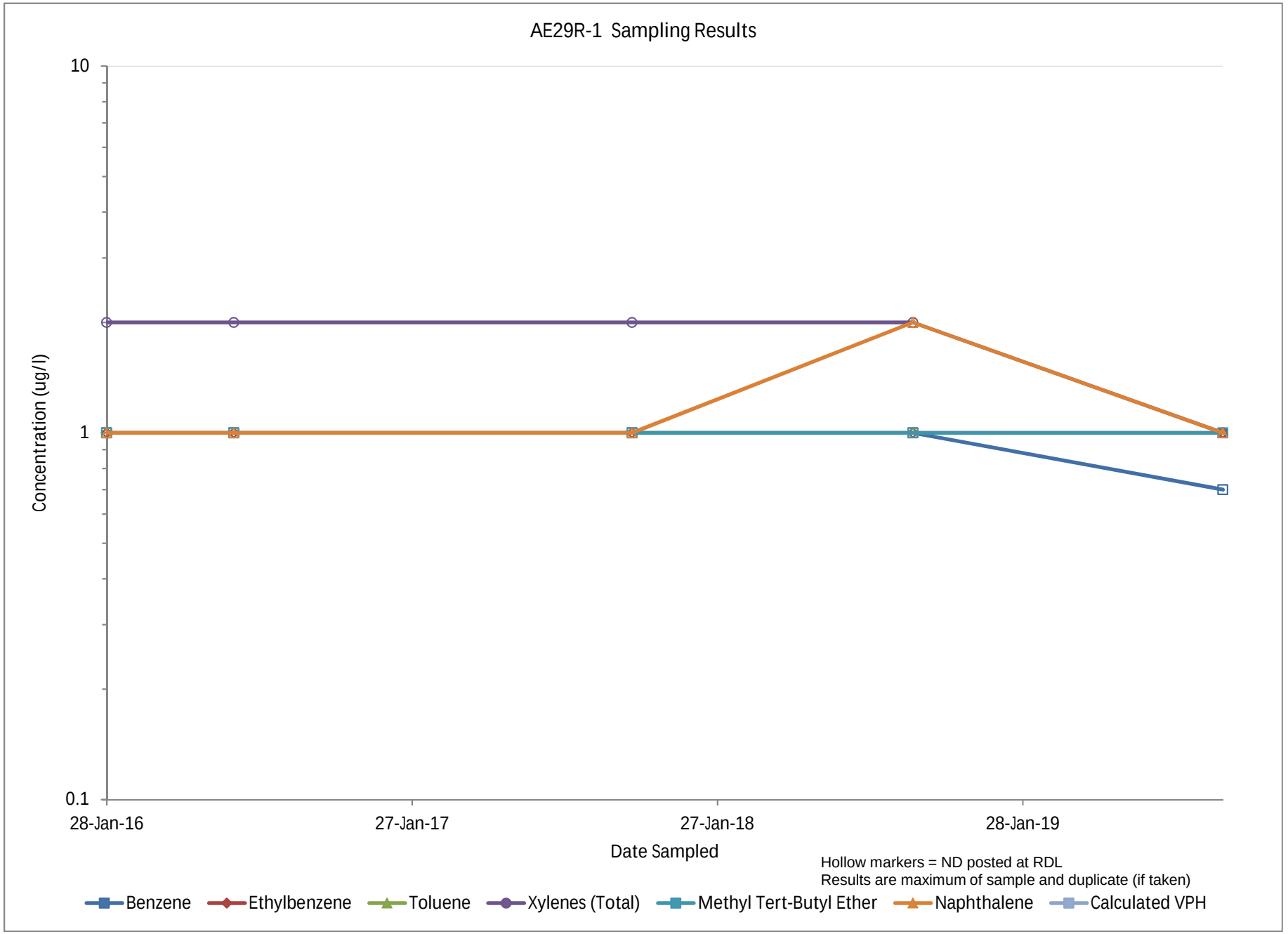

AE26S Sampling Results
10
1
0.1
Concentration (ug/l)
25-Mar-14
25-Mar-15
25-Mar-16
25-Mar-17
25-Mar-18
25-Mar-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

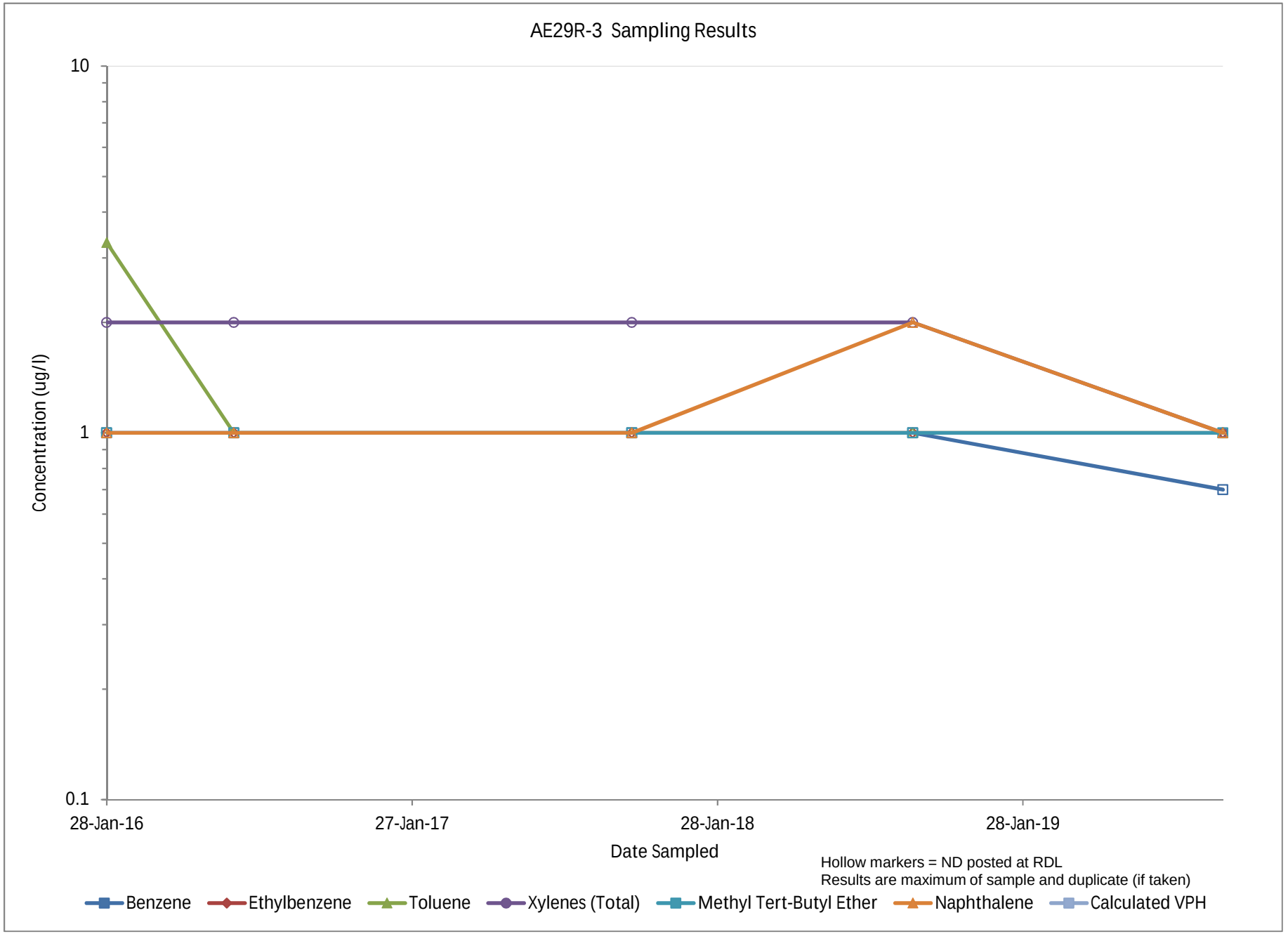

AE28R-1 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

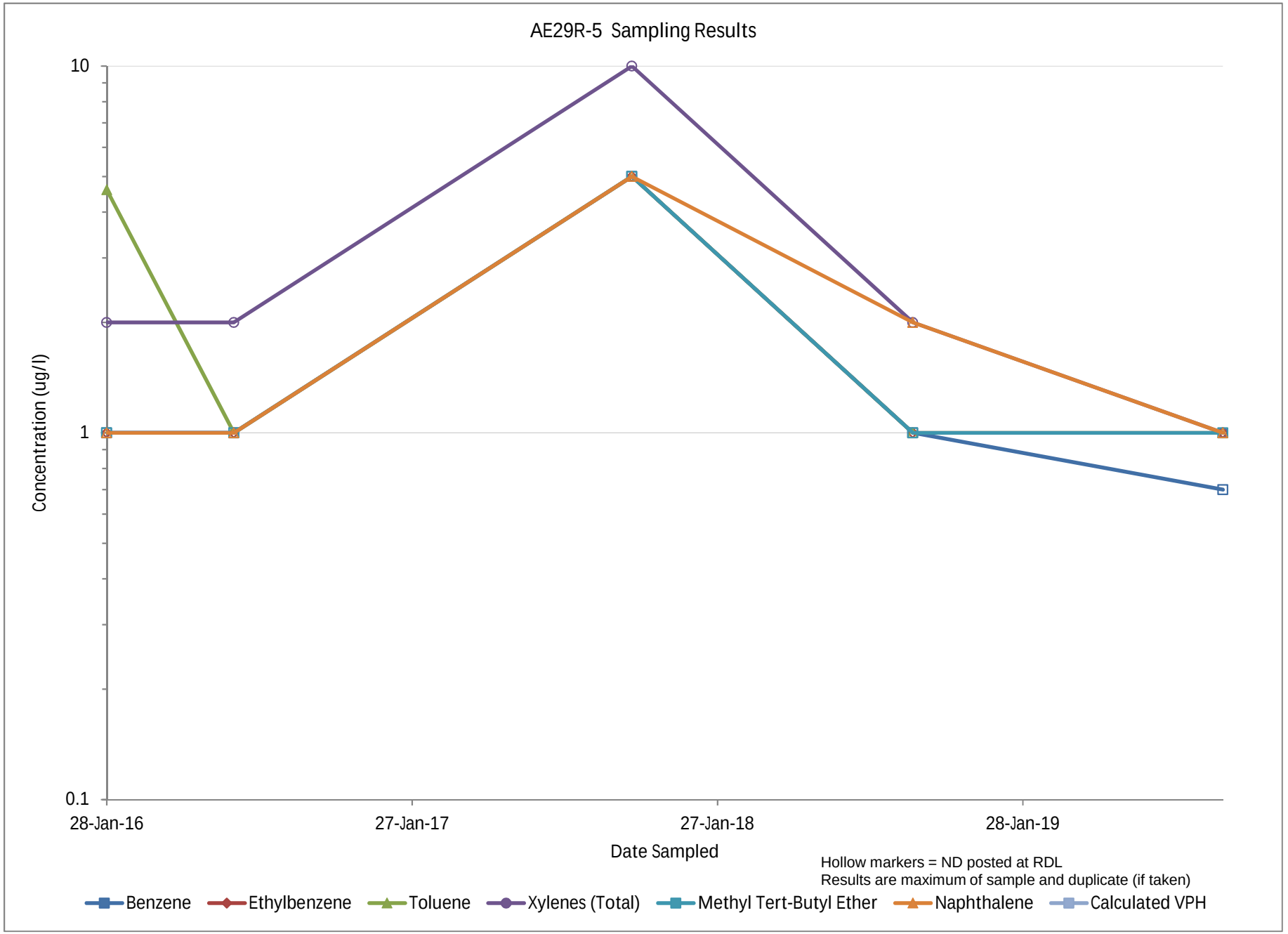

AE28R-2 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
27-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

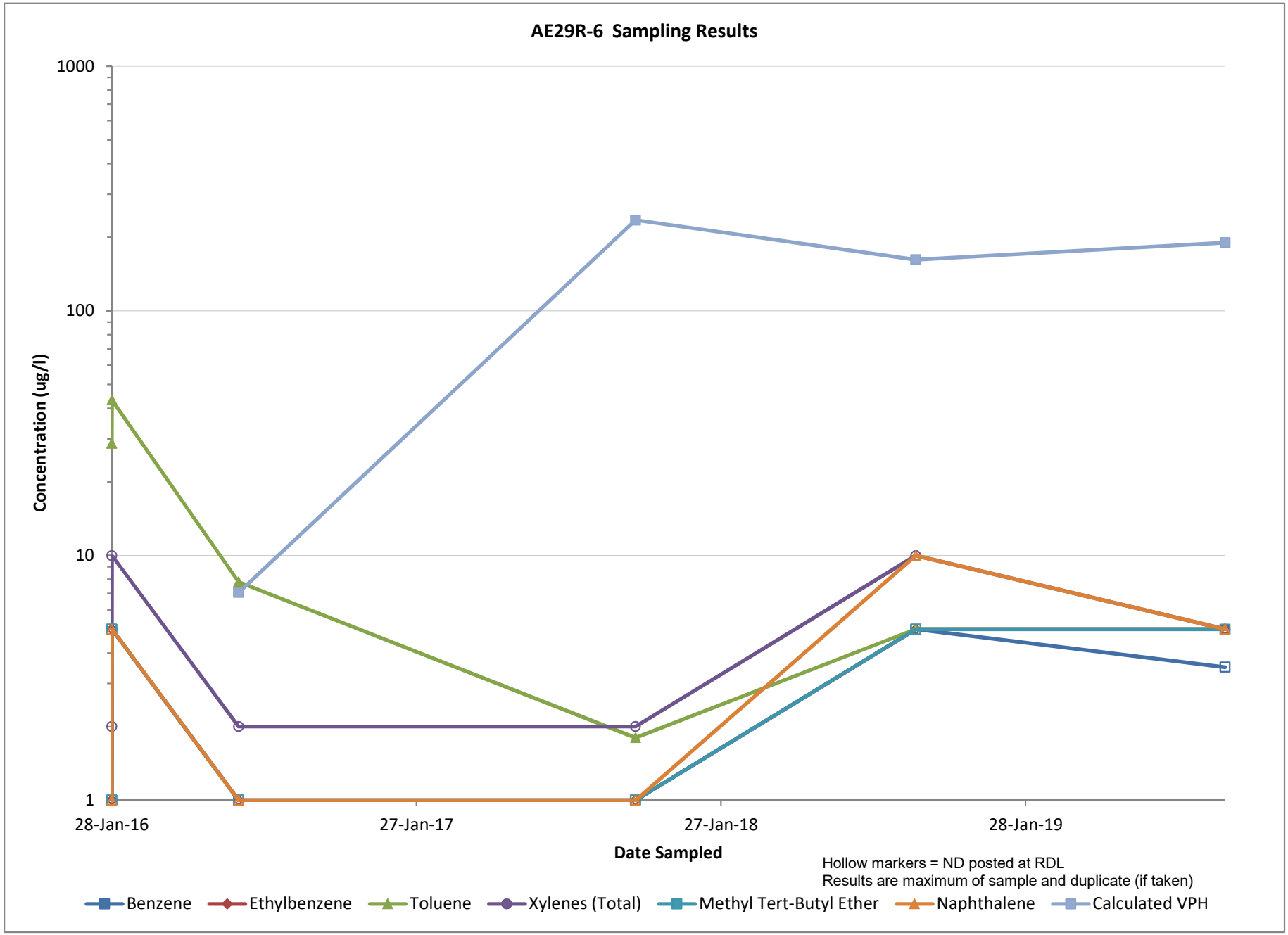

AE28R-3 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
27-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

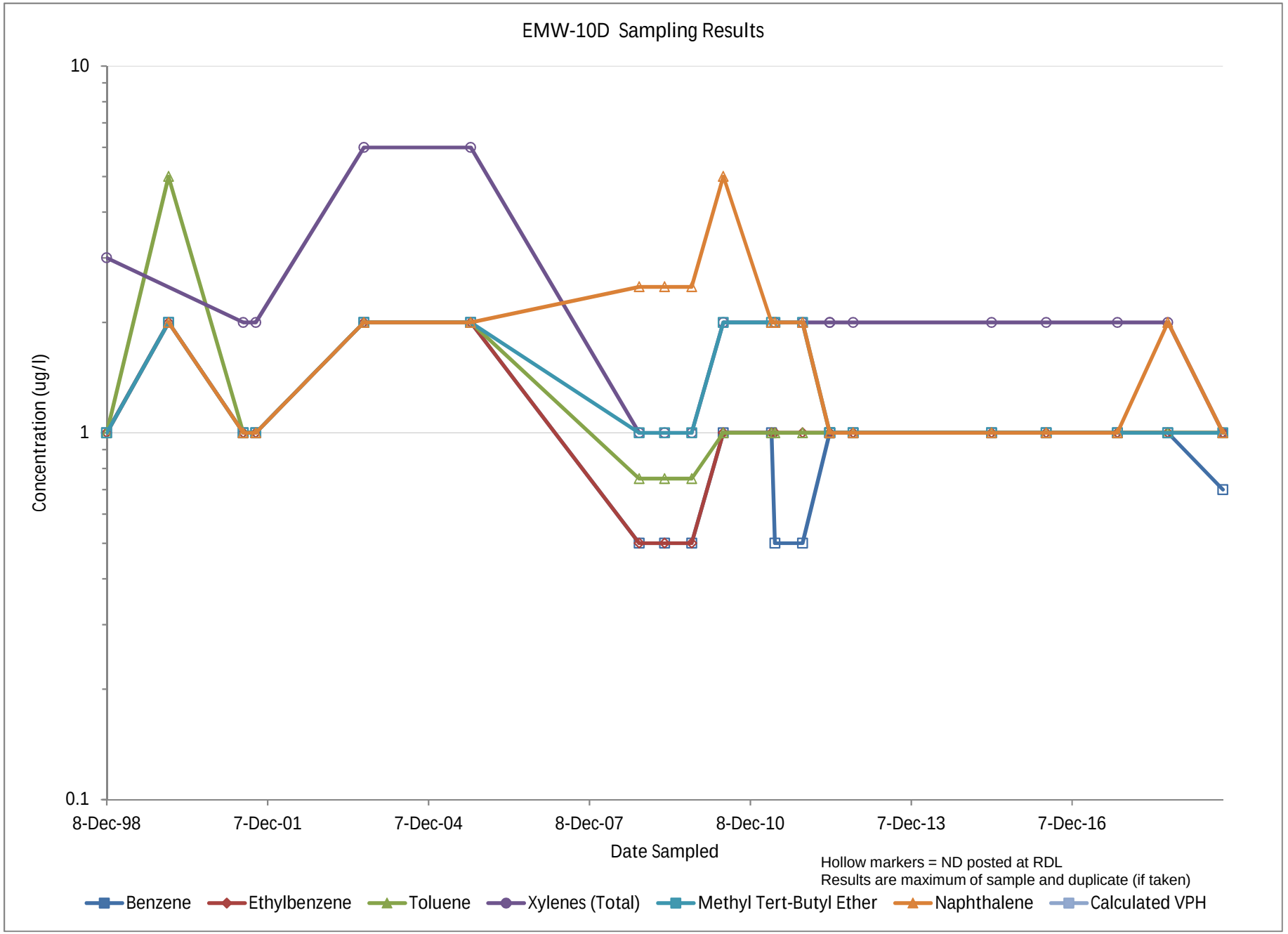

AE28R-4 Sampling Results
1000
100
10
1
Concentration (ug/l)
27-Jan-16
26-Jan-17
26-Jan-18
27-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

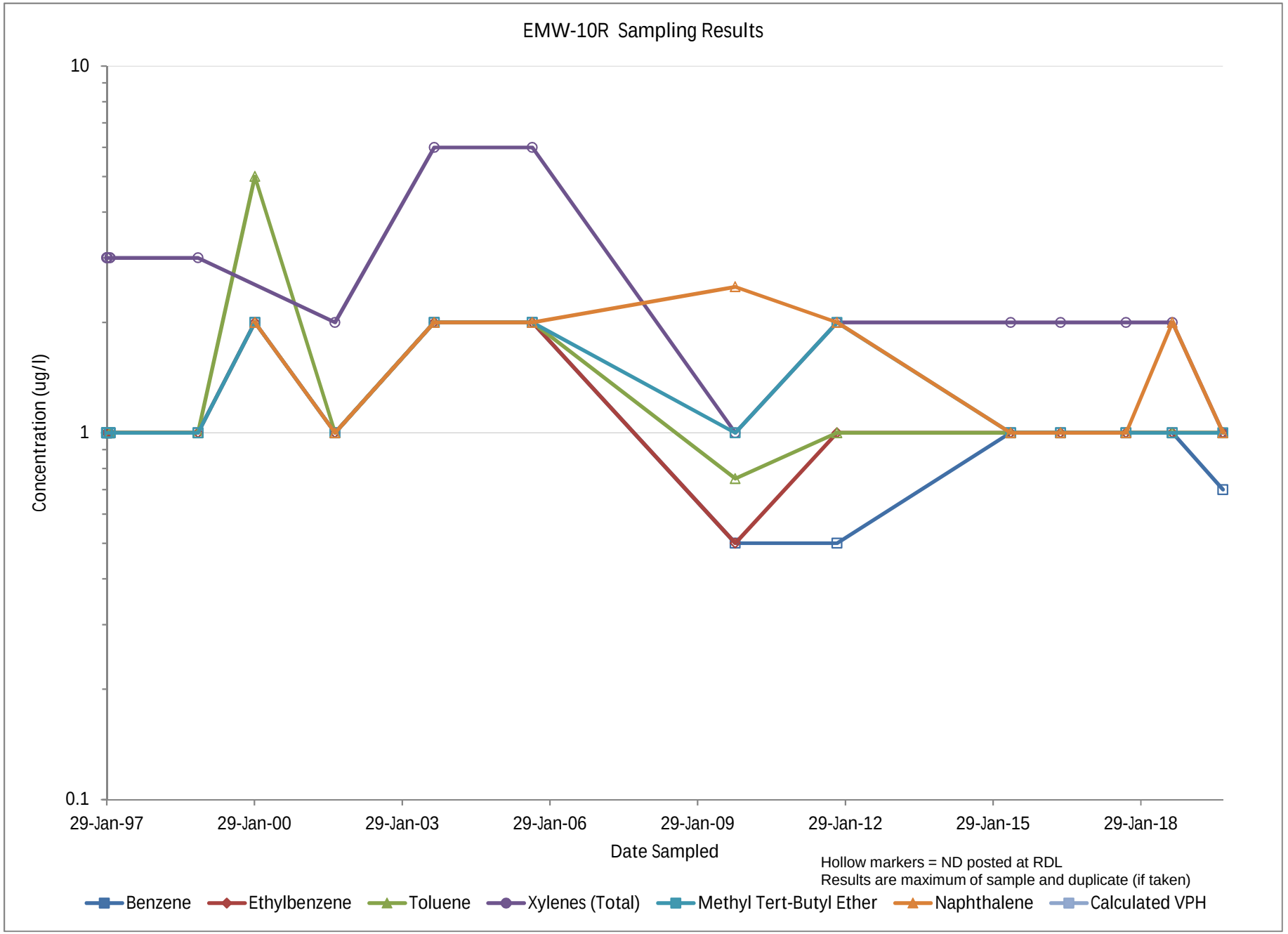

AE29R-1 Sampling Results
10
1
0.1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

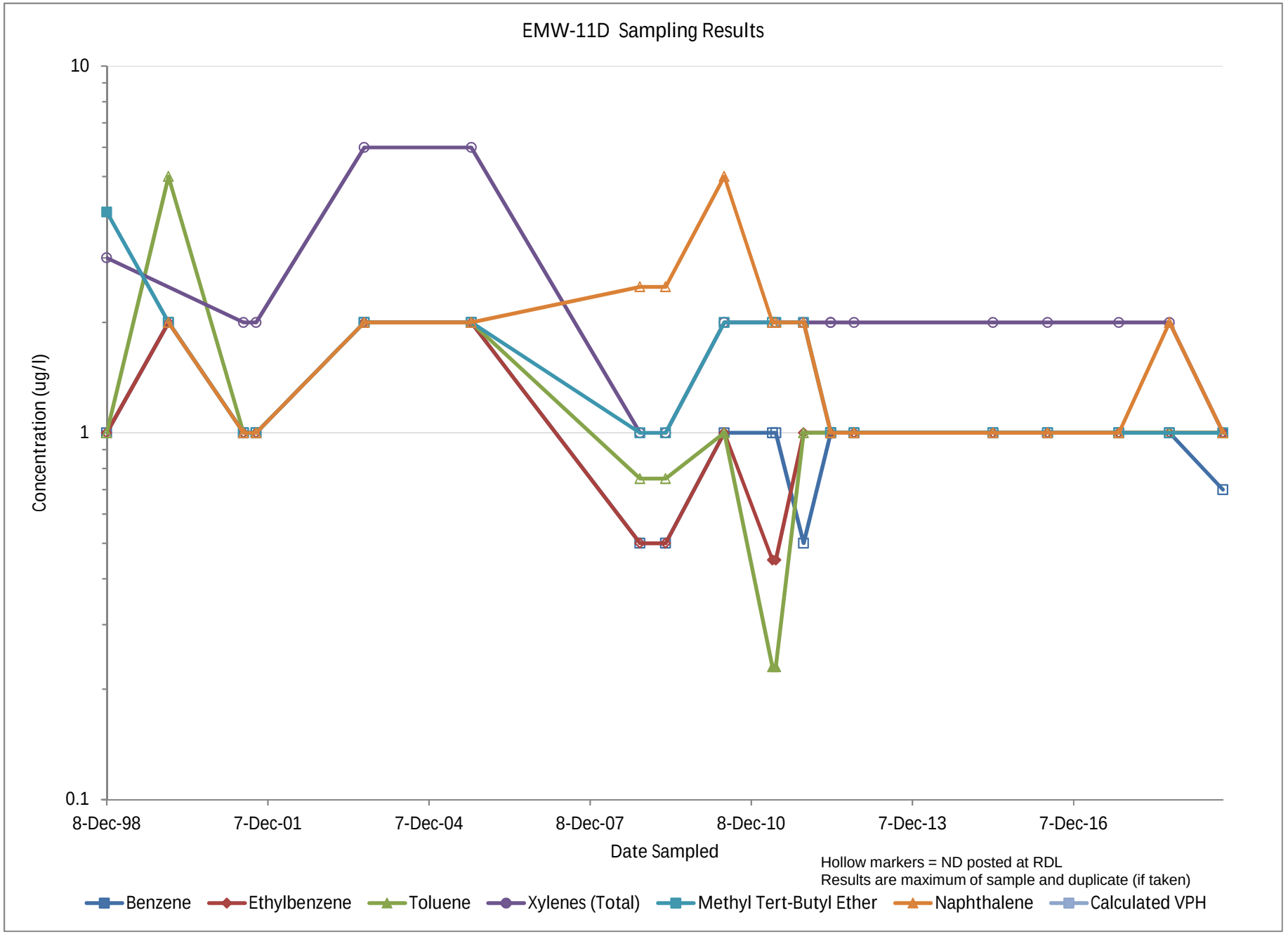

AE29R-3 Sampling Results
10
1
0.1
Concentration (ug/l)
28-Jan-16
27-Jan-17
28-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

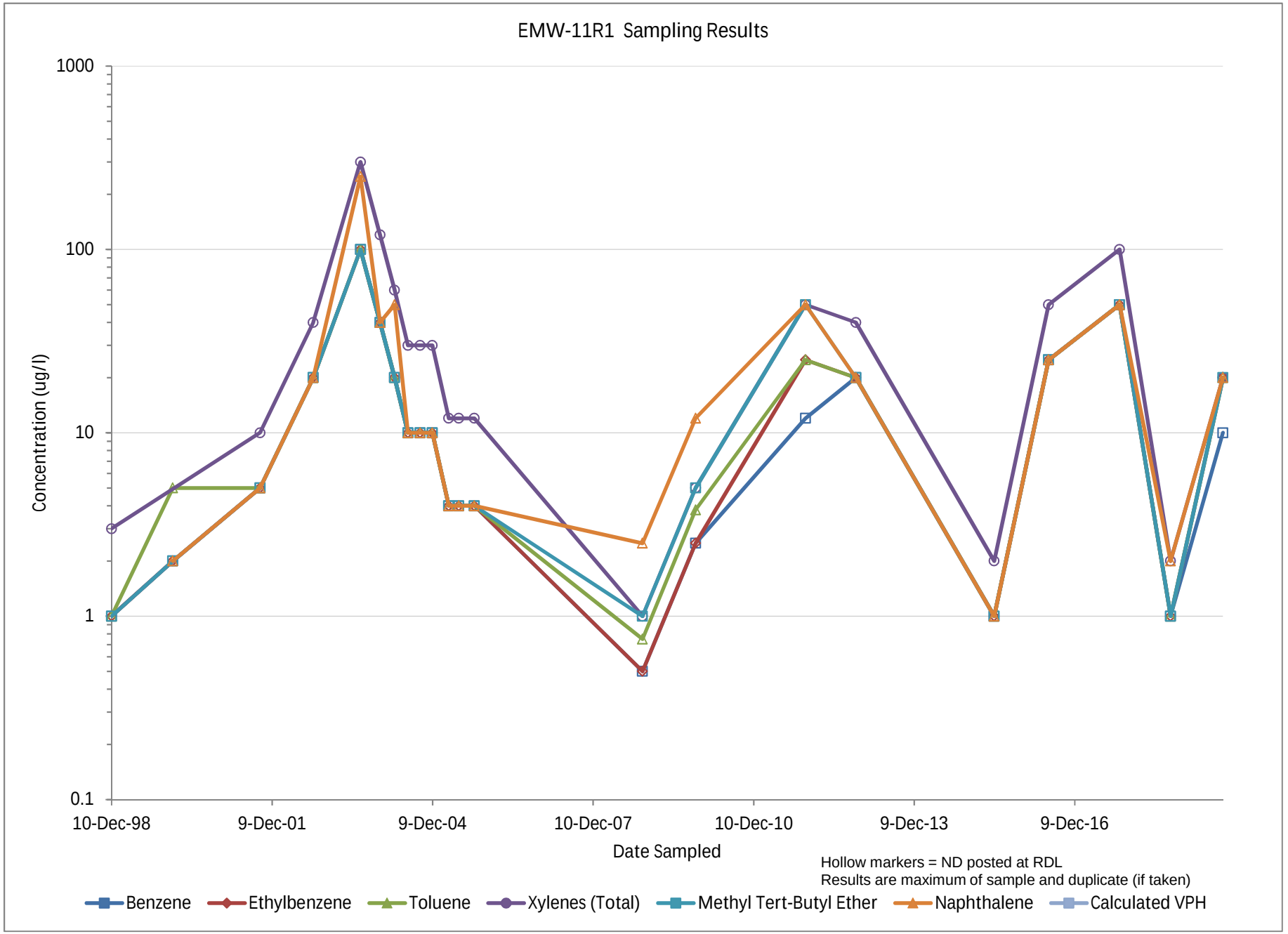

AE29R-5 Sampling Results
10
1
0.1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

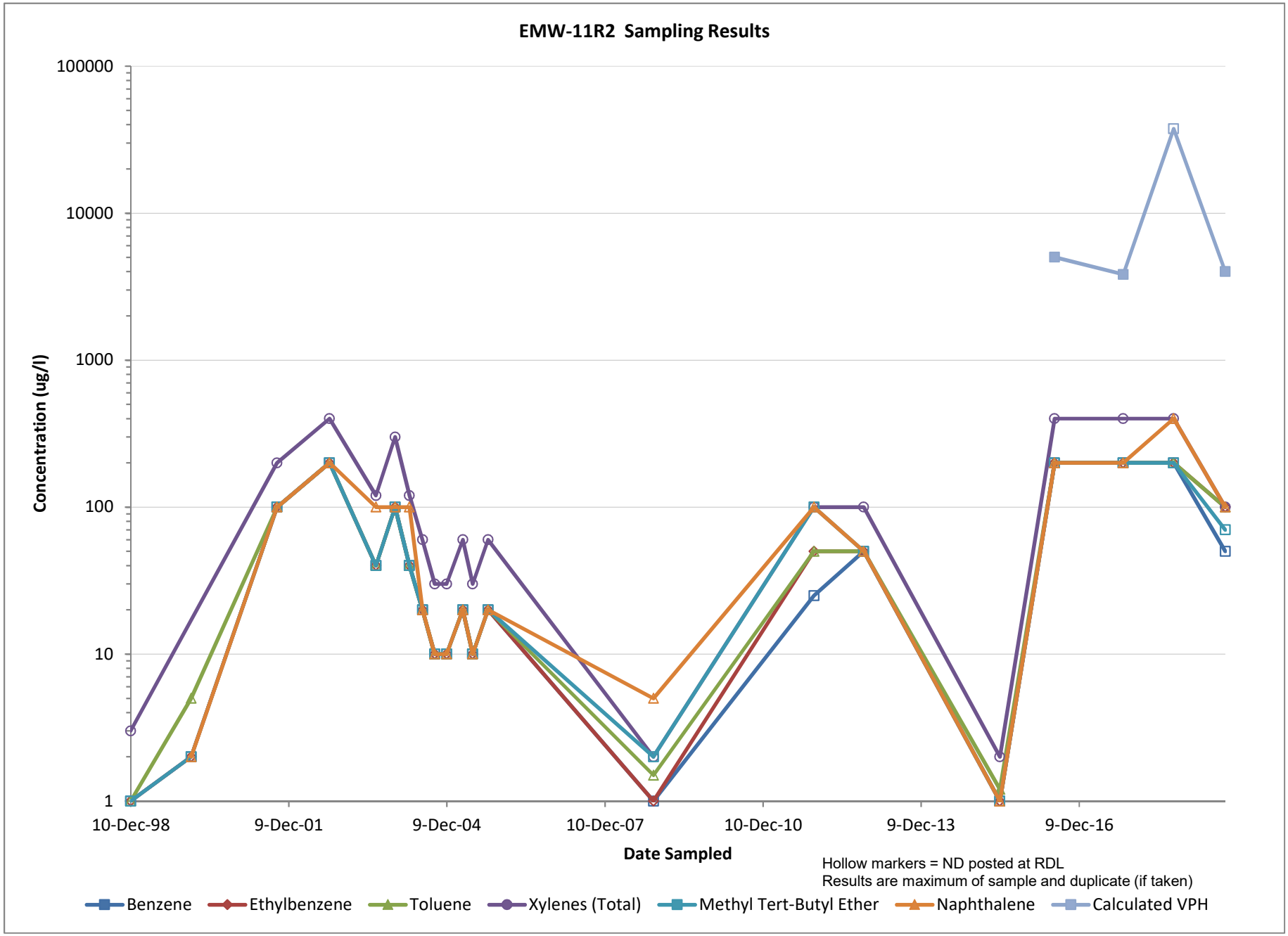

AE29R-6 Sampling Results
1000
100
10
1
Concentration (ug/l)
28-Jan-16
27-Jan-17
27-Jan-18
28-Jan-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

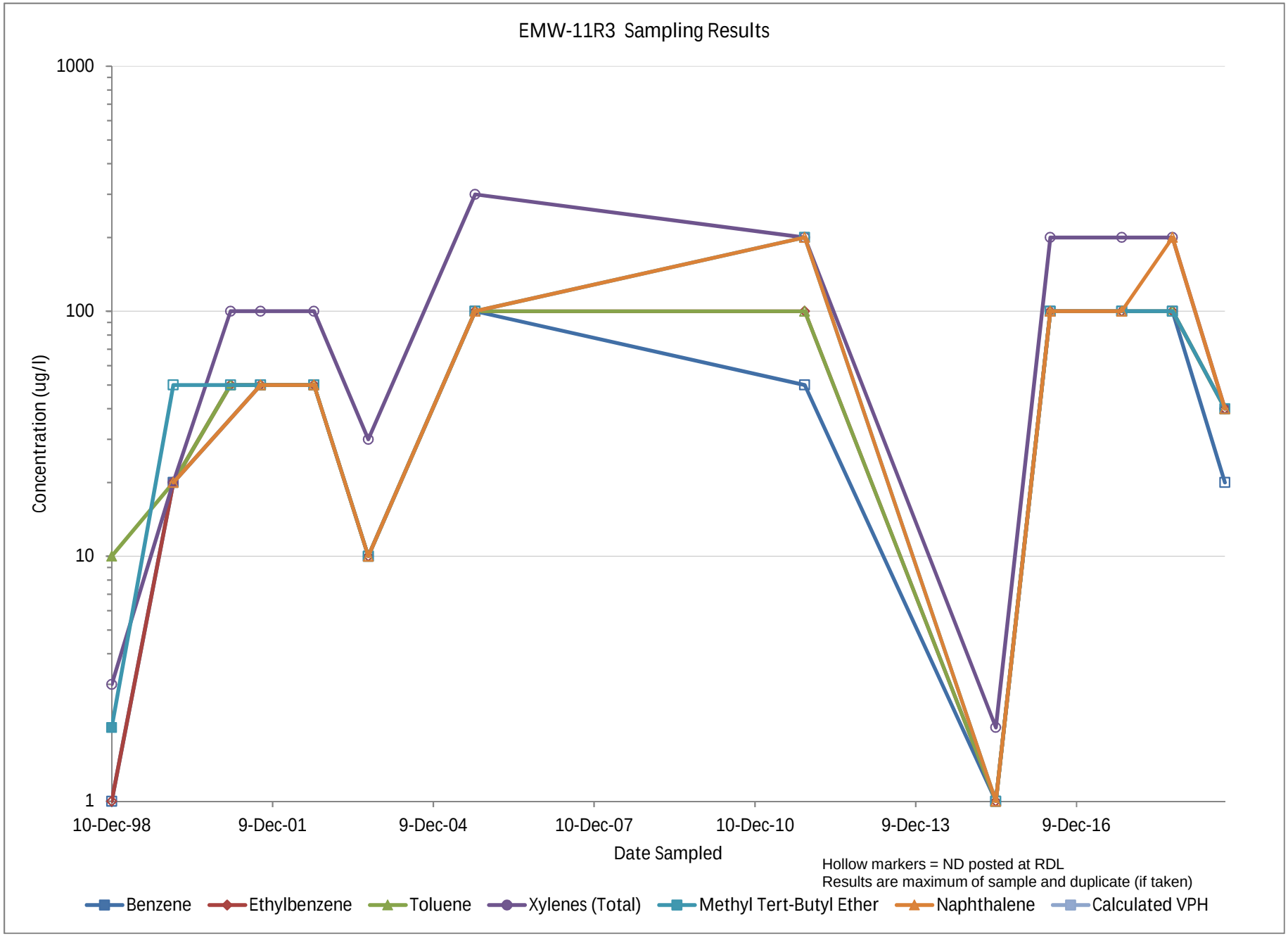

EMW-10D Sampling Results
10
1
0.1
Concentration (ug/l)
8-Dec-98
7-Dec-01
7-Dec-04
8-Dec-07
8-Dec-10
7-Dec-13
7-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

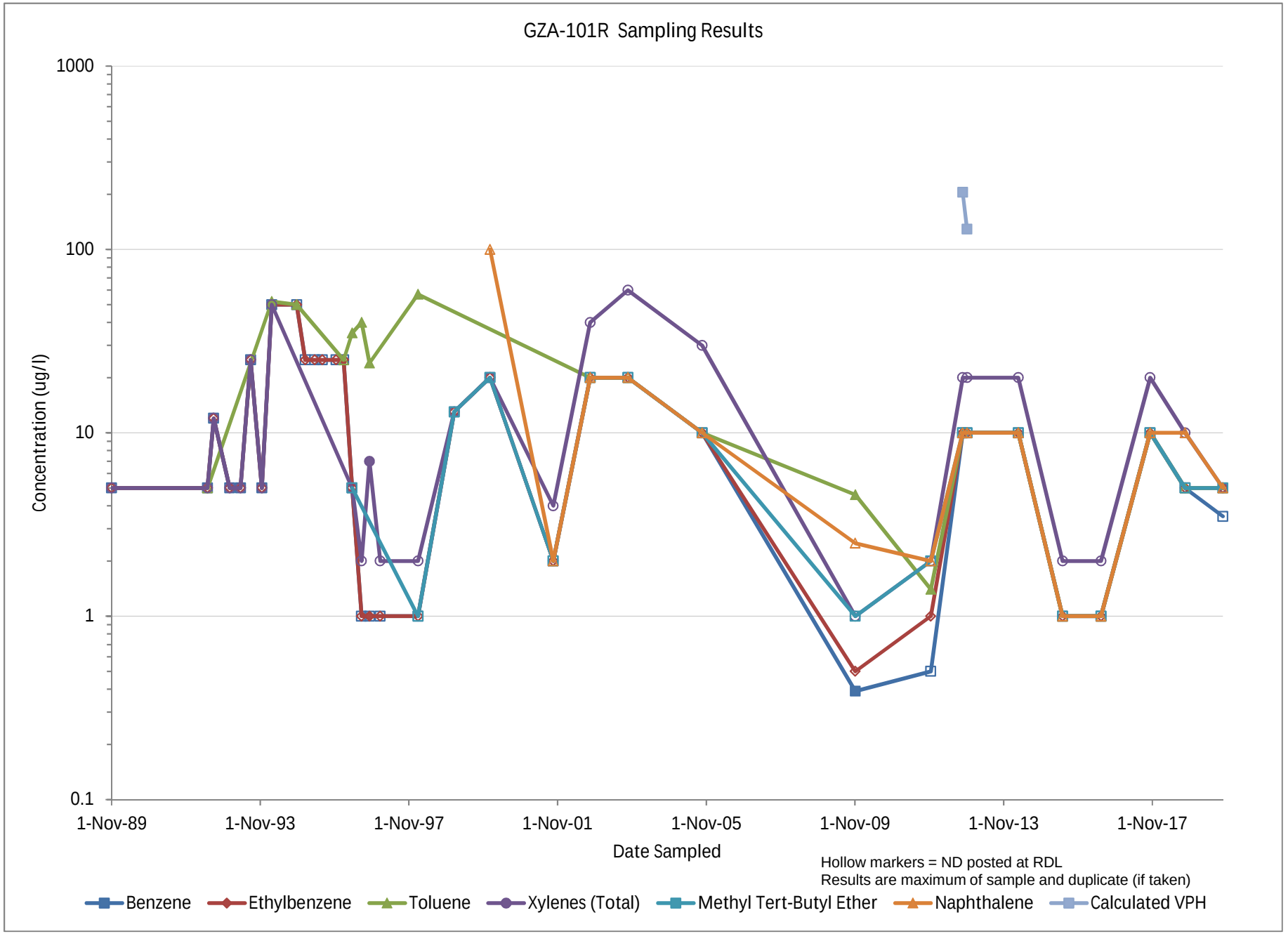

EMW-10R Sampling Results
10
1
0.1
Concentration (ug/l)
29-Jan-97
29-Jan-00
29-Jan-03
29-Jan-06
29-Jan-09
29-Jan-12
29-Jan-15
29-Jan-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

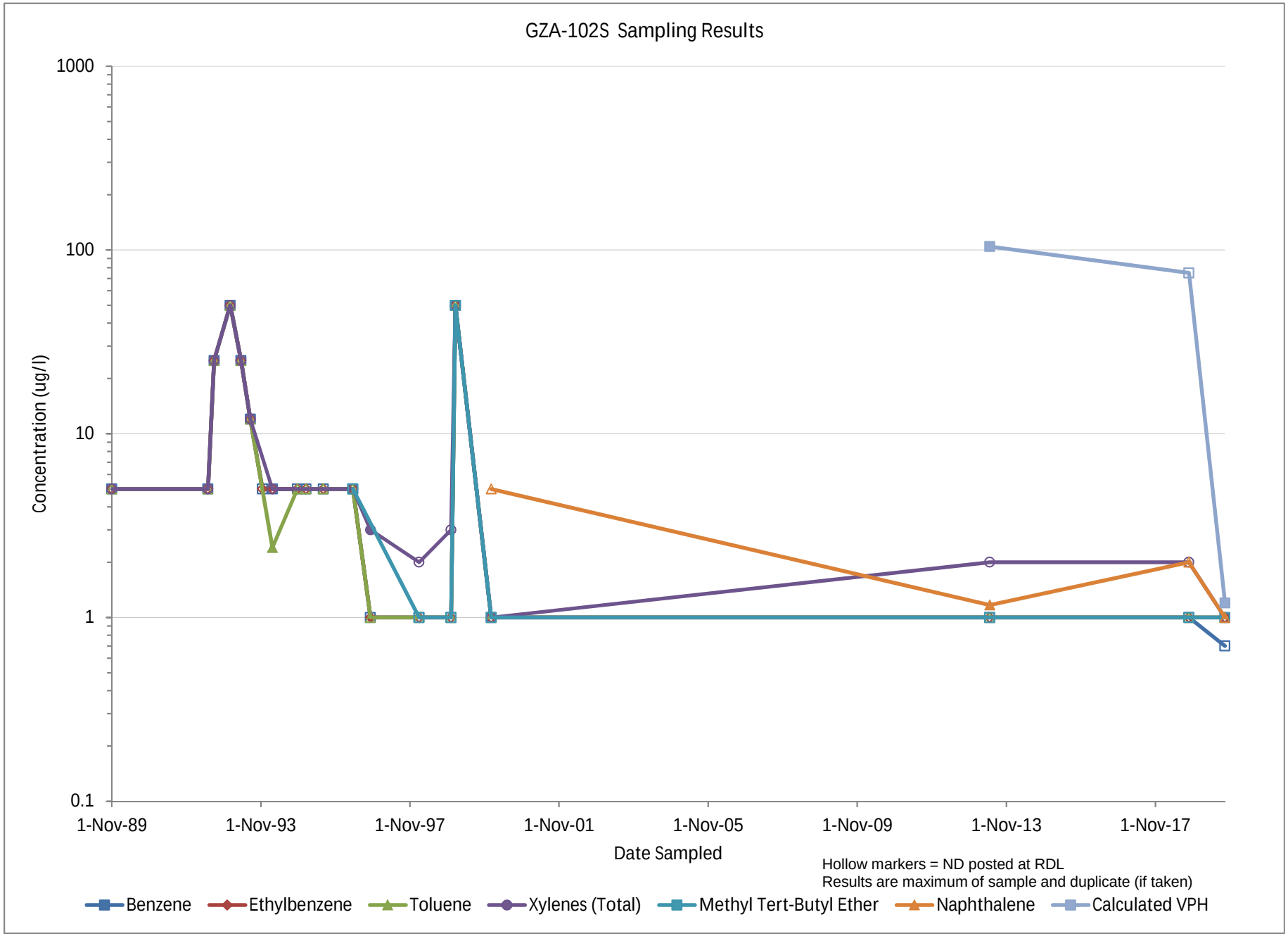

EMW-11D Sampling Results
10
1
0.1
Concentration (ug/l)
8-Dec-98
7-Dec-01
7-Dec-04
8-Dec-07
8-Dec-10
7-Dec-13
7-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

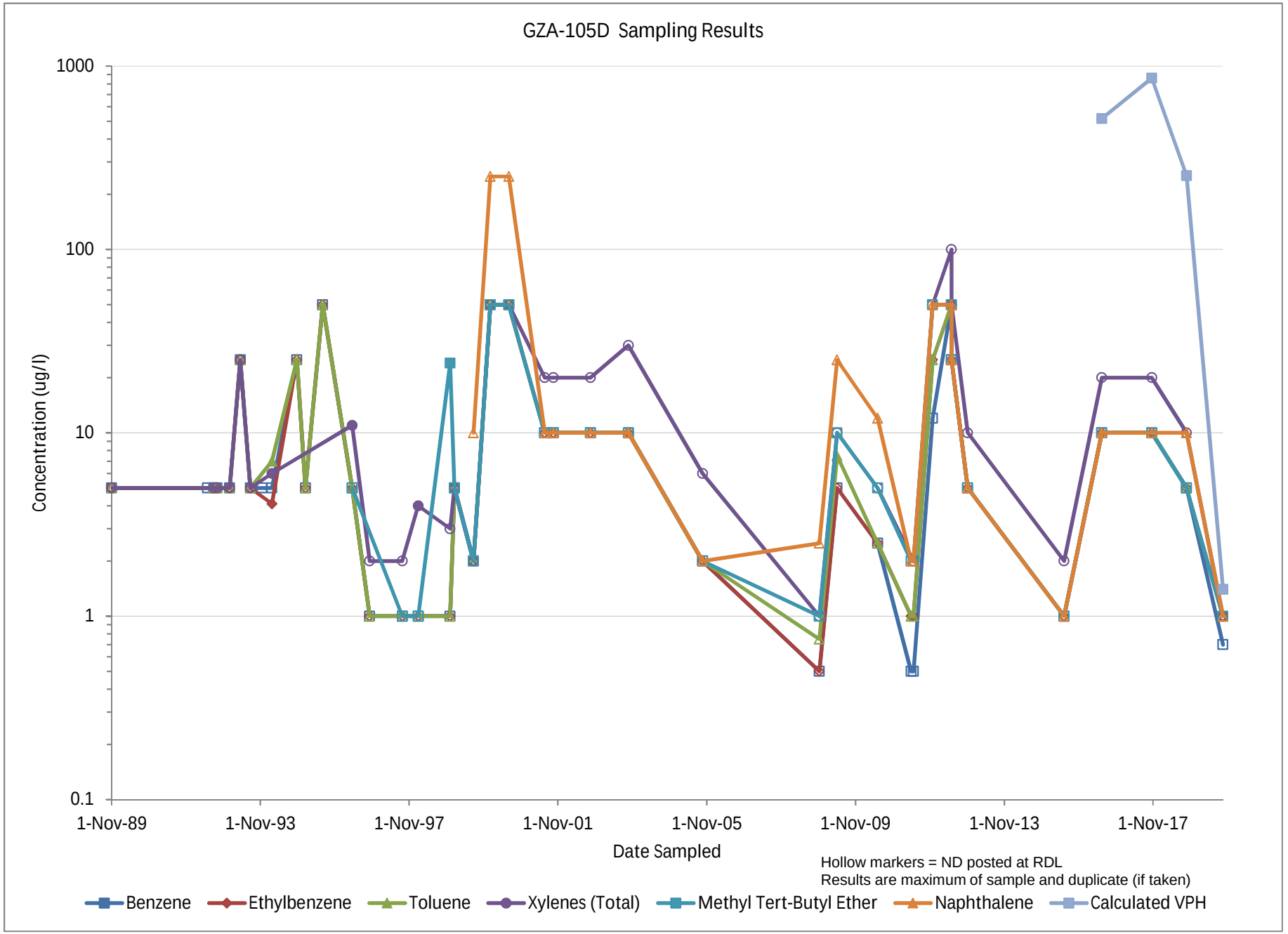

EMW-11R1 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

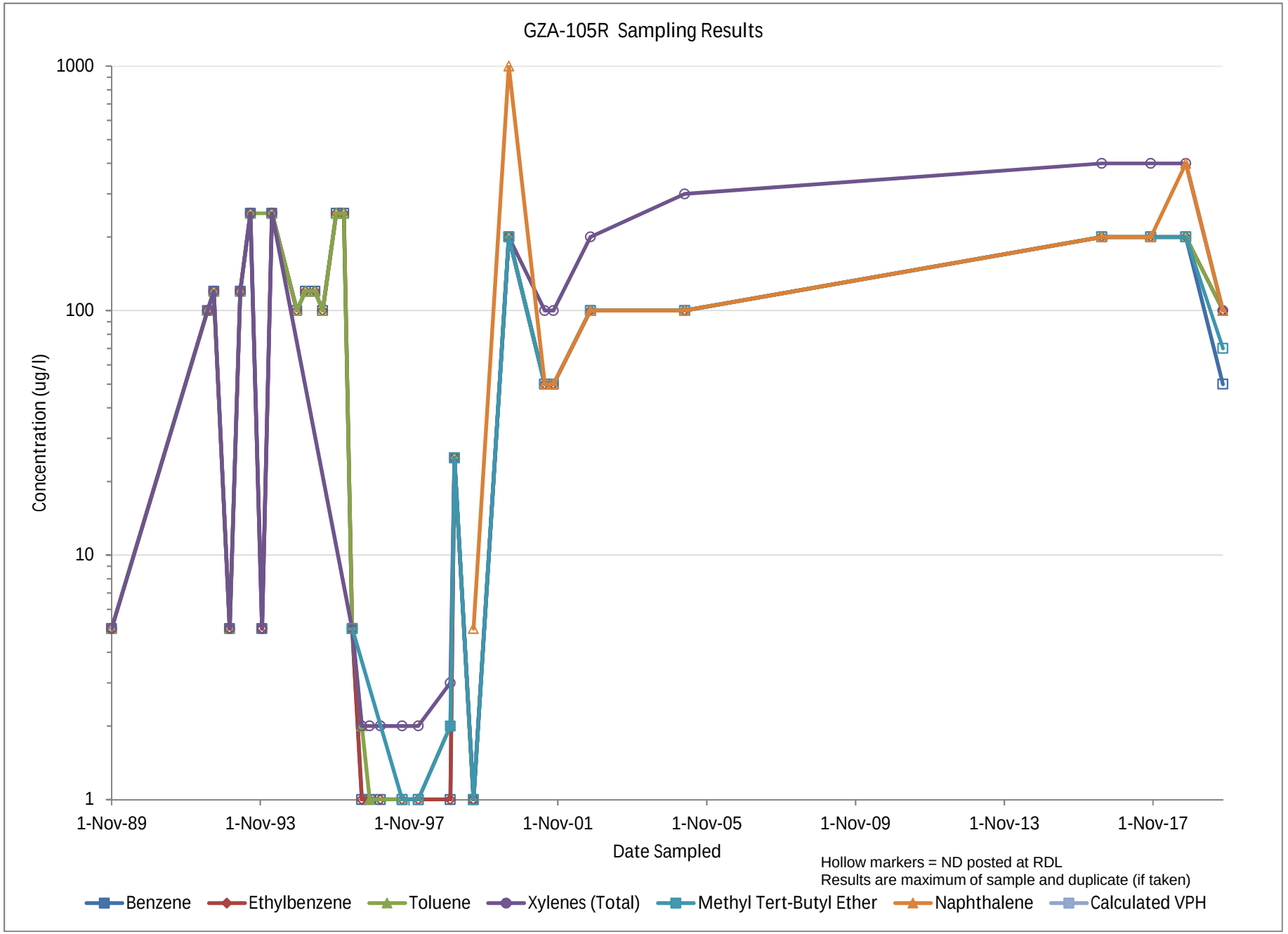

EMW-11R2 Sampling Results
100000
10000
1000
100
10
1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

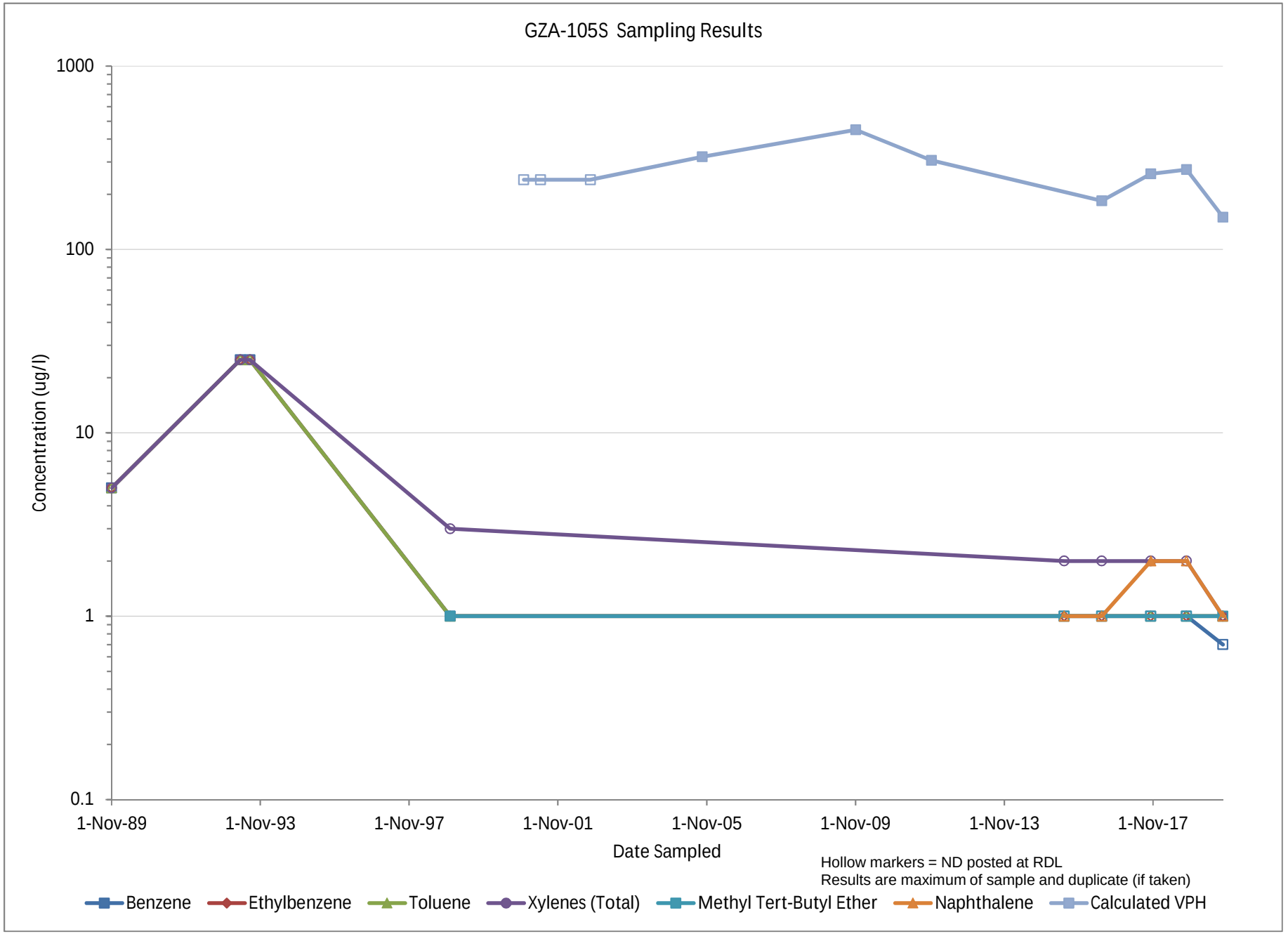

EMW-11R3 Sampling Results
1000
100
10
1
Concentration (ug/l)
10-Dec-98
9-Dec-01
9-Dec-04
10-Dec-07
10-Dec-10
9-Dec-13
9-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

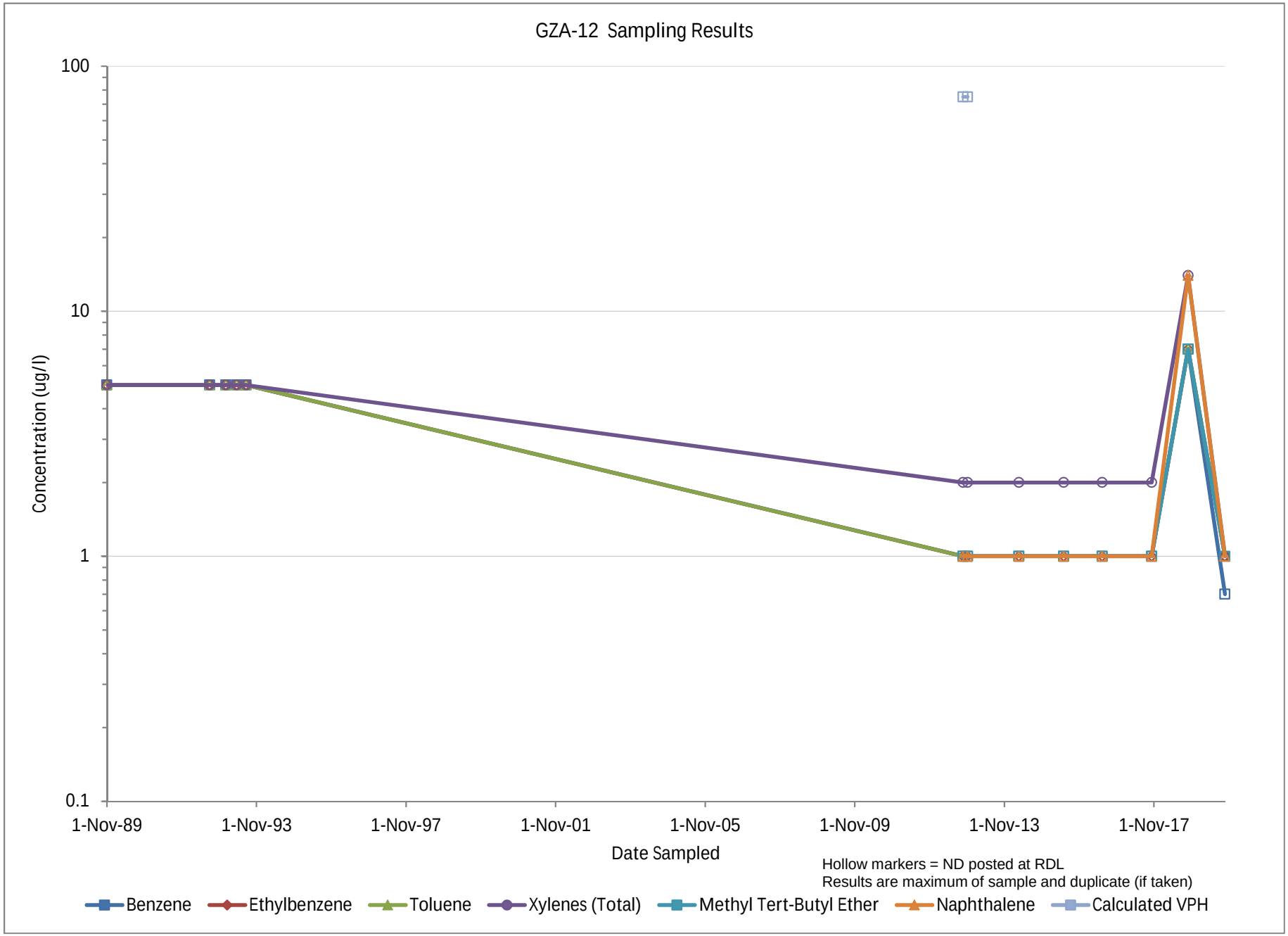

GZA-101R Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

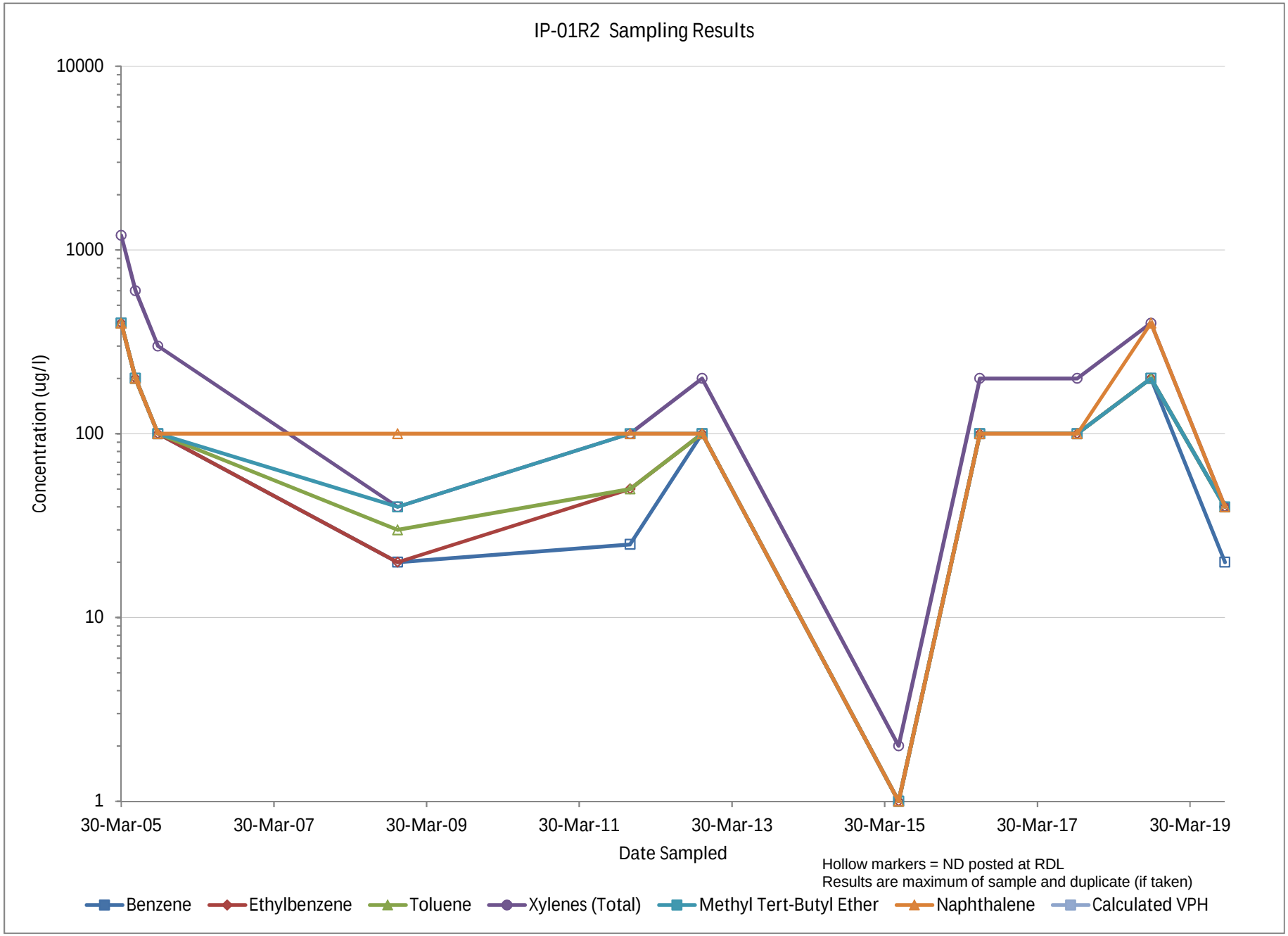

GZA-102S Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

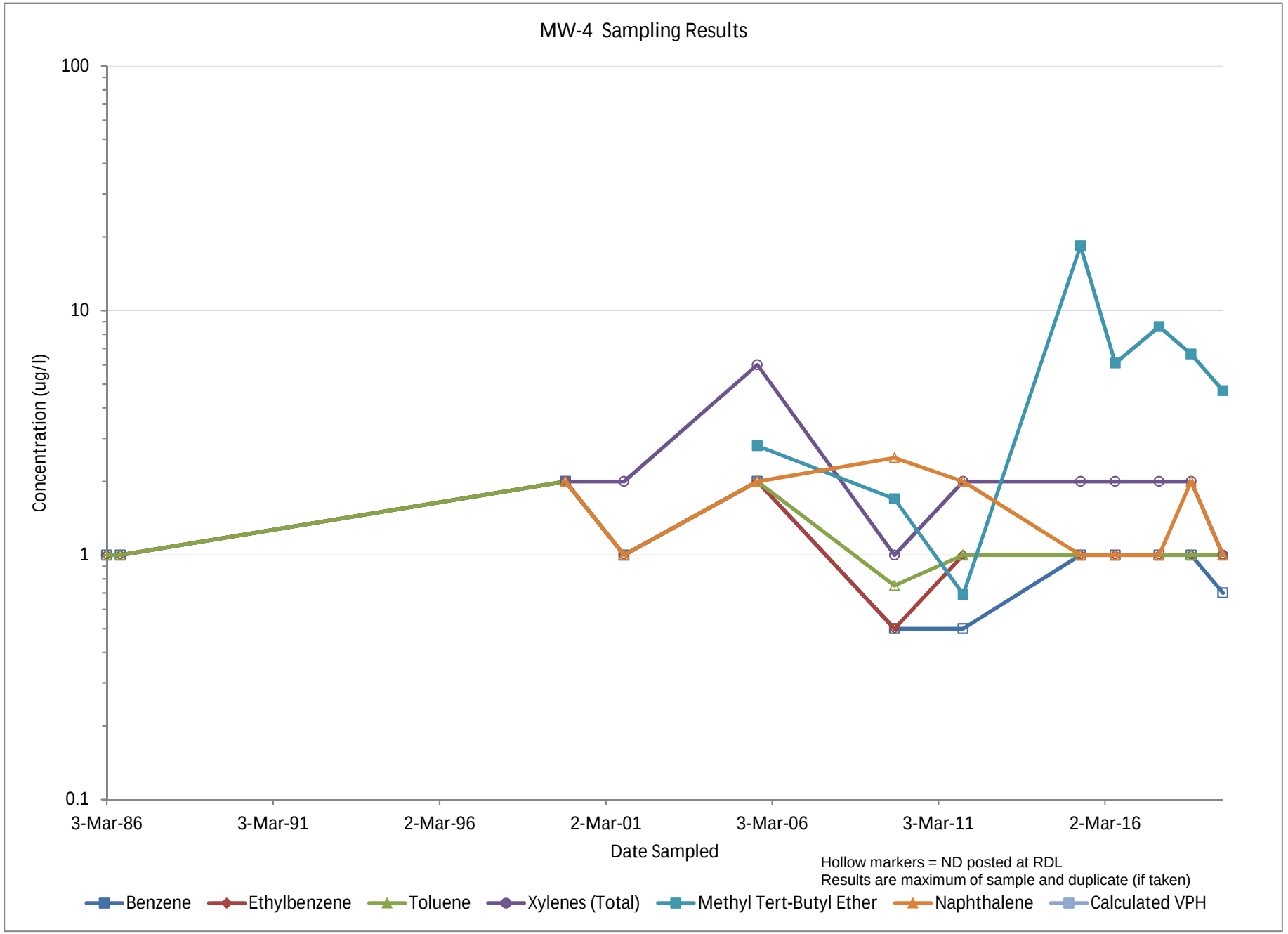

GZA-105D Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

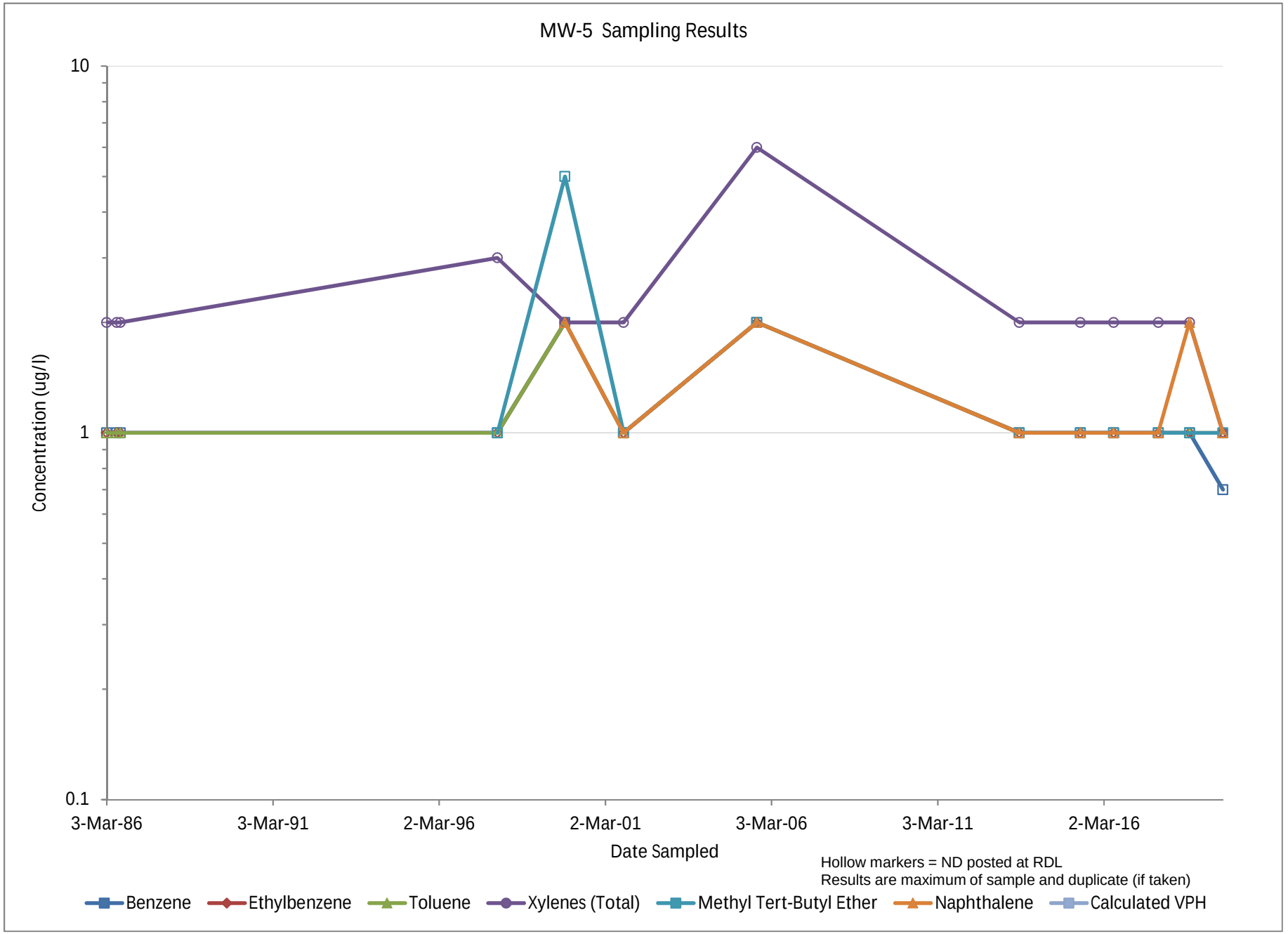

GZA-105R Sampling Results
1000
100
10
1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

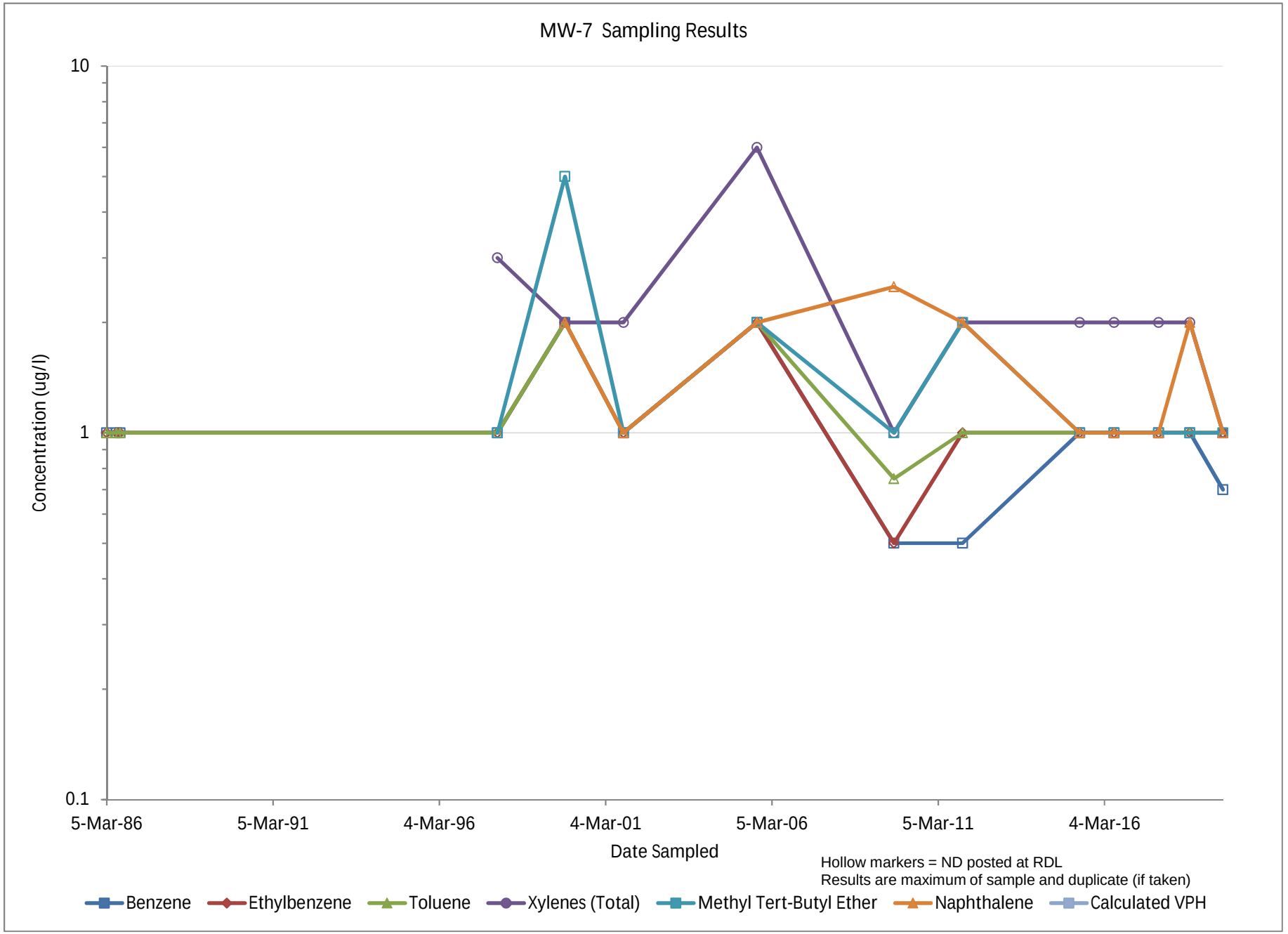

GZA-105S Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

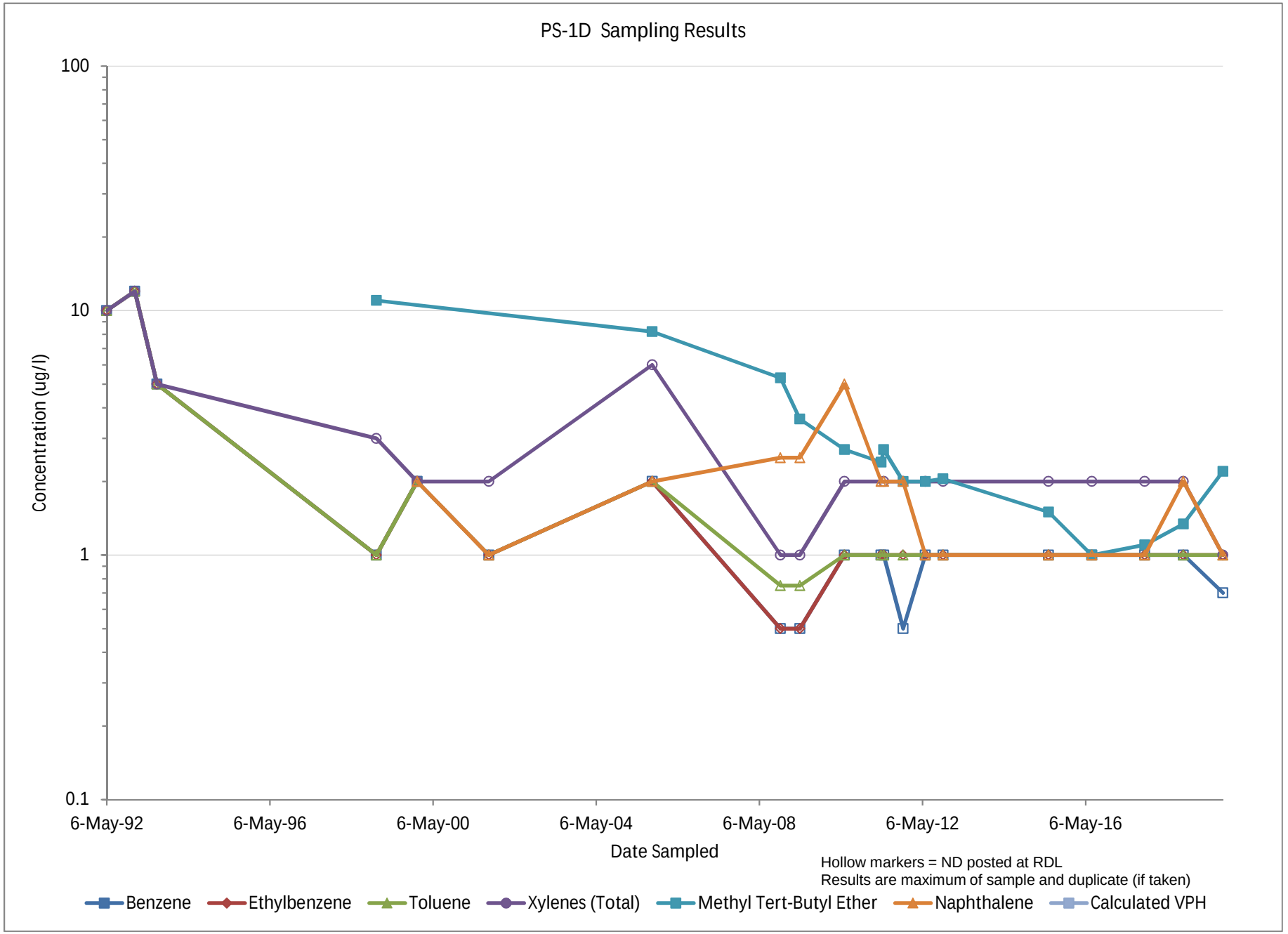

GZA-12 Sampling Results
100
10
1
0.1
Concentration (ug/l)
1-Nov-89
1-Nov-93
1-Nov-97
1-Nov-01
1-Nov-05
1-Nov-09
1-Nov-13
1-Nov-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

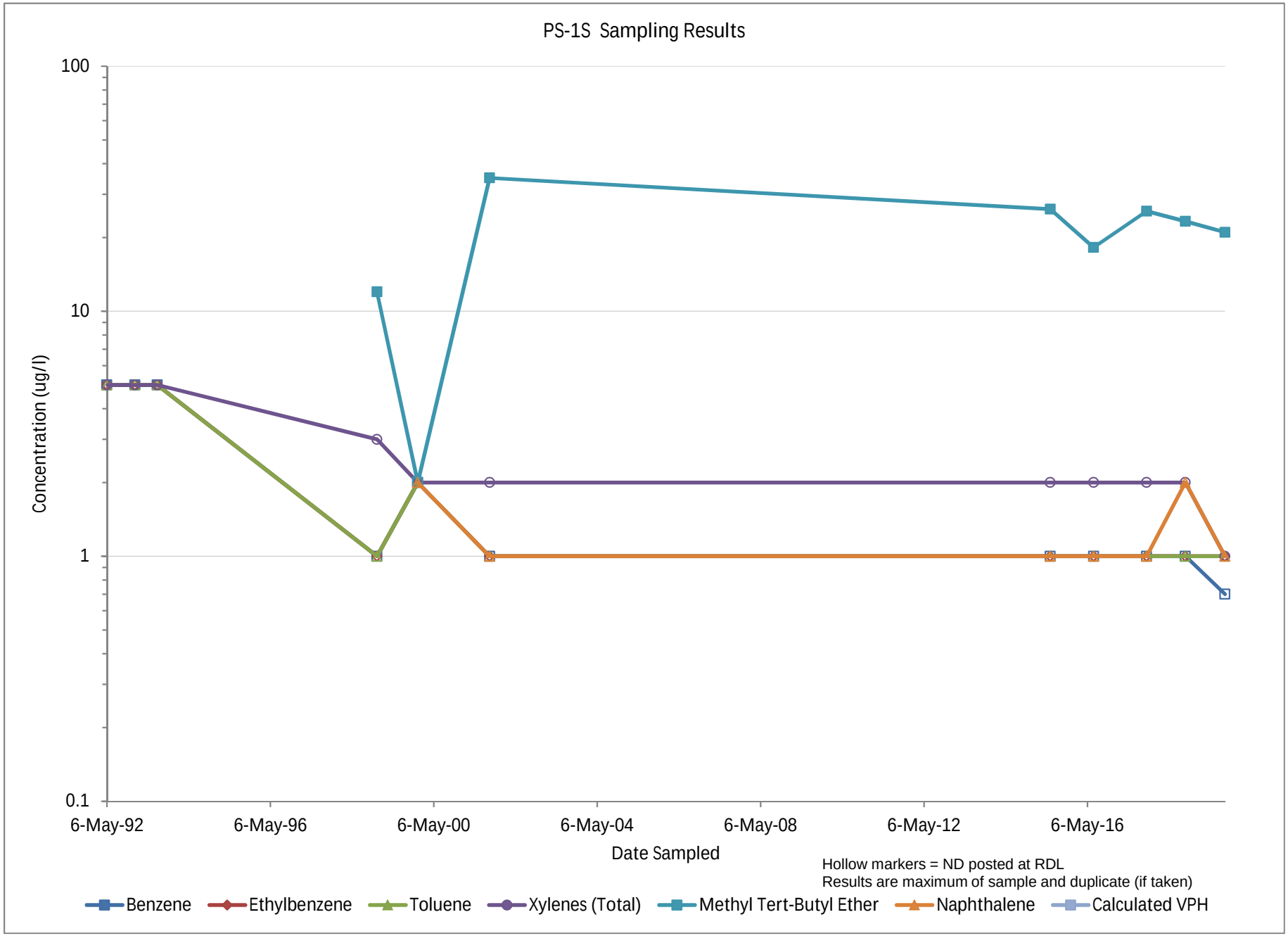

IP-01R2 Sampling Results
10000
1000
100
10
1
Concentration (ug/l)
30-Mar-05
30-Mar-07
30-Mar-09
30-Mar-11
30-Mar-13
30-Mar-15
30-Mar-17
30-Mar-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

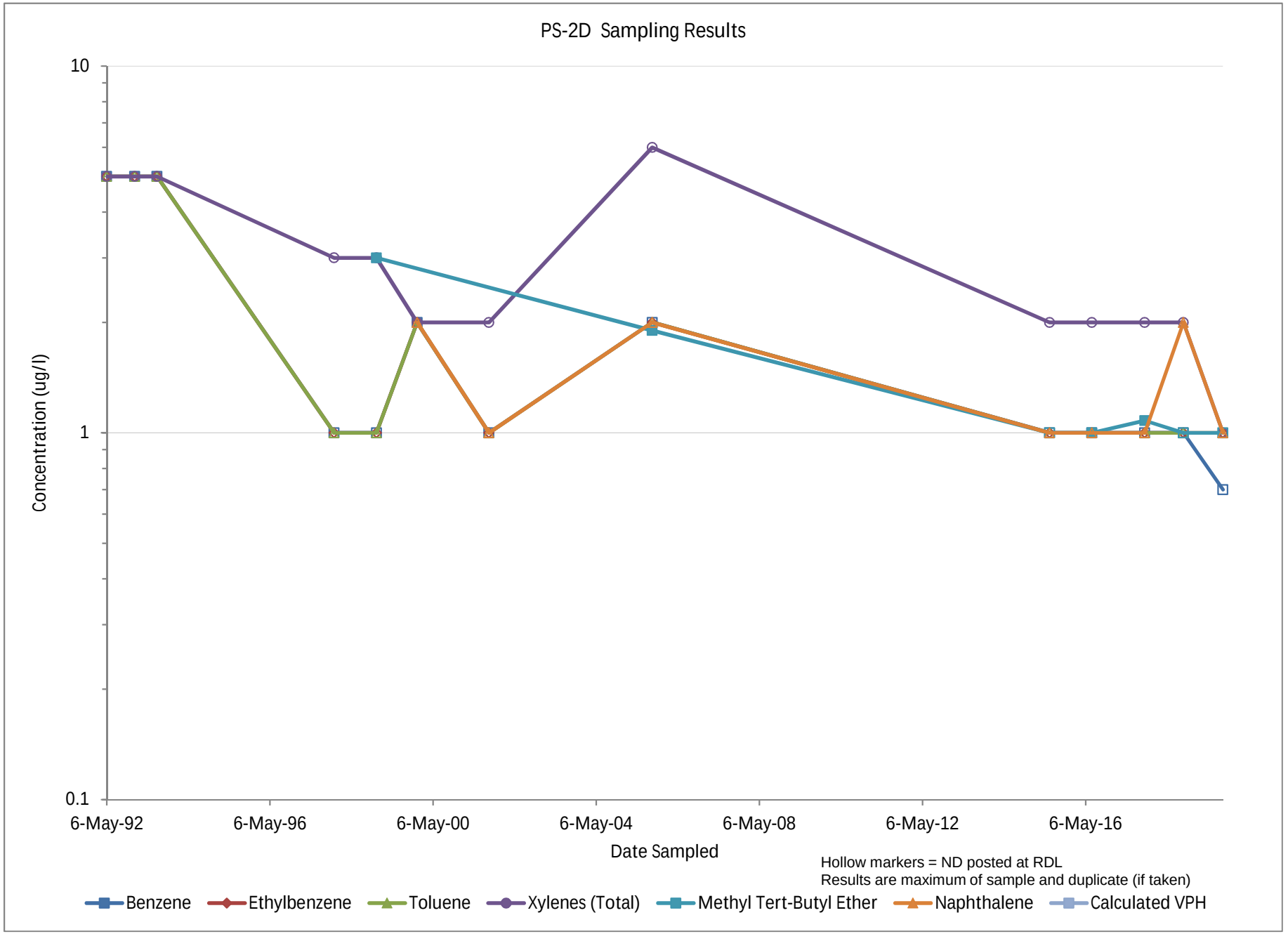

MW-4 Sampling Results
100
10
1
0.1
Concentration (ug/l)
3-Mar-86
3-Mar-91
2-Mar-96
2-Mar-01
3-Mar-06
3-Mar-11
2-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

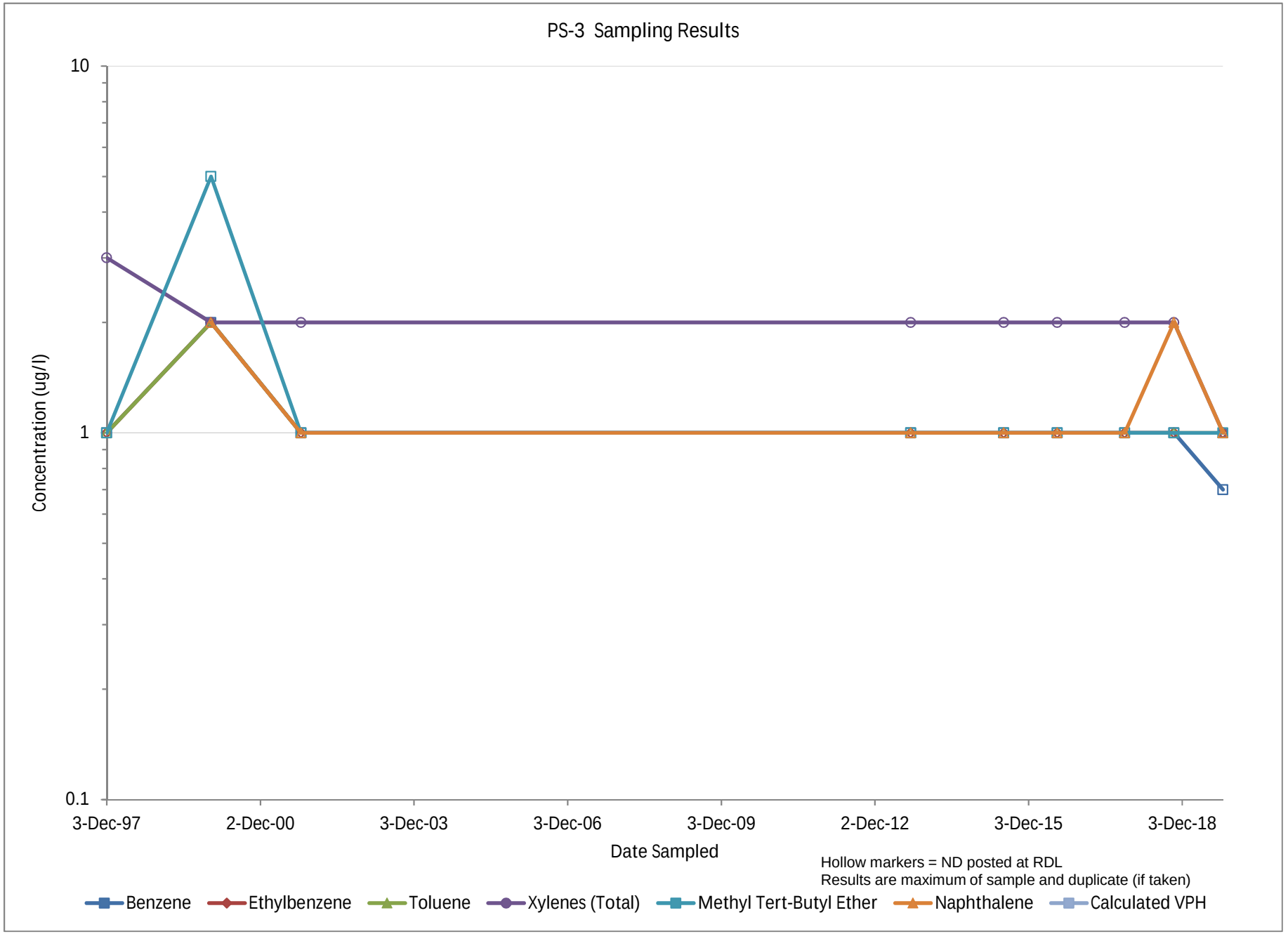

MW-5 Sampling Results
10
1
0.1
Concentration (ug/l)
3-Mar-86
3-Mar-91
2-Mar-96
2-Mar-01
3-Mar-06
3-Mar-11
2-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

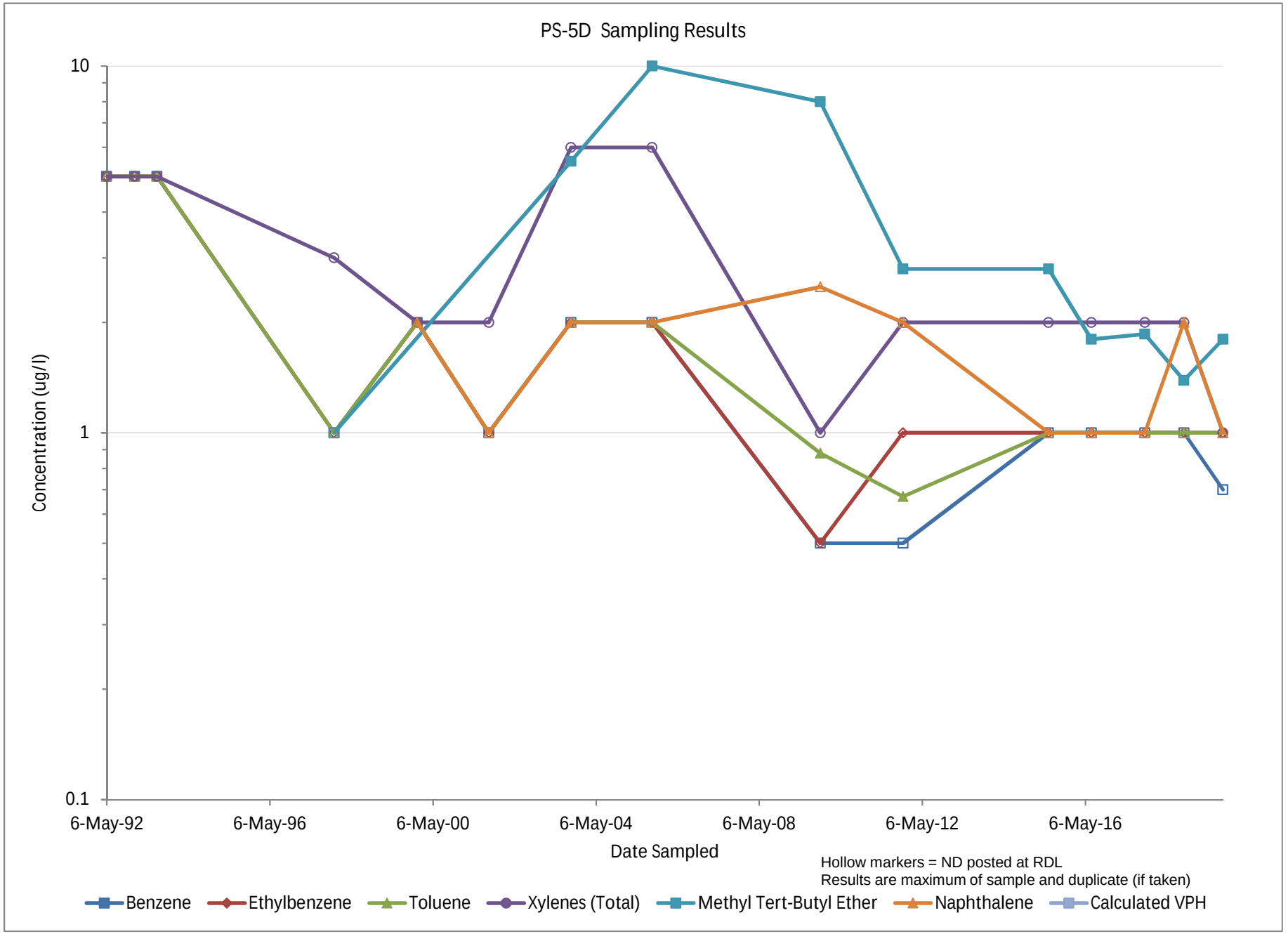

MW-7 Sampling Results
10
1
0.1
Concentration (ug/l)
5-Mar-86
5-Mar-91
4-Mar-96
4-Mar-01
5-Mar-06
5-Mar-11
4-Mar-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

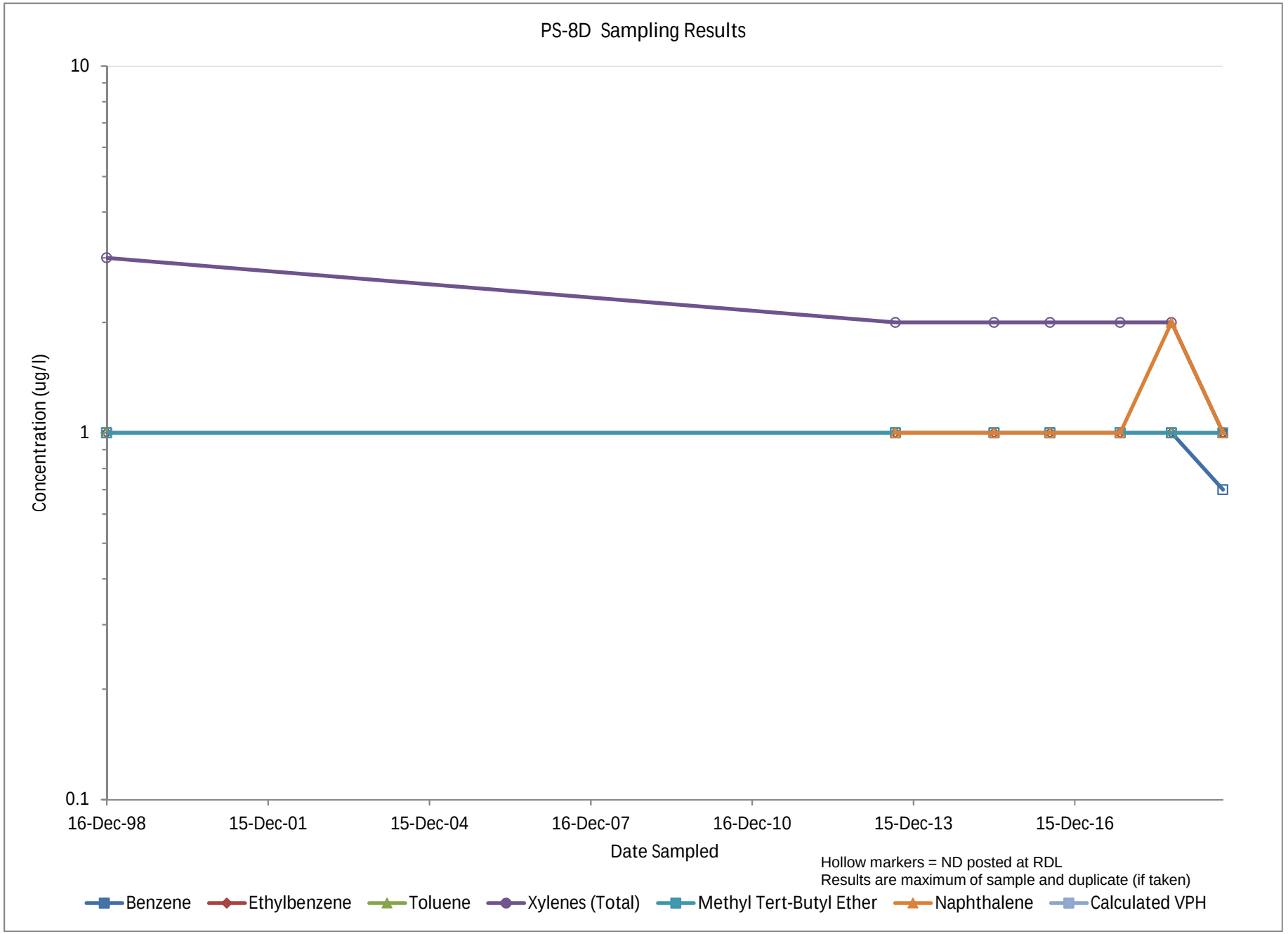

PS-1D Sampling Results
100
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

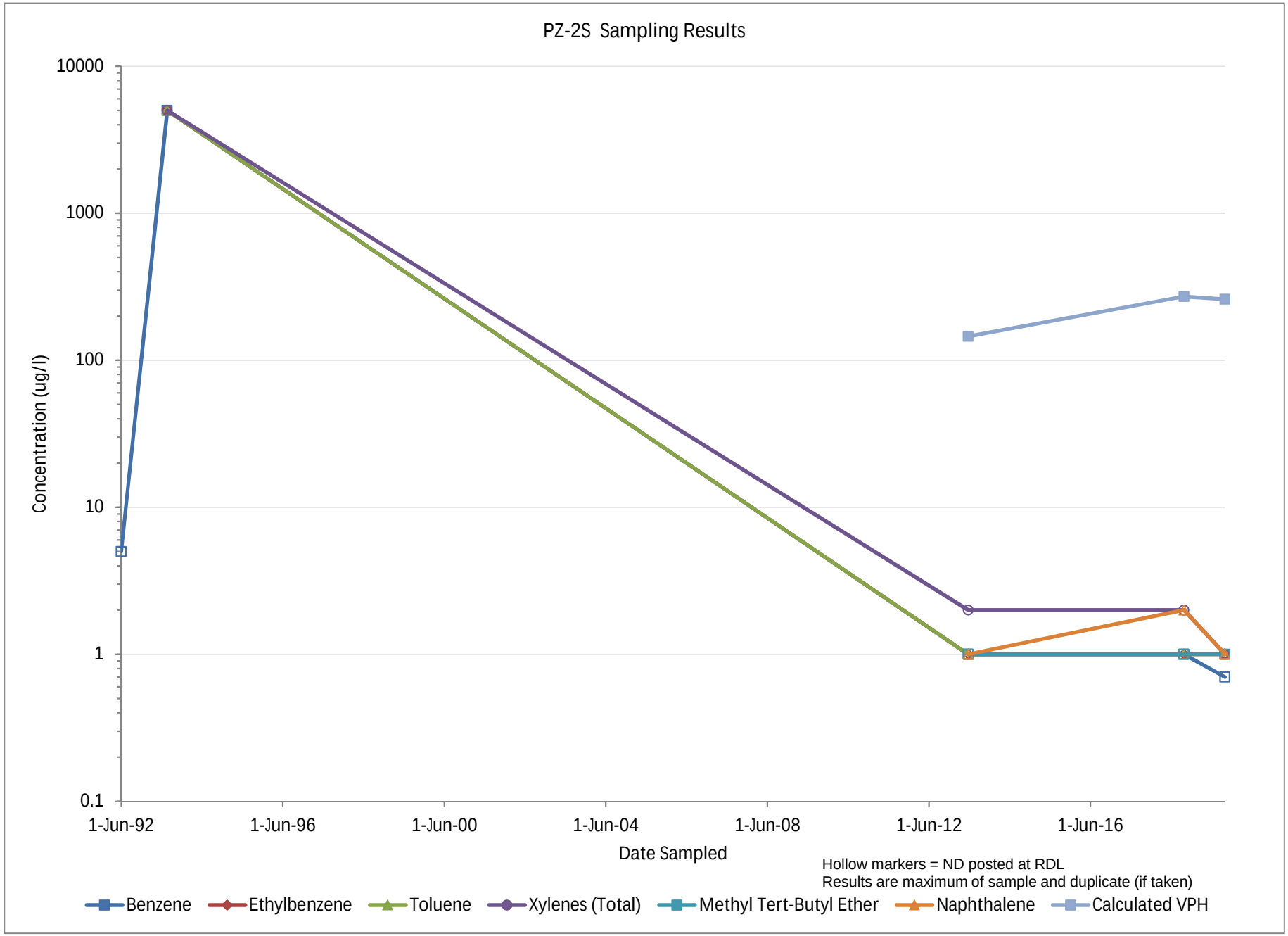

PS-1S Sampling Results
100
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

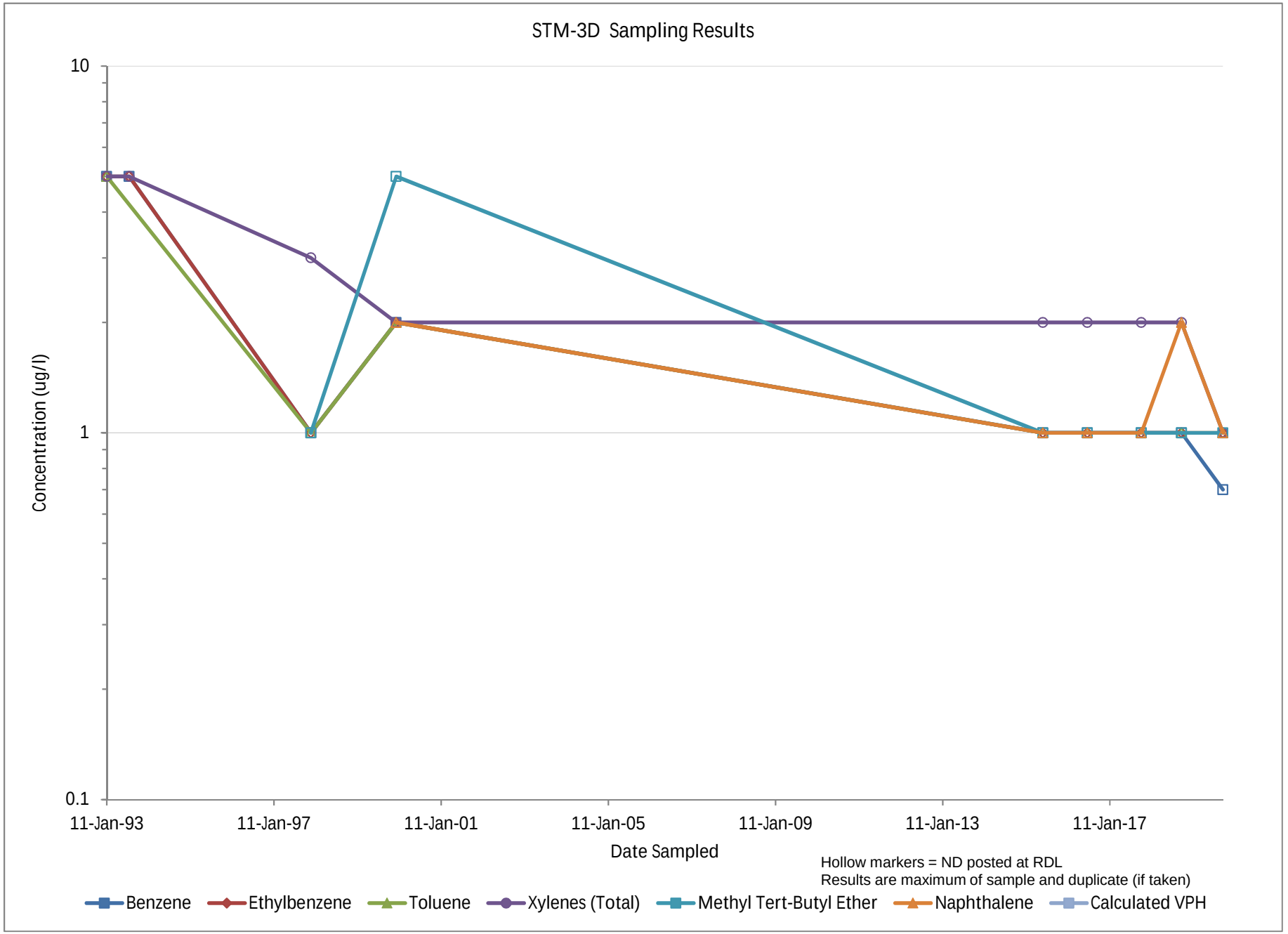

PS-2D Sampling Results
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

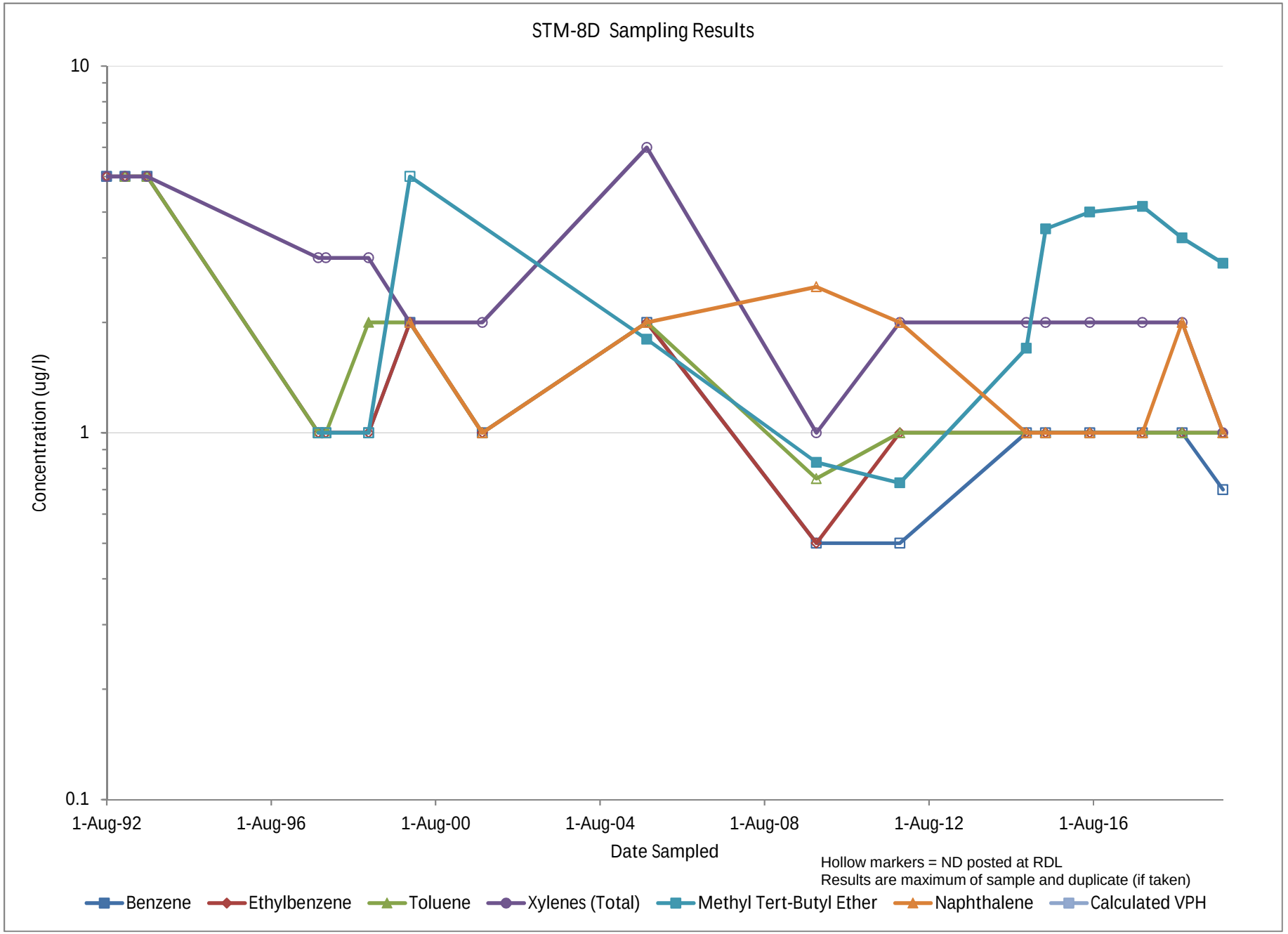

PS-3 Sampling Results
10
1
0.1
Concentration (ug/l)
3-Dec-97
2-Dec-00
3-Dec-03
3-Dec-06
3-Dec-09
2-Dec-12
3-Dec-15
3-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

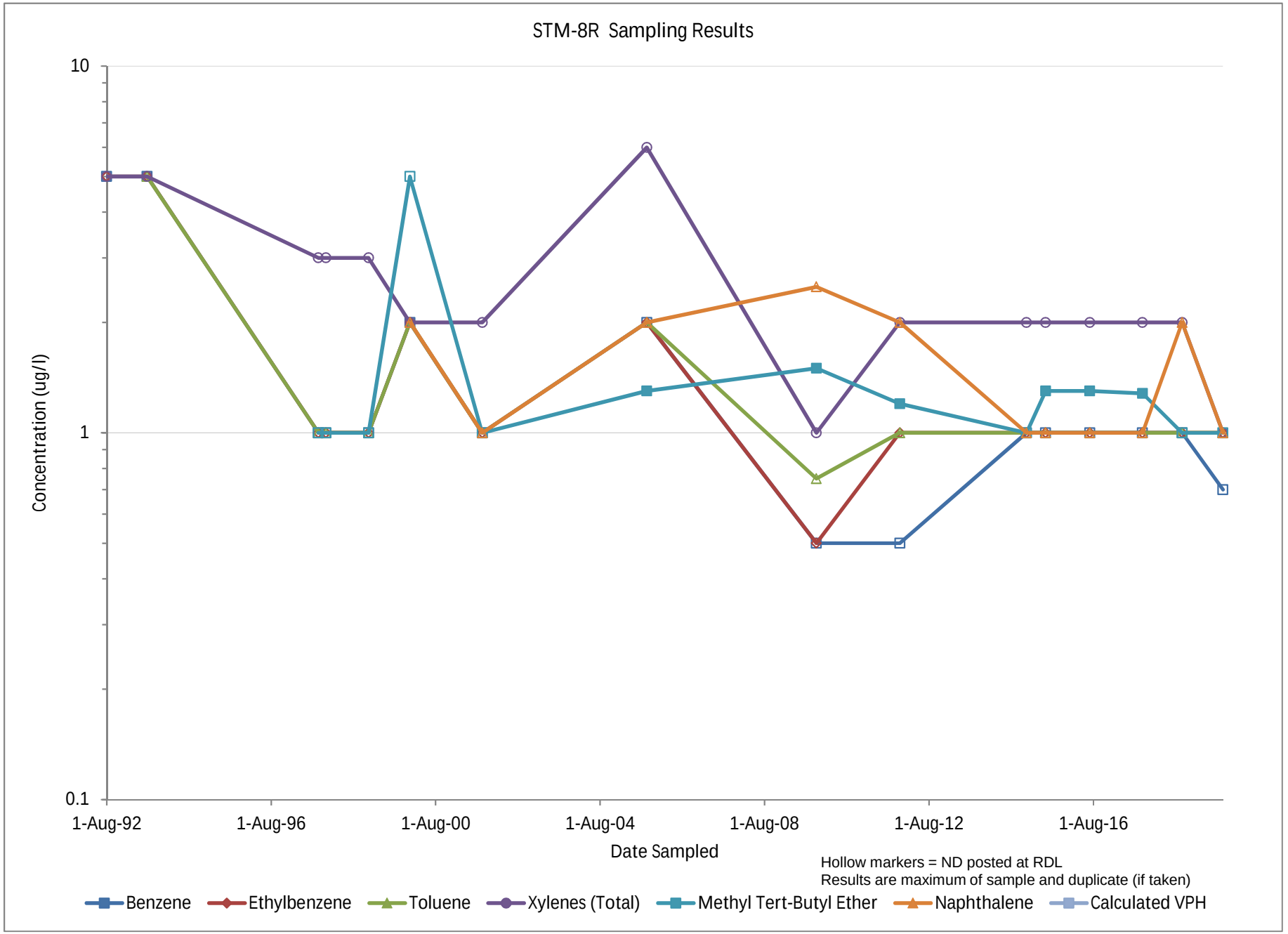

PS-5D Sampling Results
10
1
0.1
Concentration (ug/l)
6-May-92
6-May-96
6-May-00
6-May-04
6-May-08
6-May-12
6-May-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

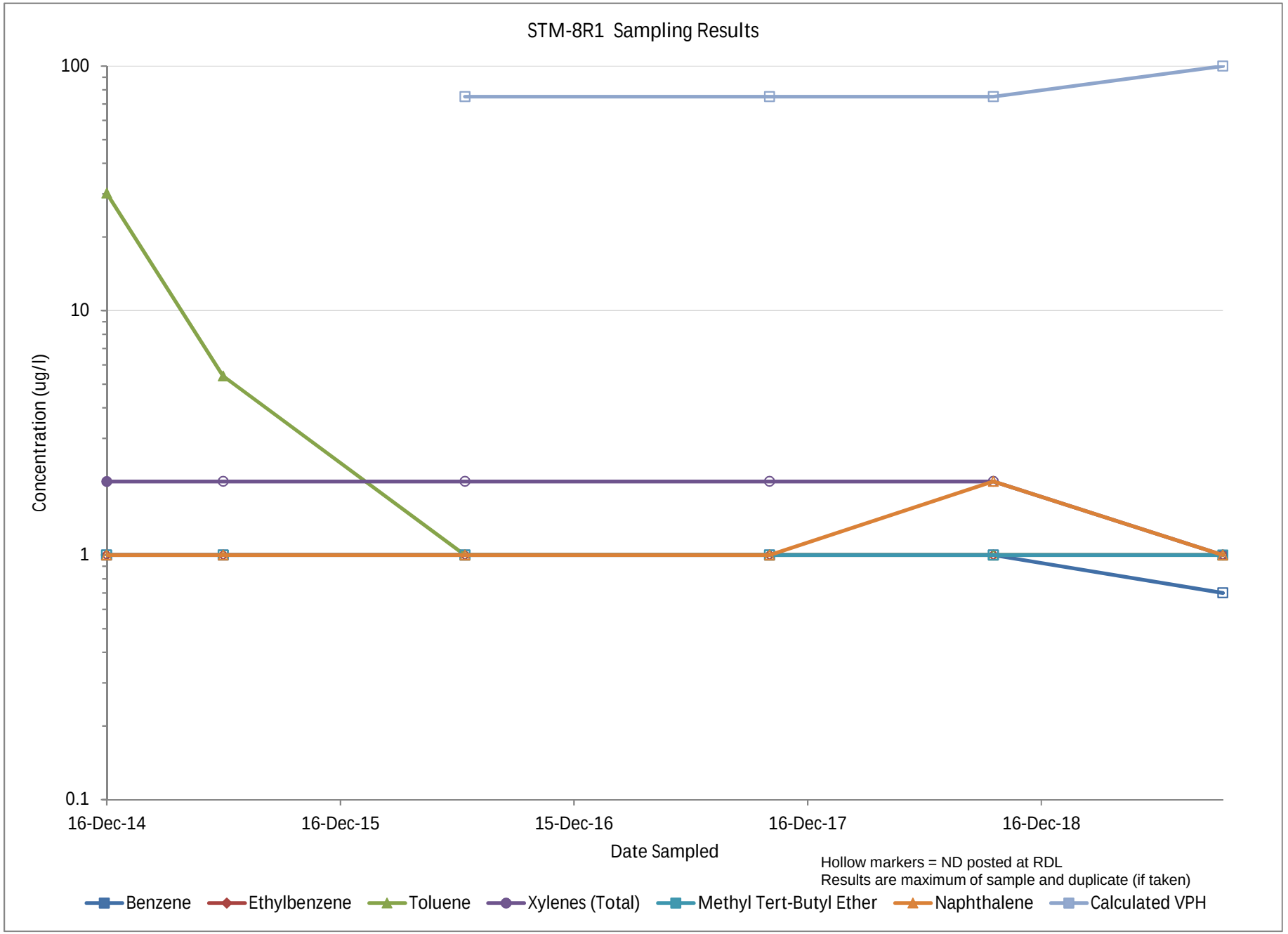

PS-8D Sampling Results
10
1
0.1
Concentration (ug/l)
16-Dec-98
15-Dec-01
15-Dec-04
16-Dec-07
16-Dec-10
15-Dec-13
15-Dec-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

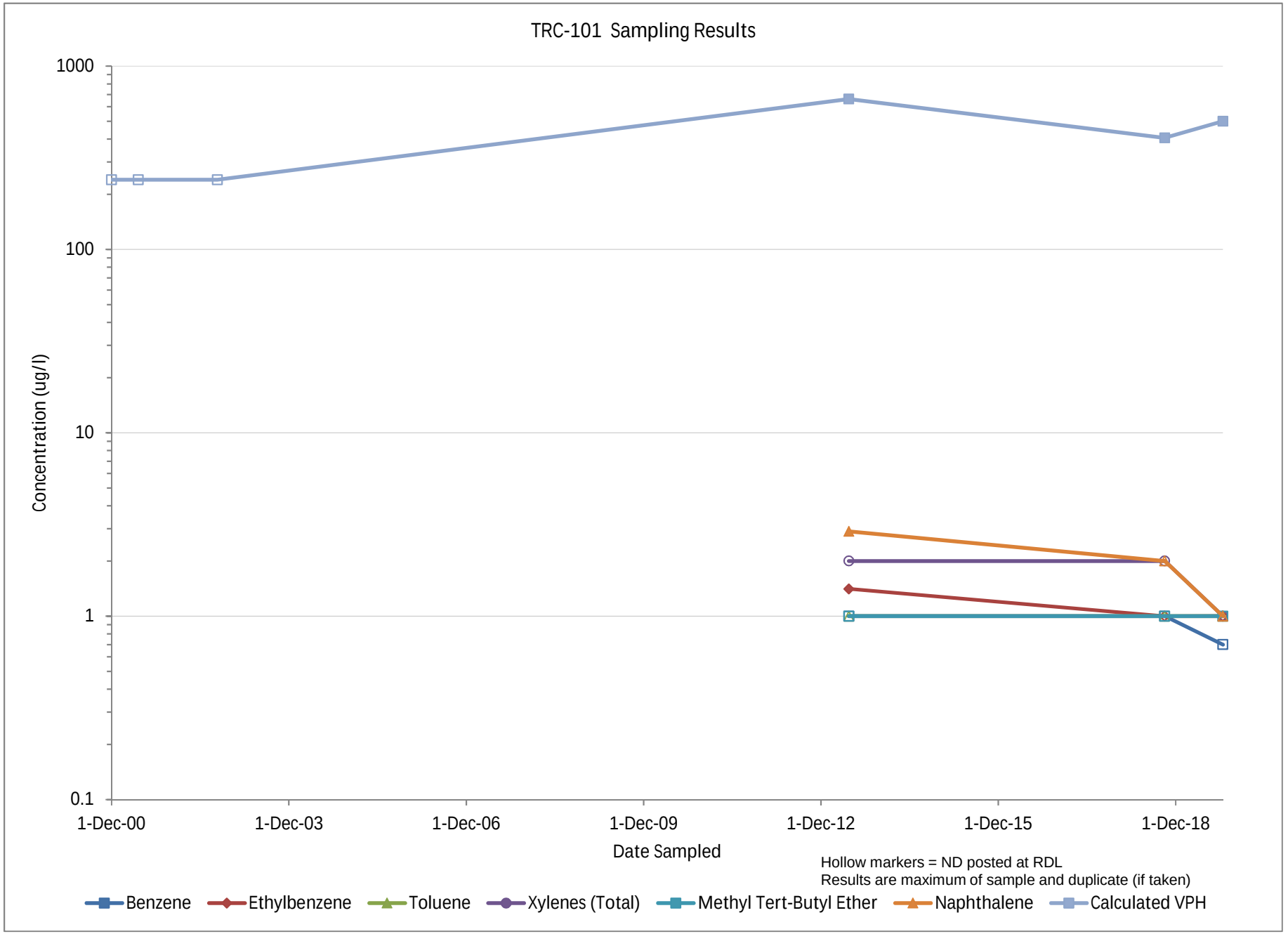

PZ-2S Sampling Results
10000
1000
100
10
1
0.1
Concentration (ug/l)
1-Jun-92
1-Jun-96
1-Jun-00
1-Jun-04
1-Jun-08
1-Jun-12
1-Jun-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

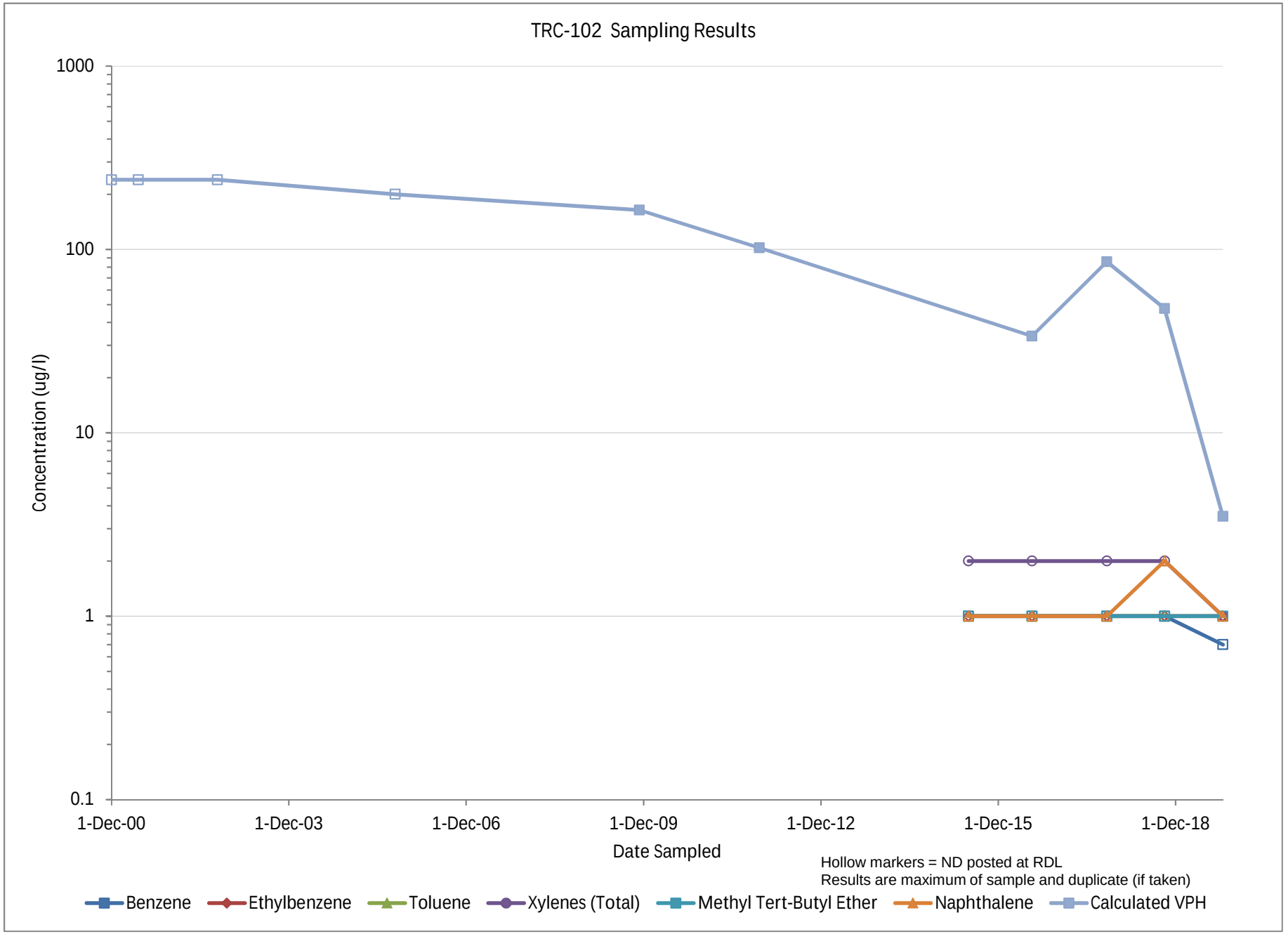

STM-3D Sampling Results
10
1
0.1
Concentration (ug/l)
11-Jan-93
11-Jan-97
11-Jan-01
11-Jan-05
11-Jan-09
11-Jan-13
11-Jan-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

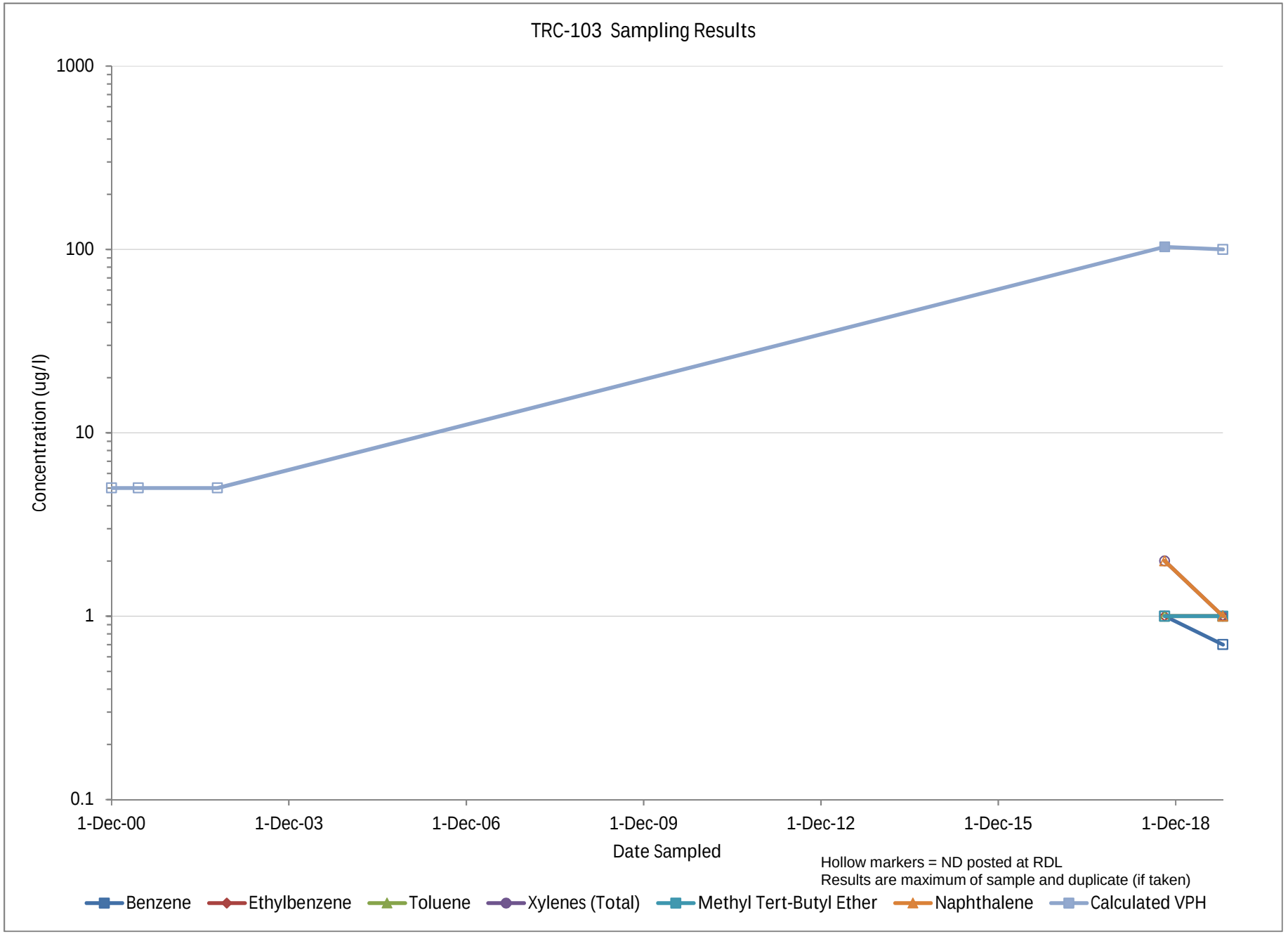

STM-8D Sampling Results
10
1
0.1
Concentration (ug/l)
1-Aug-92
1-Aug-96
1-Aug-00
1-Aug-04
1-Aug-08
1-Aug-12
1-Aug-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

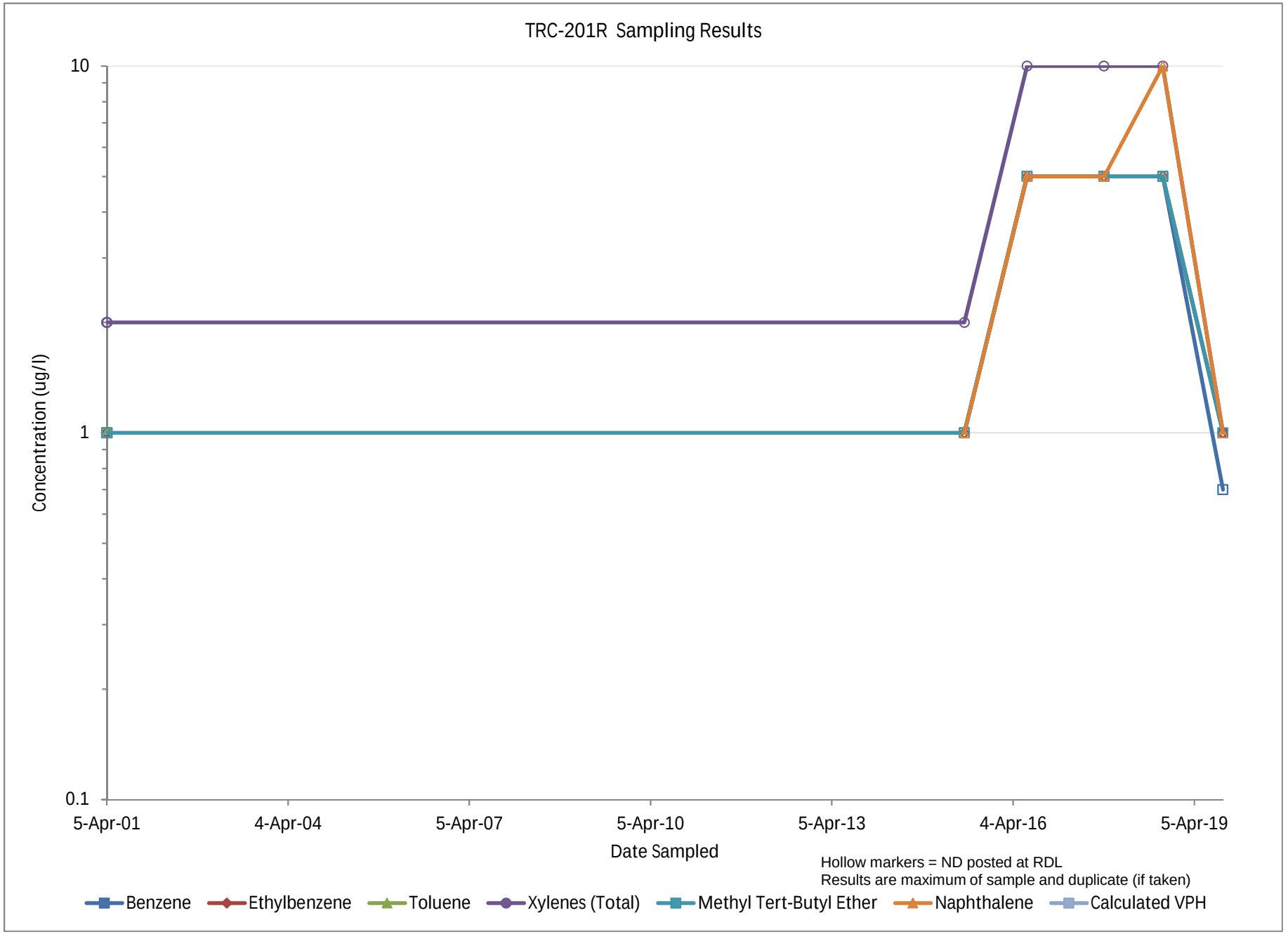

STM-8R Sampling Results
10
1
0.1
Concentration (ug/l)
1-Aug-92
1-Aug-96
1-Aug-00
1-Aug-04
1-Aug-08
1-Aug-12
1-Aug-16
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

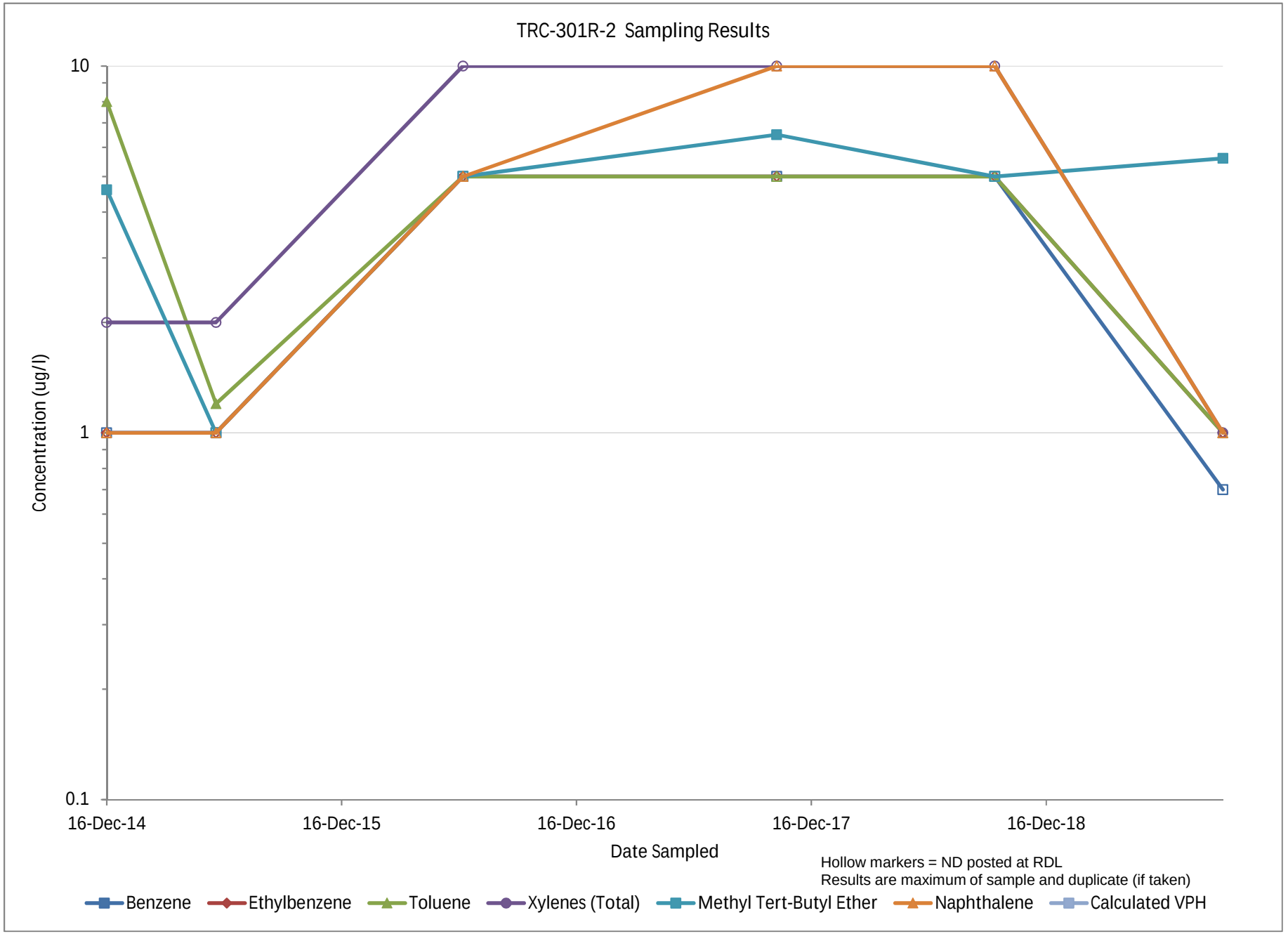

STM-8R1 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
15-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

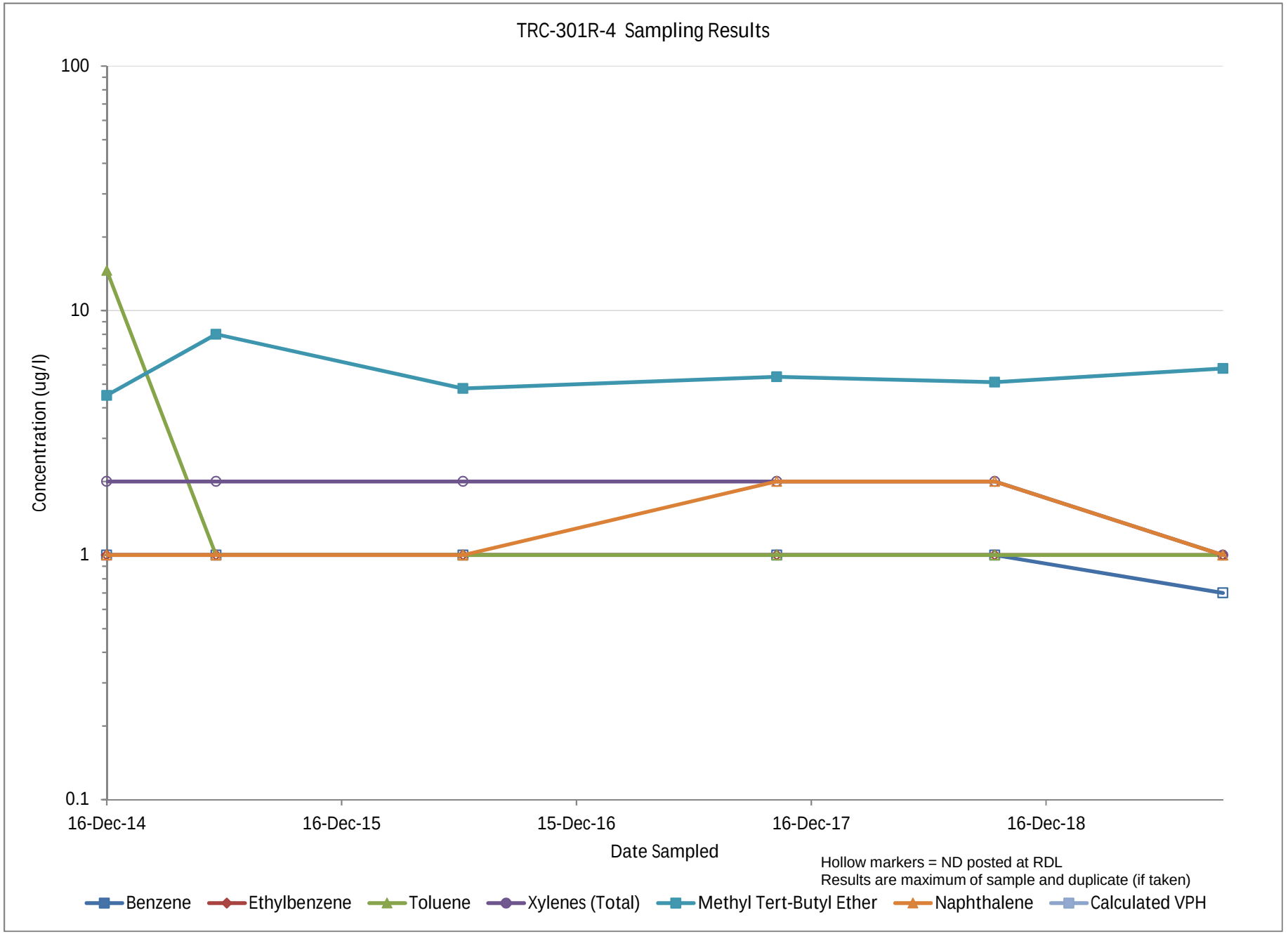

TRC-101 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Dec-00
1-Dec-03
1-Dec-06
1-Dec-09
1-Dec-12
1-Dec-15
1-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

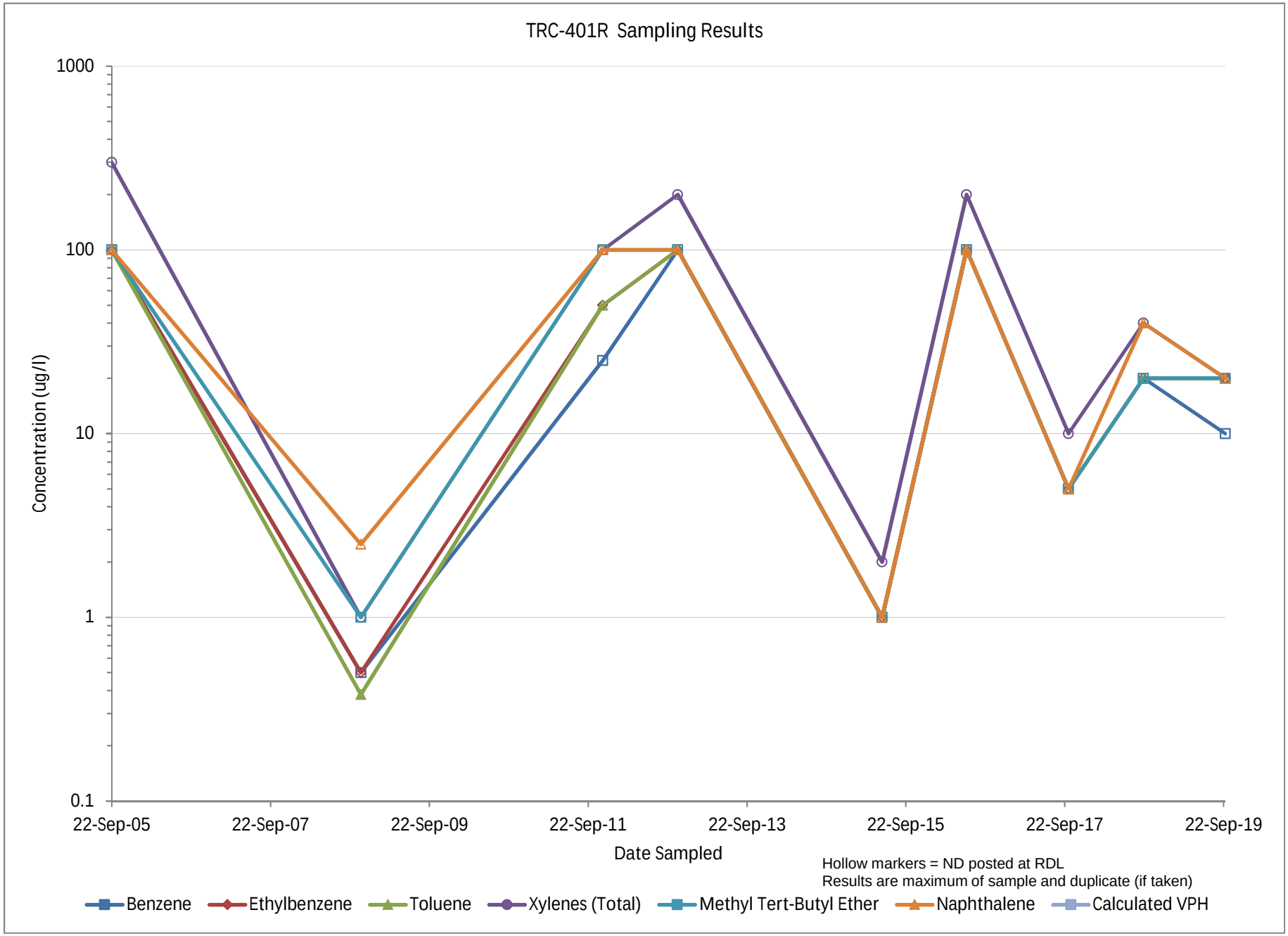

TRC-102 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Dec-00
1-Dec-03
1-Dec-06
1-Dec-09
1-Dec-12
1-Dec-15
1-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

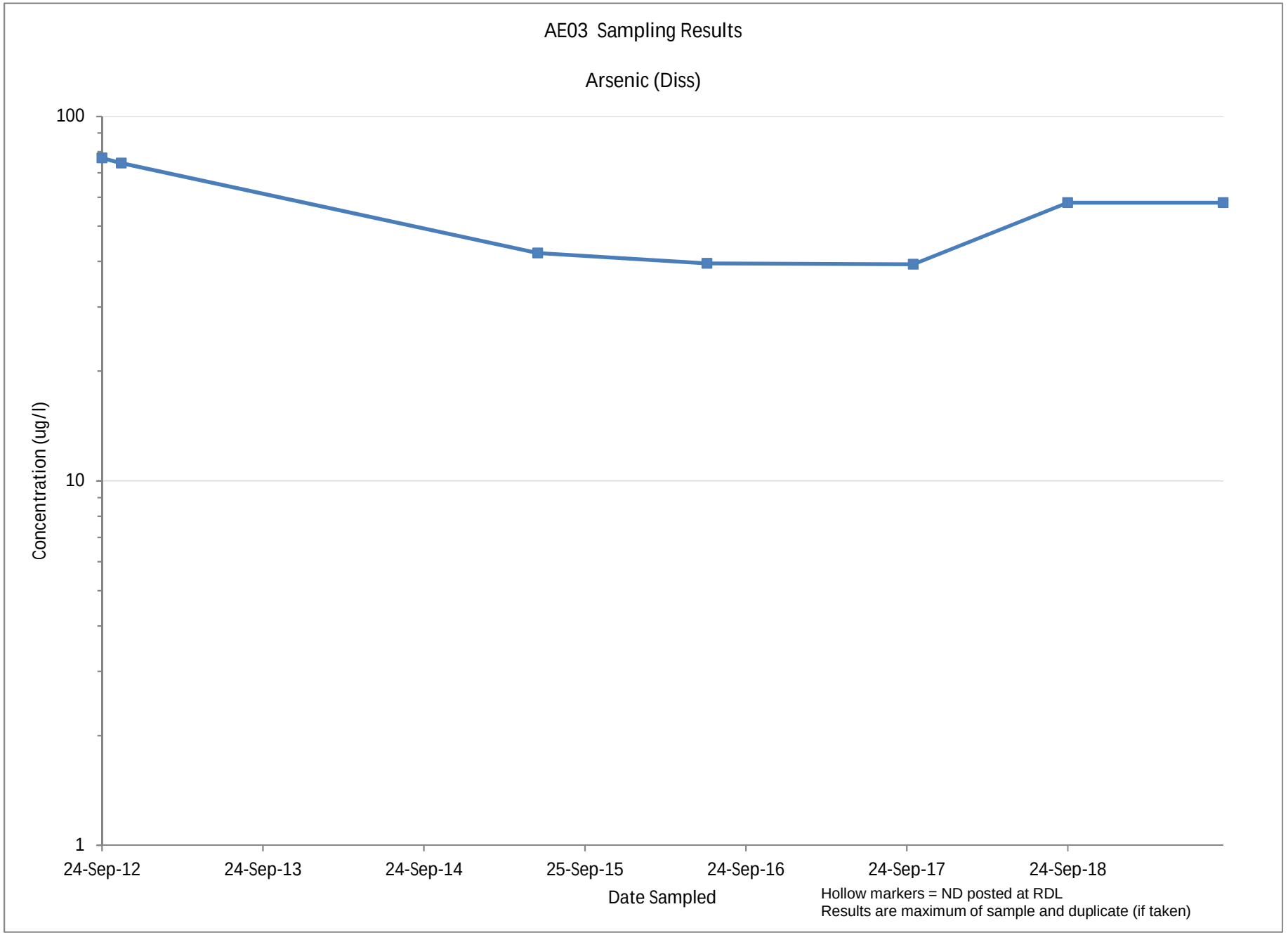

TRC-103 Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
1-Dec-00
1-Dec-03
1-Dec-06
1-Dec-09
1-Dec-12
1-Dec-15
1-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

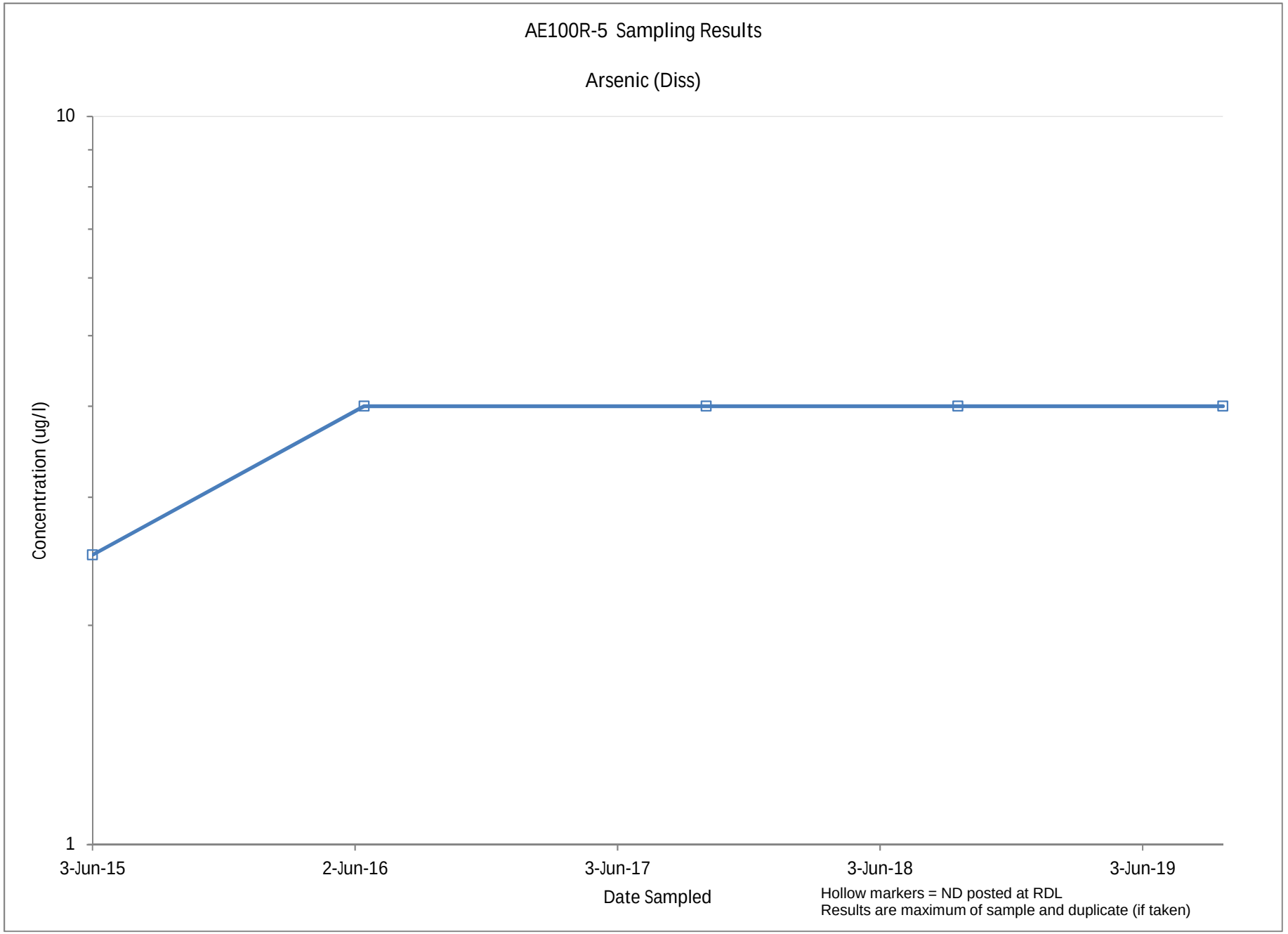

TRC-201R Sampling Results
10
1
0.1
Concentration (ug/l)
5-Apr-01
4-Apr-04
5-Apr-07
5-Apr-10
5-Apr-13
4-Apr-16
5-Apr-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

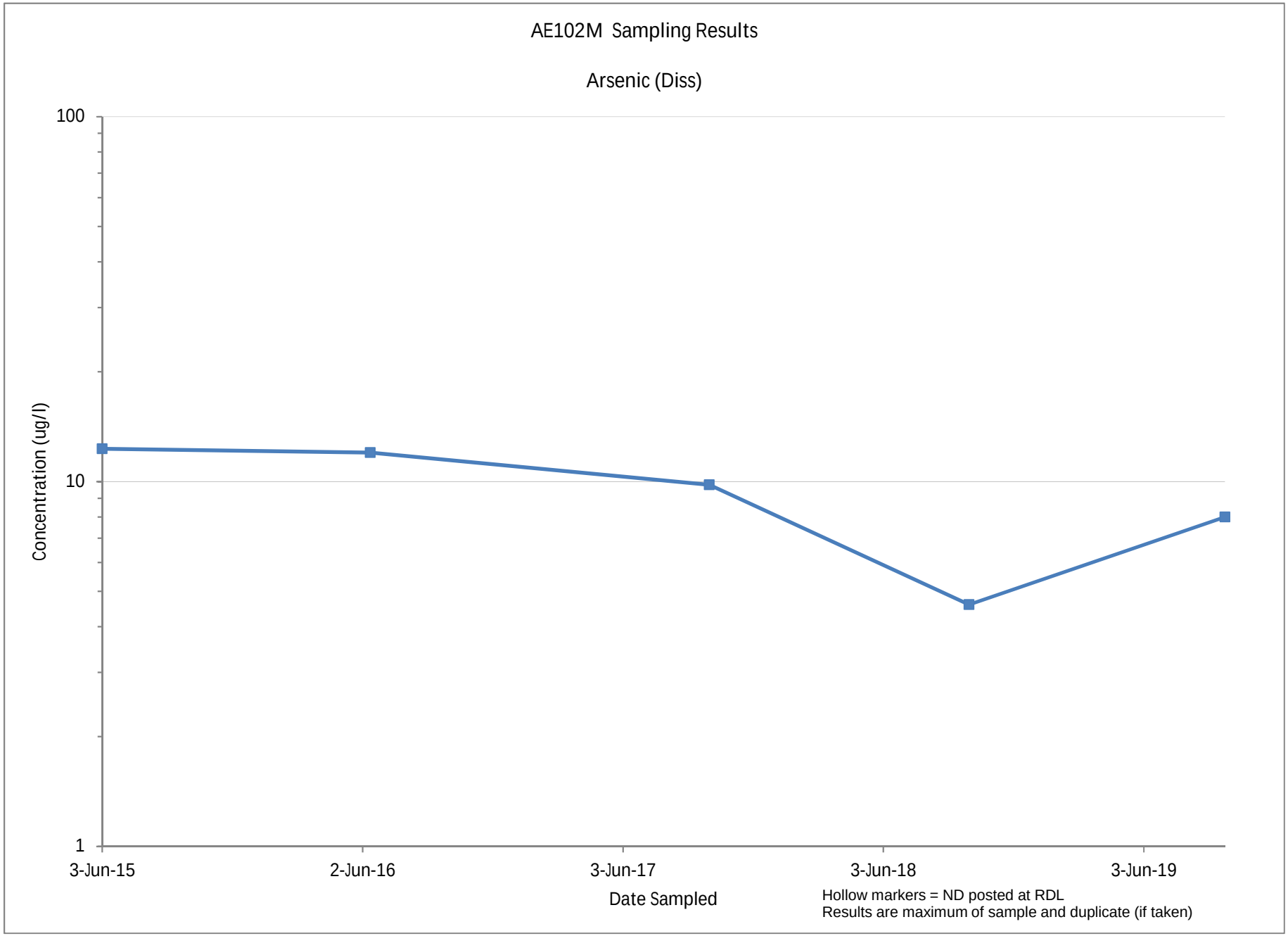

TRC-301R-2 Sampling Results
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
16-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

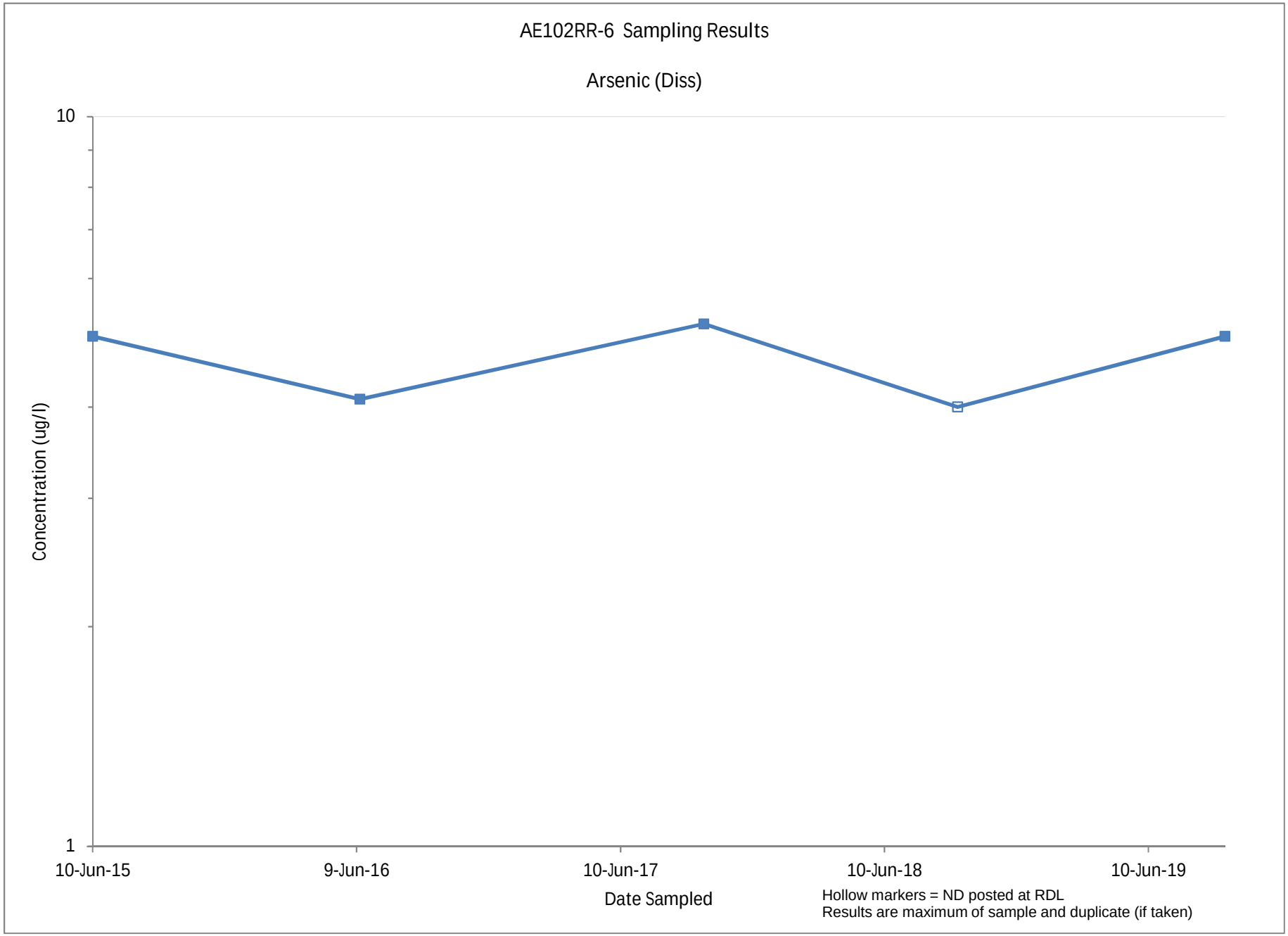

TRC-301R-4 Sampling Results
100
10
1
0.1
Concentration (ug/l)
16-Dec-14
16-Dec-15
15-Dec-16
16-Dec-17
16-Dec-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

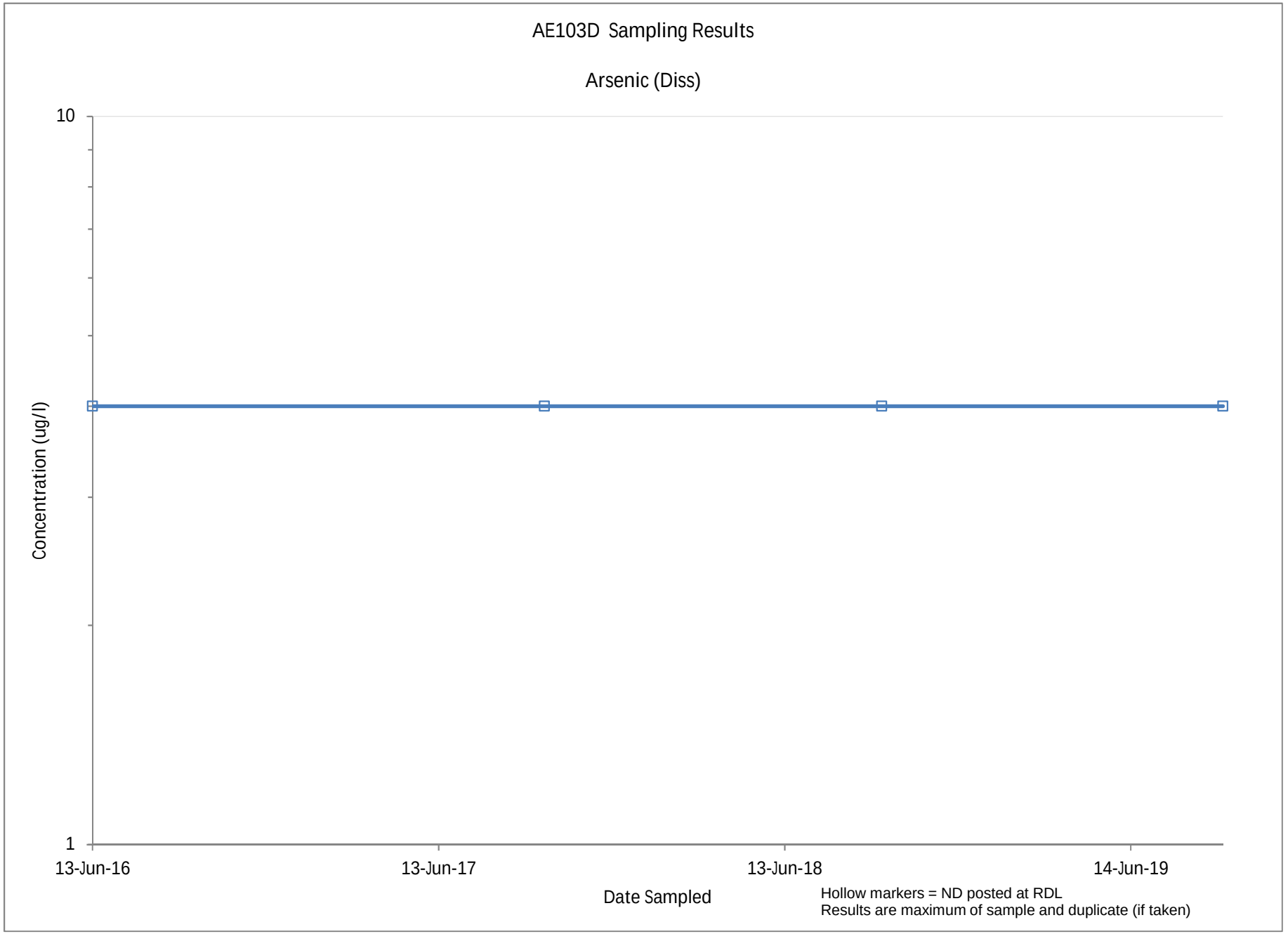

TRC-401R Sampling Results
1000
100
10
1
0.1
Concentration (ug/l)
22-Sep-05
22-Sep-07
22-Sep-09
22-Sep-11
22-Sep-13
22-Sep-15
22-Sep-17
22-Sep-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)
Benzene
Ethylbenzene
Toluene
Xylenes (Total)
Methyl Tert-Butyl Ether
Naphthalene
Calculated VPH

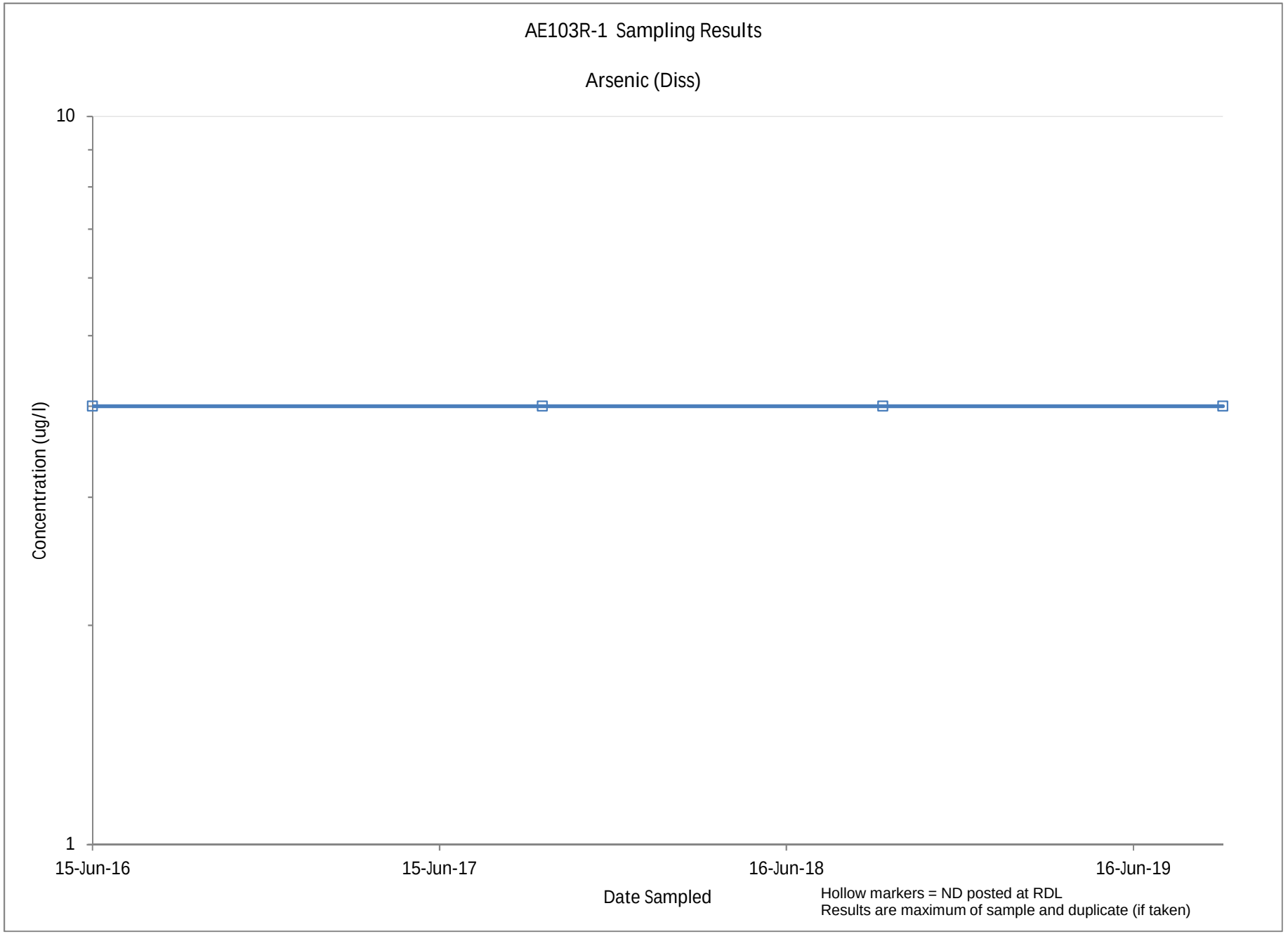

AE03 Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
24-Sep-12
24-Sep-13
24-Sep-14
25-Sep-15
24-Sep-16
24-Sep-17
24-Sep-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

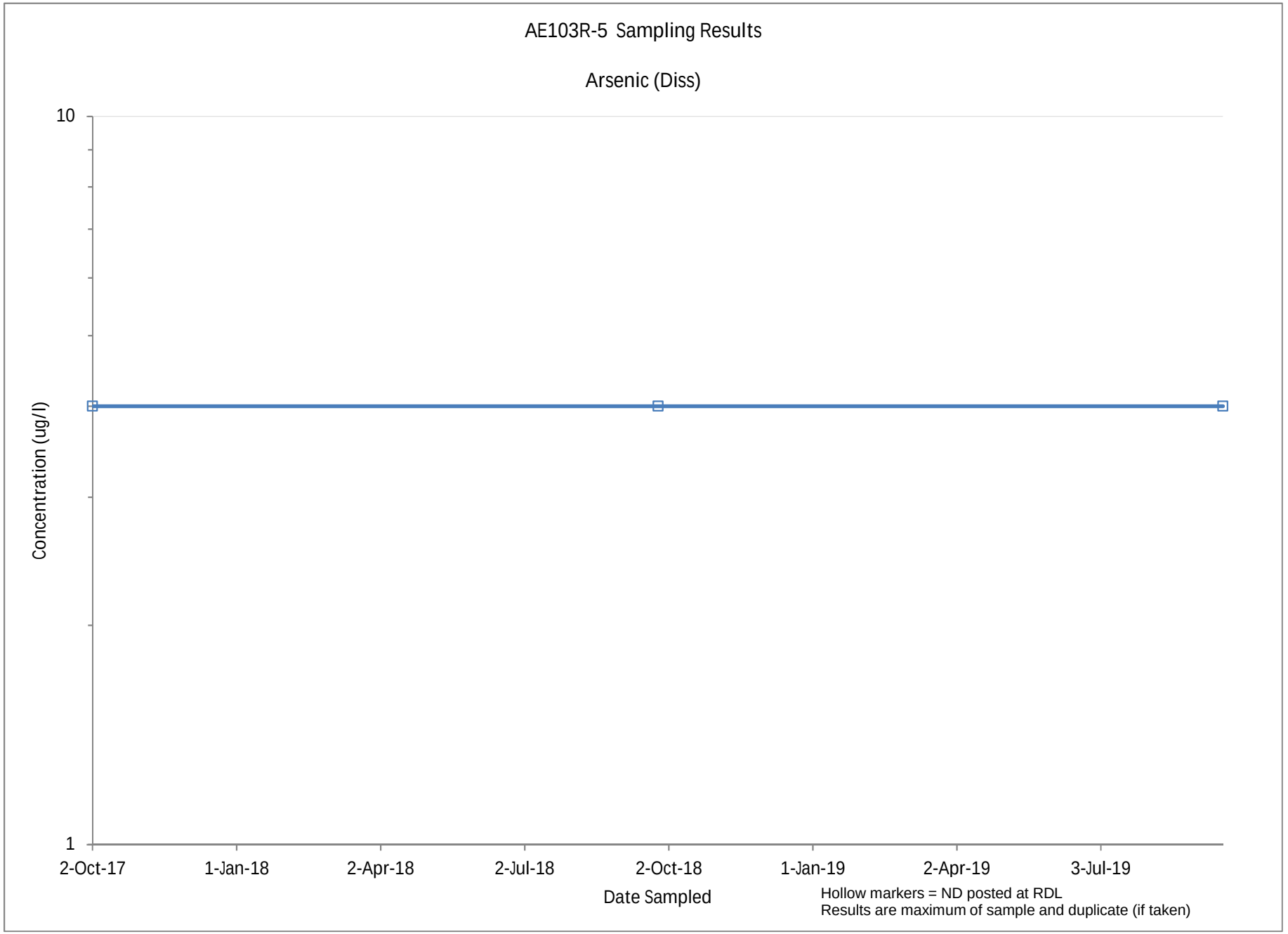

AE100R-5 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
3-Jun-15
2-Jun-16
3-Jun-17
3-Jun-18
3-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

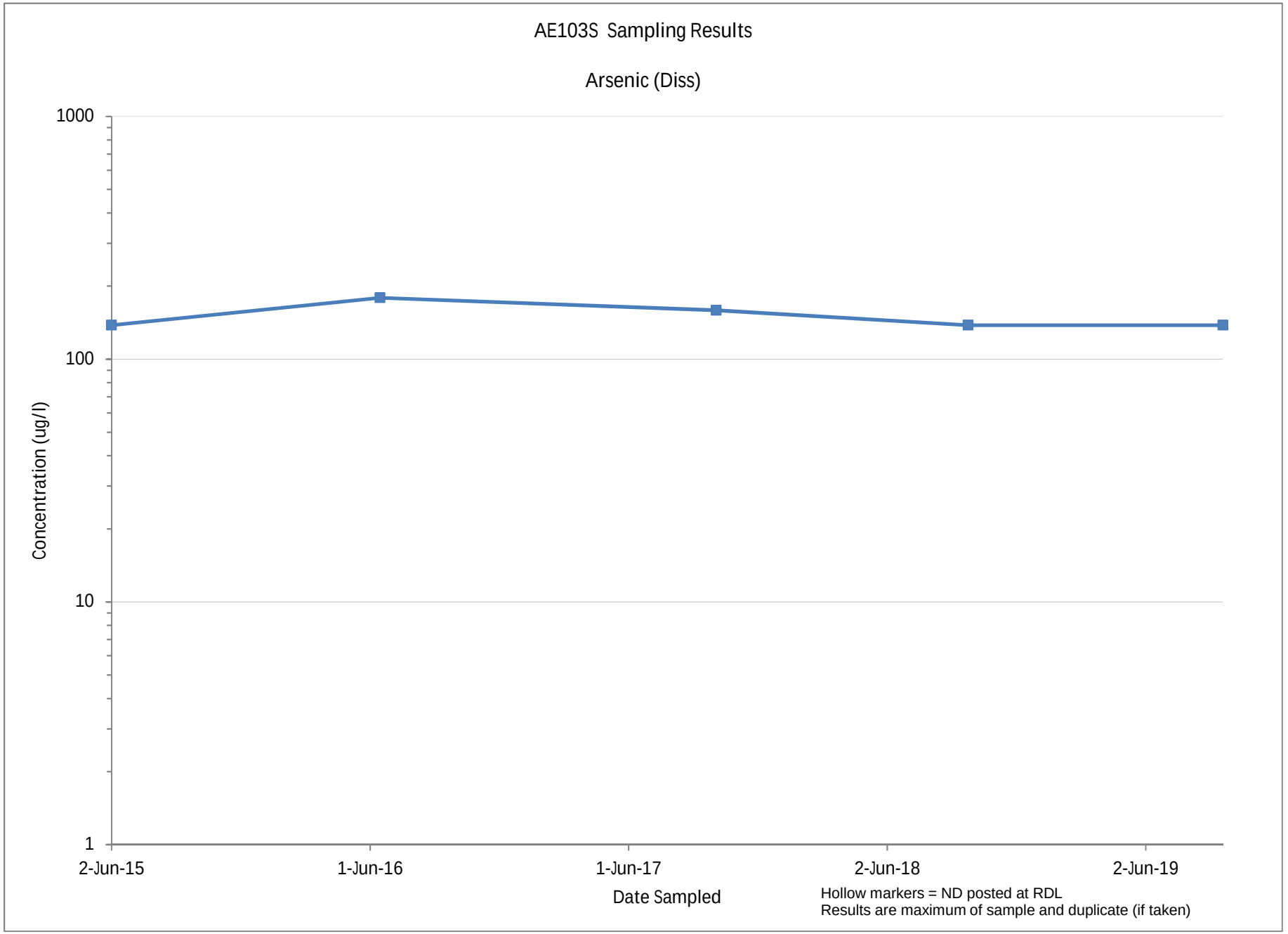

AE102M Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
3-Jun-15
2-Jun-16
3-Jun-17
3-Jun-18
3-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

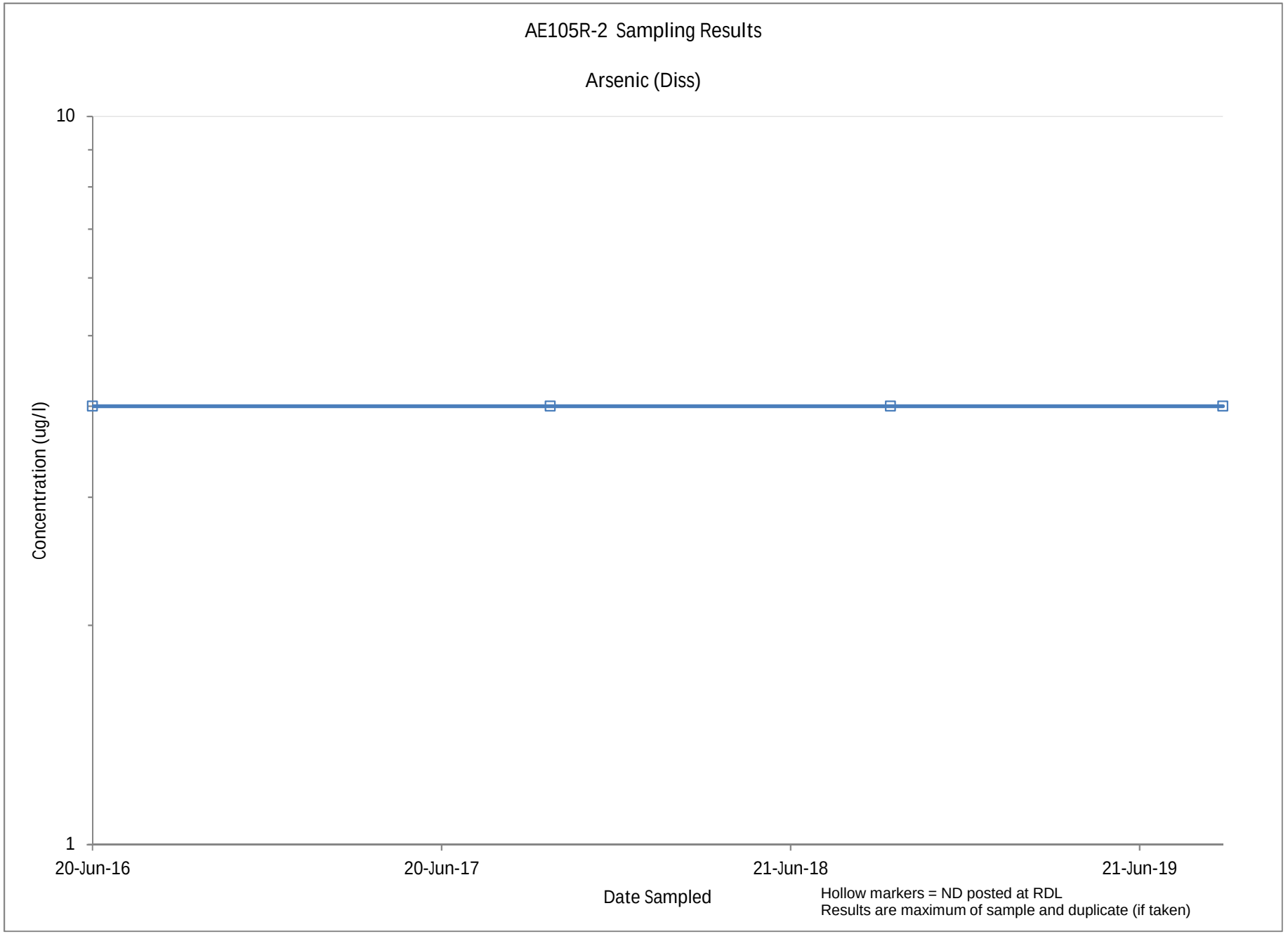

AE102RR-6 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
10-Jun-15
9-Jun-16
10-Jun-17
10-Jun-18
10-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

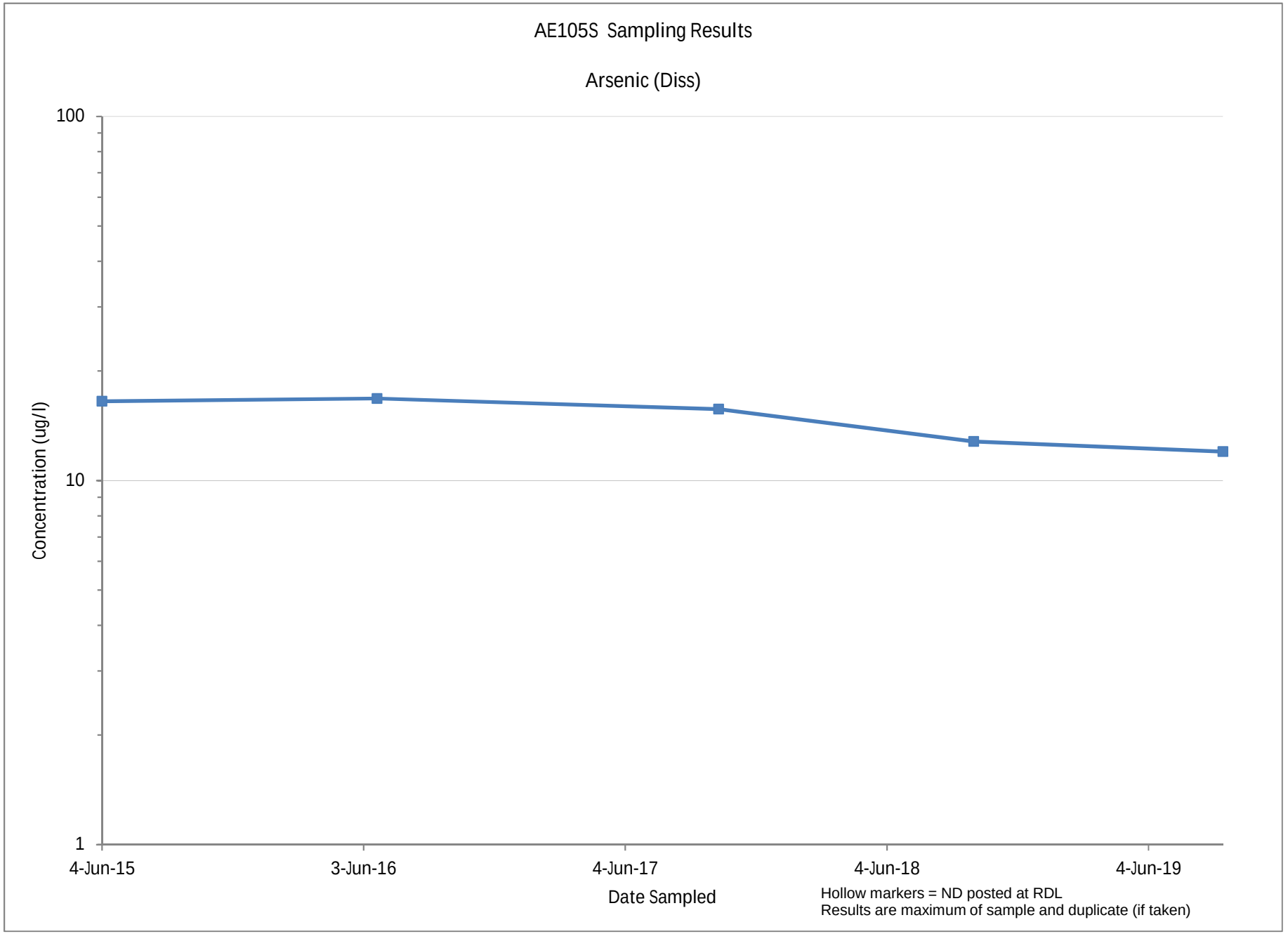

AE103D Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
13-Jun-16
13-Jun-17
13-Jun-18
14-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

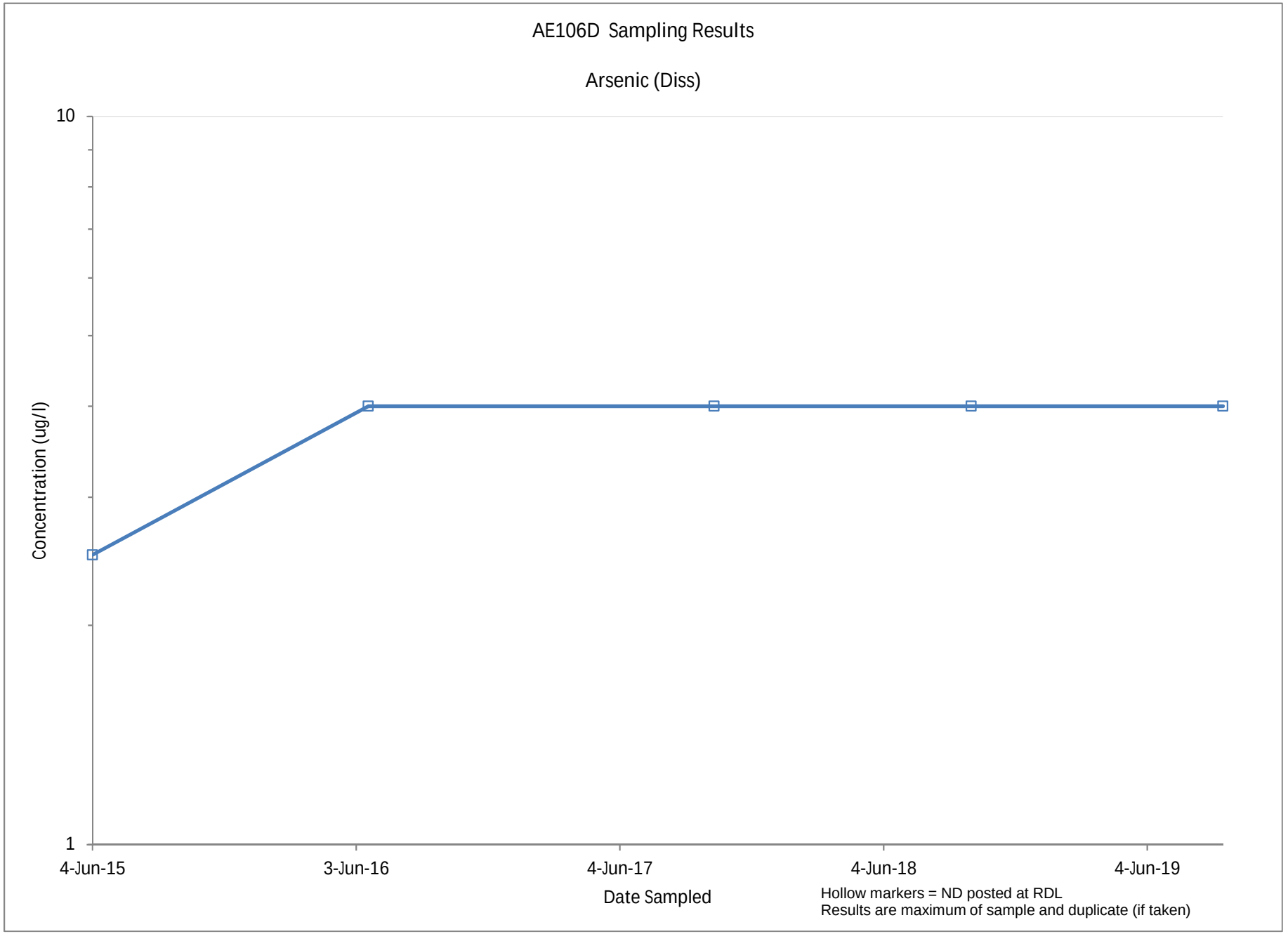

AE103R-1 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
15-Jun-16
15-Jun-17
16-Jun-18
16-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

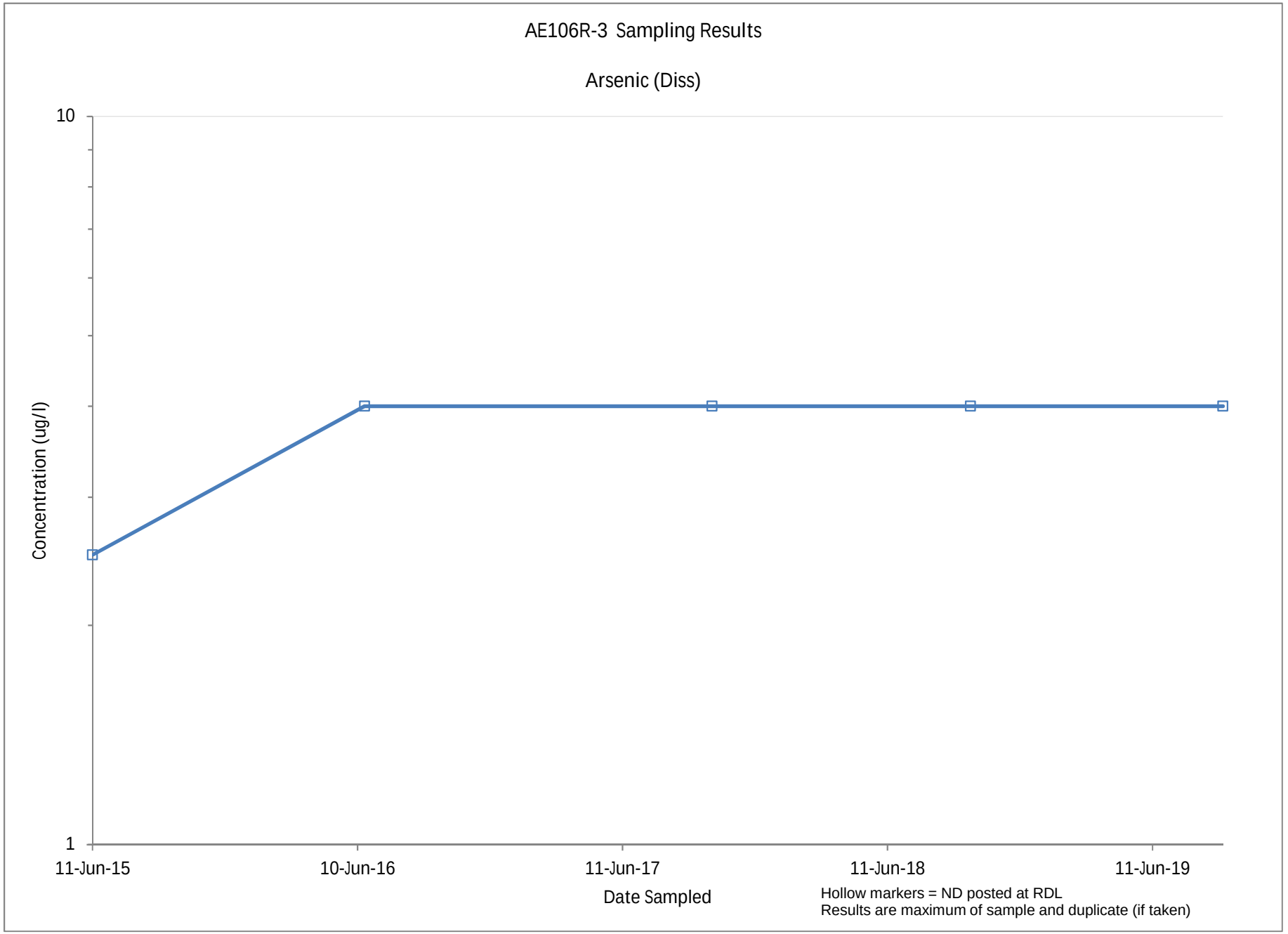

AE103R-5 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
2-Oct-17
1-Jan-18
2-Apr-18
2-Jul-18
2-Oct-18
1-Jan-19
2-Apr-19
3-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

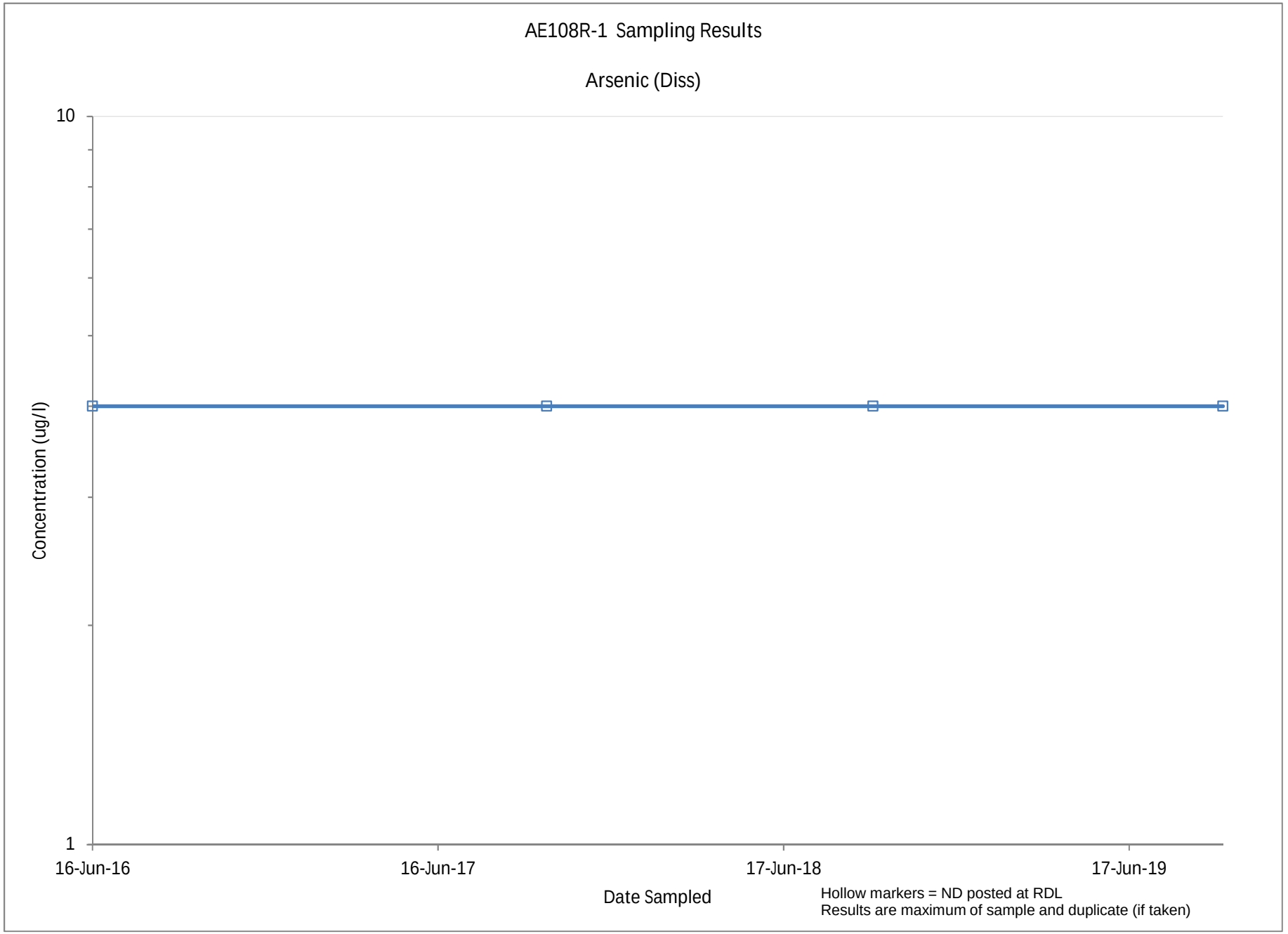

AE103S Sampling Results
Arsenic (Diss)
1000
100
10
1
Concentration (ug/l)
2-Jun-15
1-Jun-16
1-Jun-17
2-Jun-18
2-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

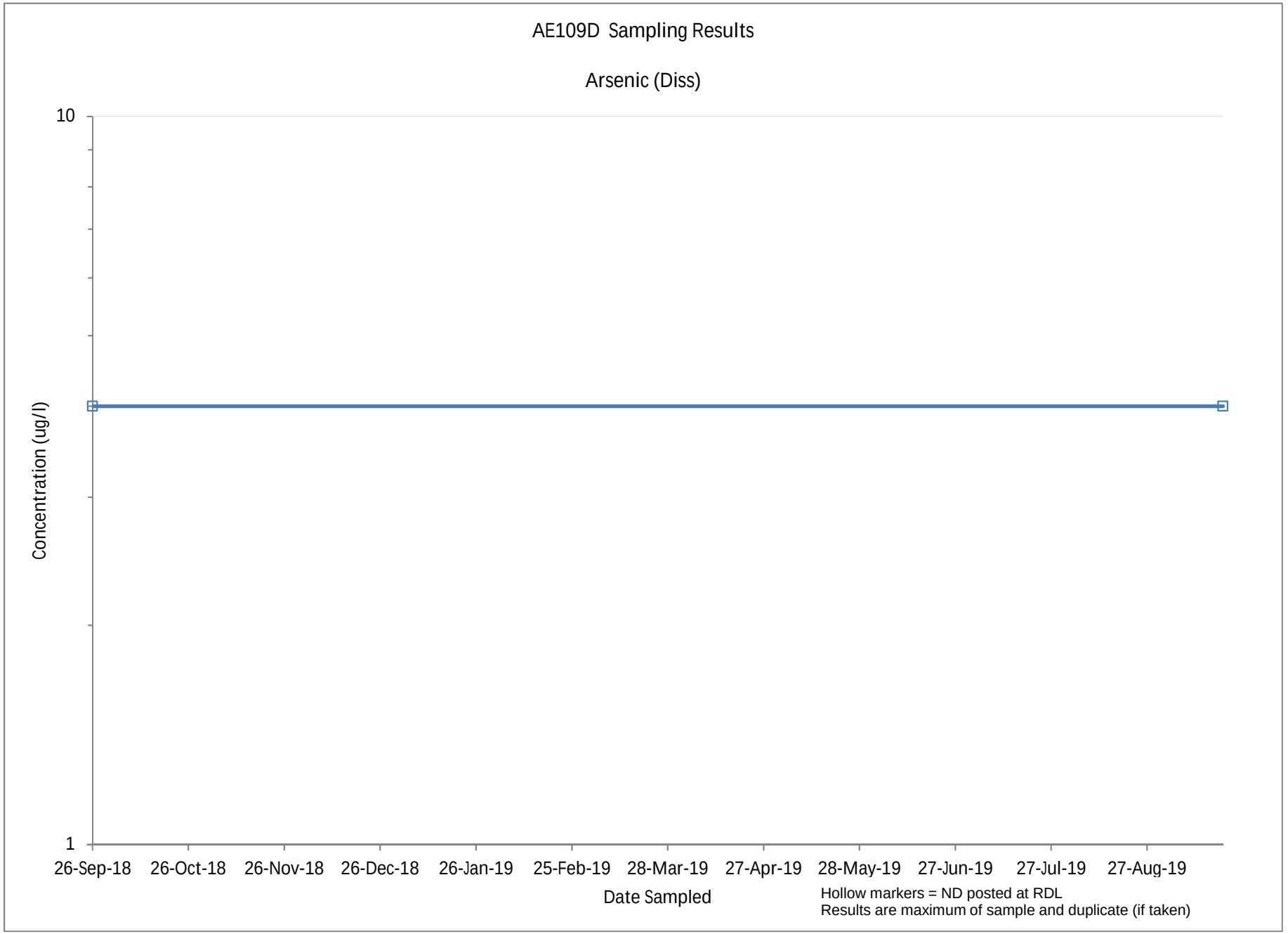

AE105R-2 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
20-Jun-16
20-Jun-17
21-Jun-18
21-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

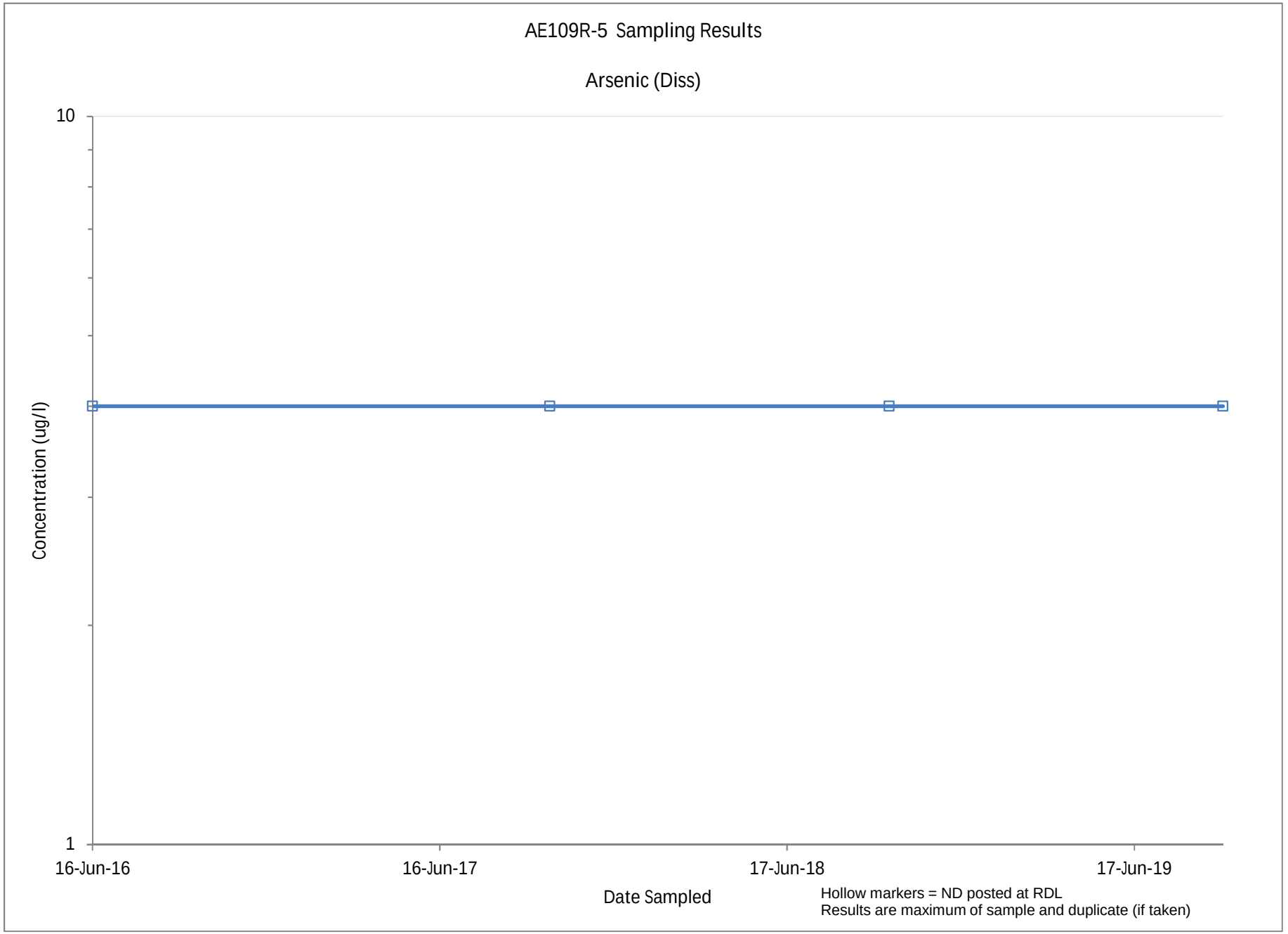

AE105S Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
4-Jun-15
3-Jun-16
4-Jun-17
4-Jun-18
4-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

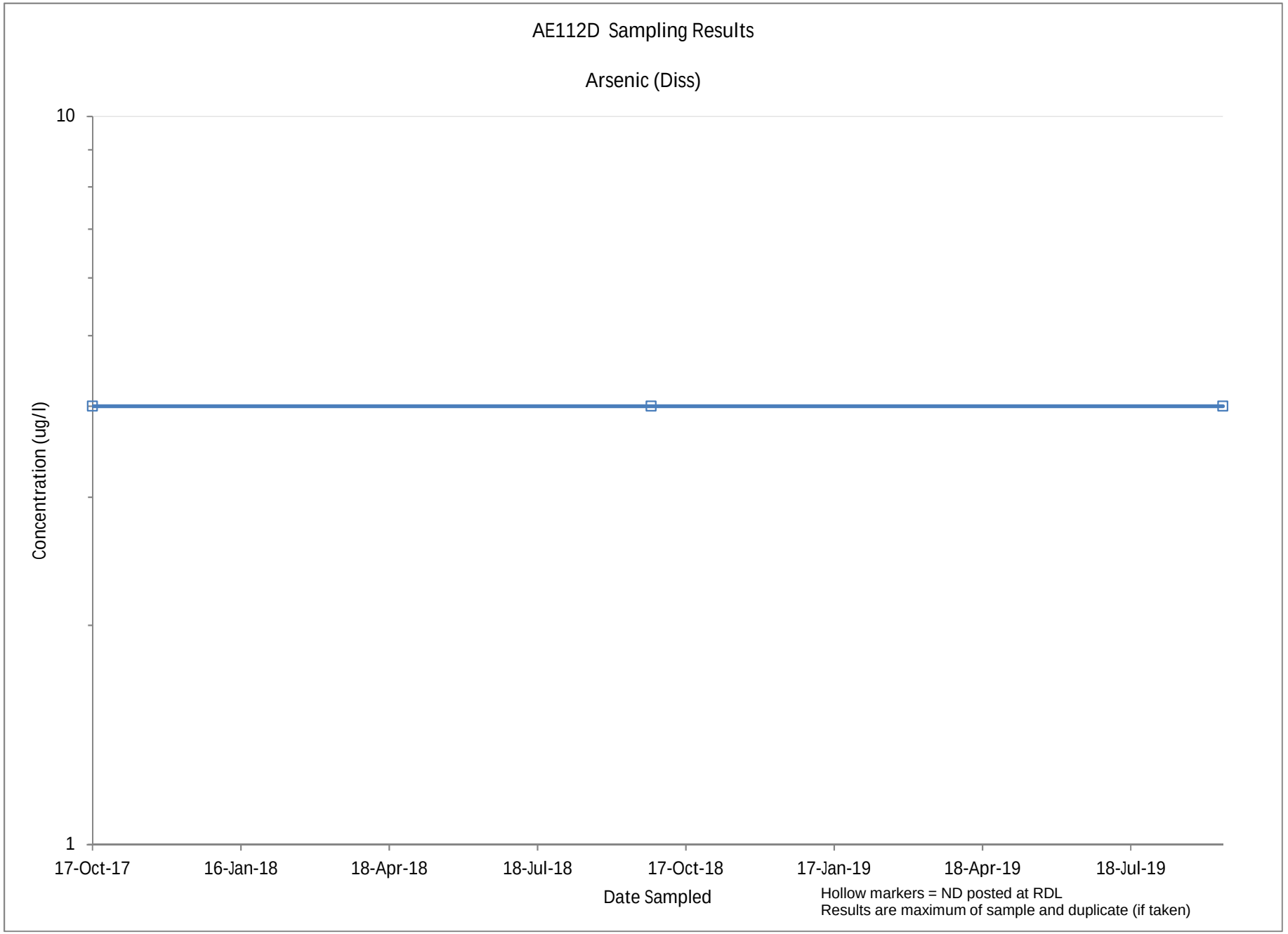

AE106D Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
4-Jun-15
3-Jun-16
4-Jun-17
4-Jun-18
4-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

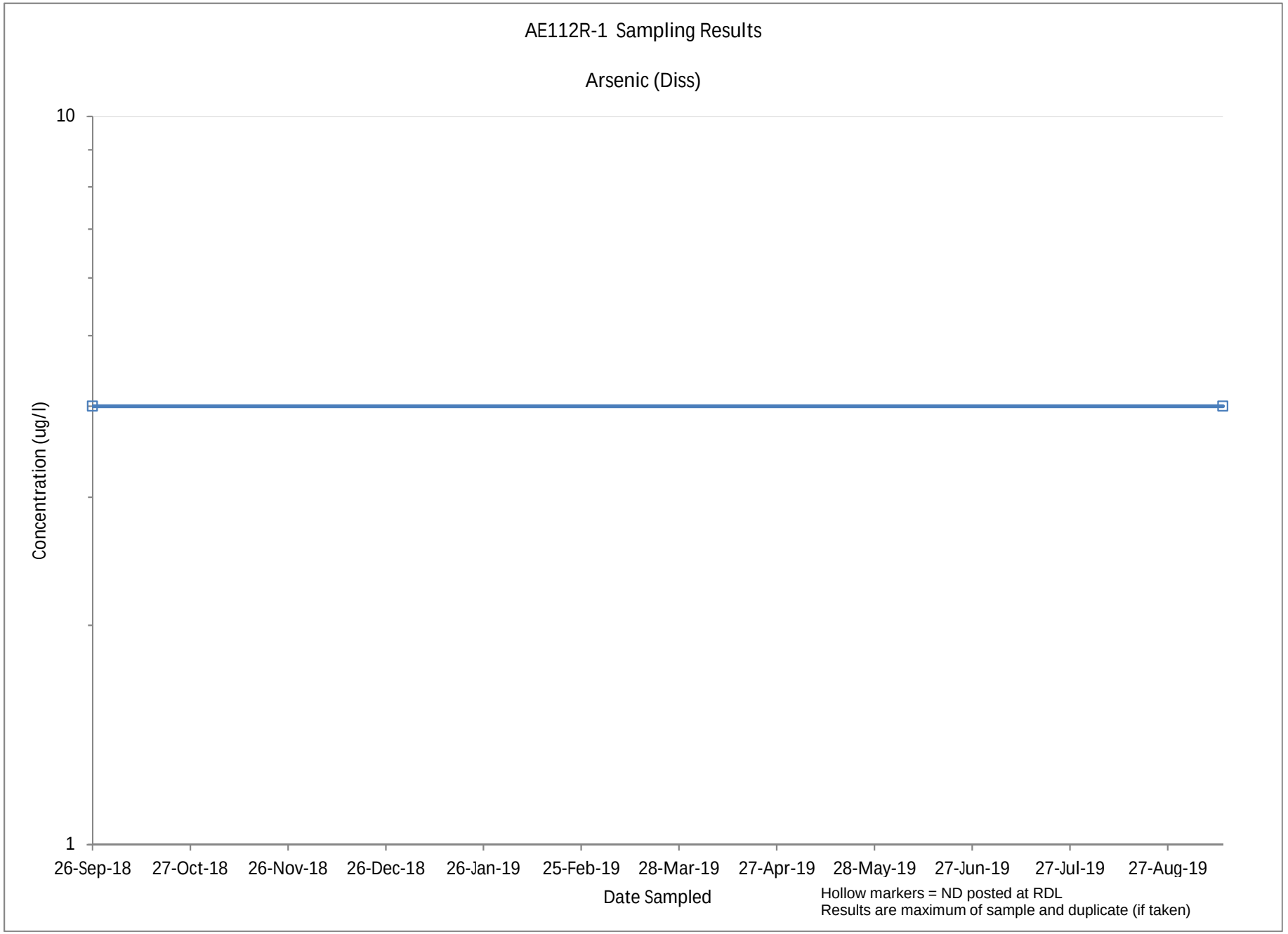

AE106R-3 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
11-Jun-15
10-Jun-16
11-Jun-17
11-Jun-18
11-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

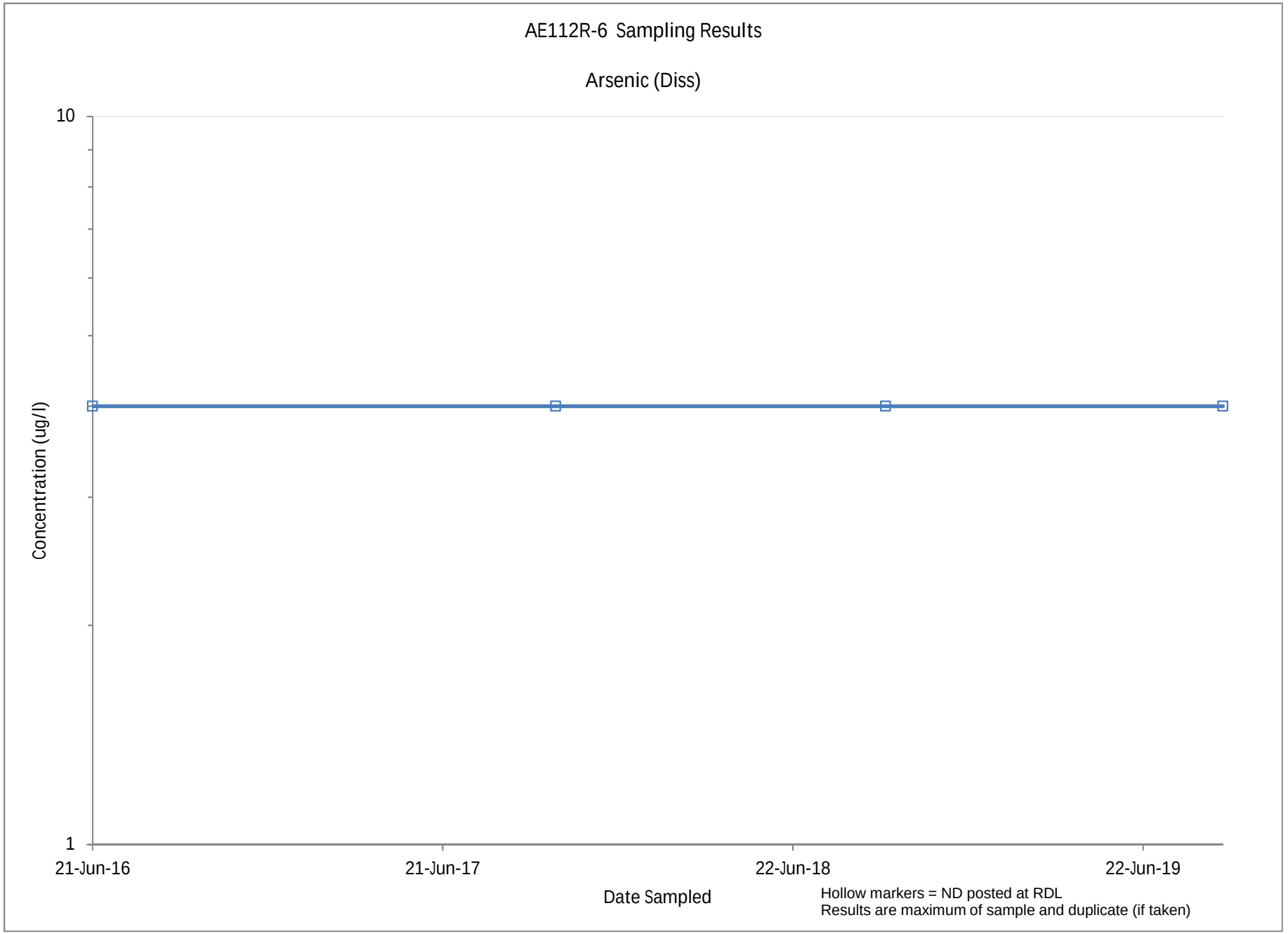

AE108R-1 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

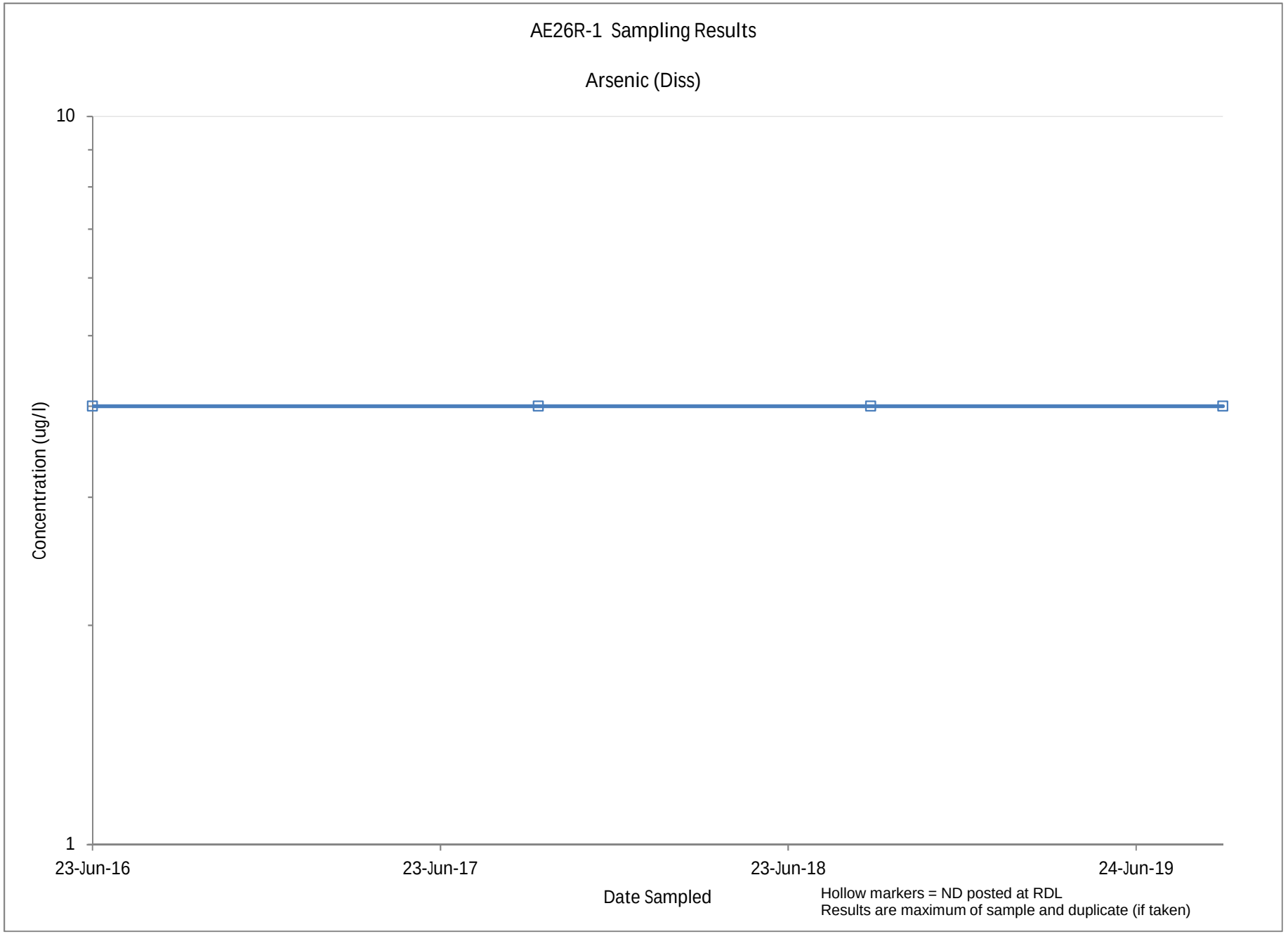

AE109D Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
26-Sep-18
26-Oct-18
26-Nov-18
26-Dec-18
26-Jan-19
25-Feb-19
28-Mar-19
27-Apr-19
28-May-19
27-Jun-19
27-Jul-19
27-Aug-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

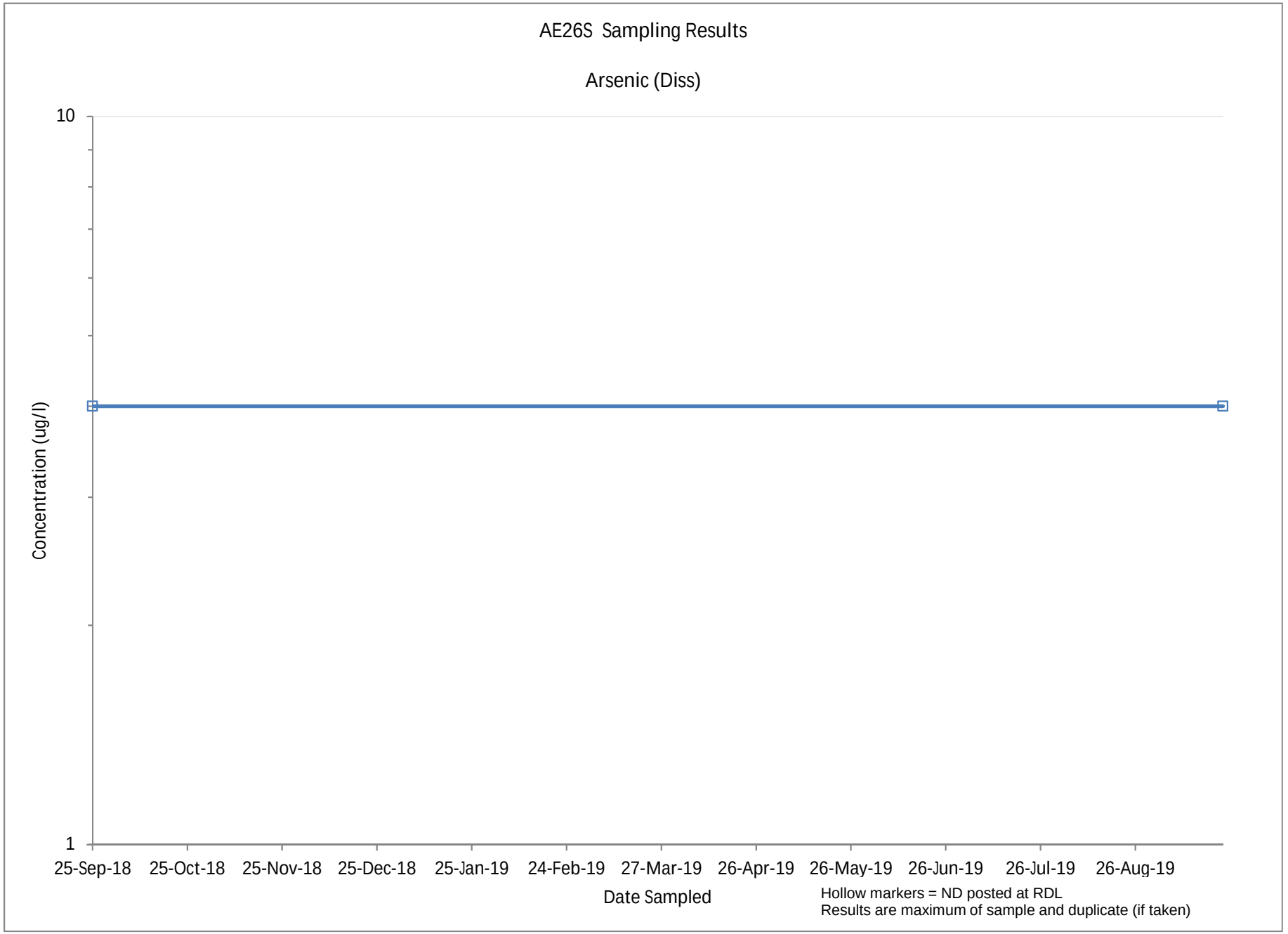

AE109R-5 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
16-Jun-16
16-Jun-17
17-Jun-18
17-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

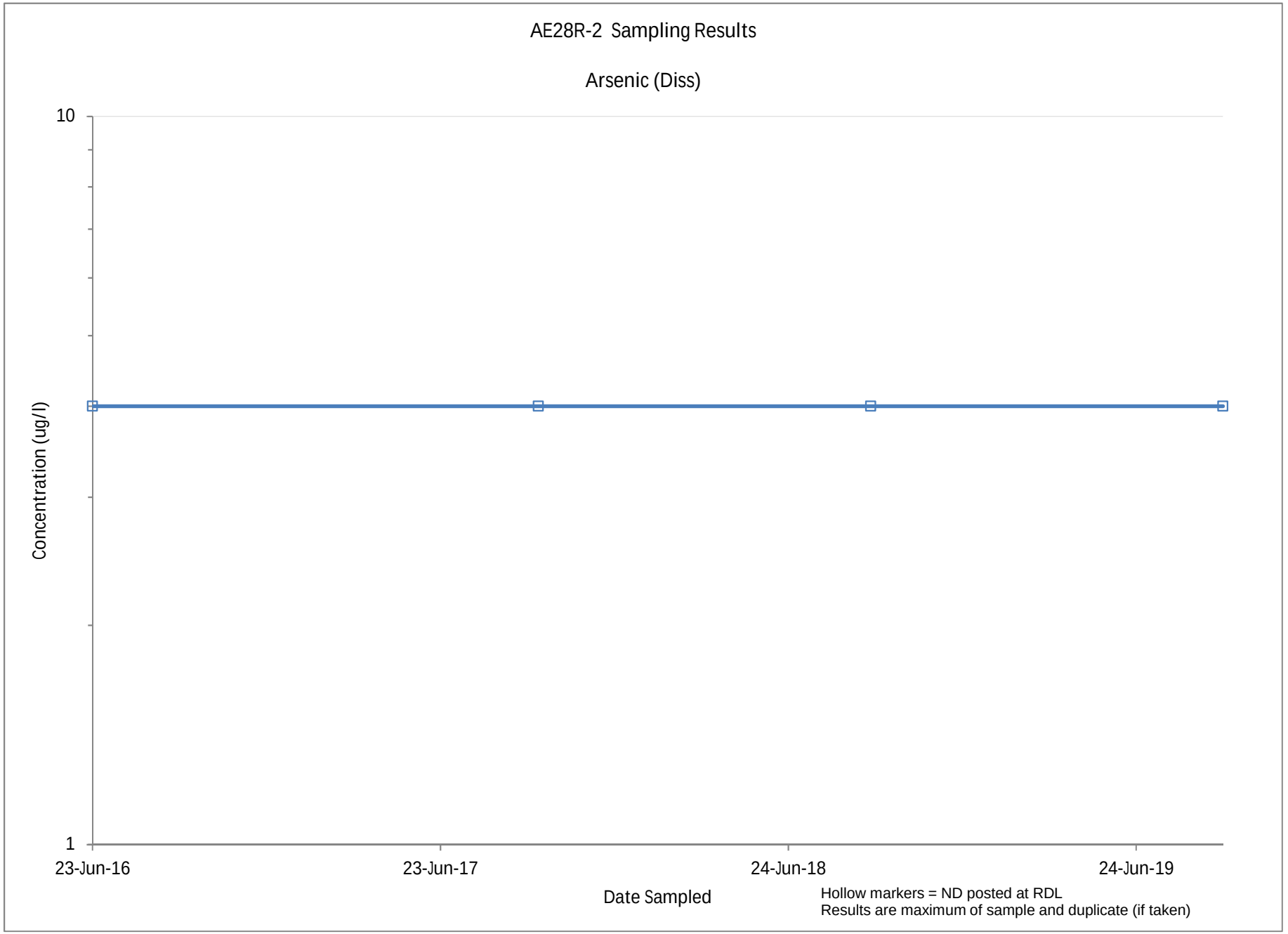

AE112D Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
17-Oct-17
16-Jan-18
18-Apr-18
18-Jul-18
17-Oct-18
17-Jan-19
18-Apr-19
18-Jul-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

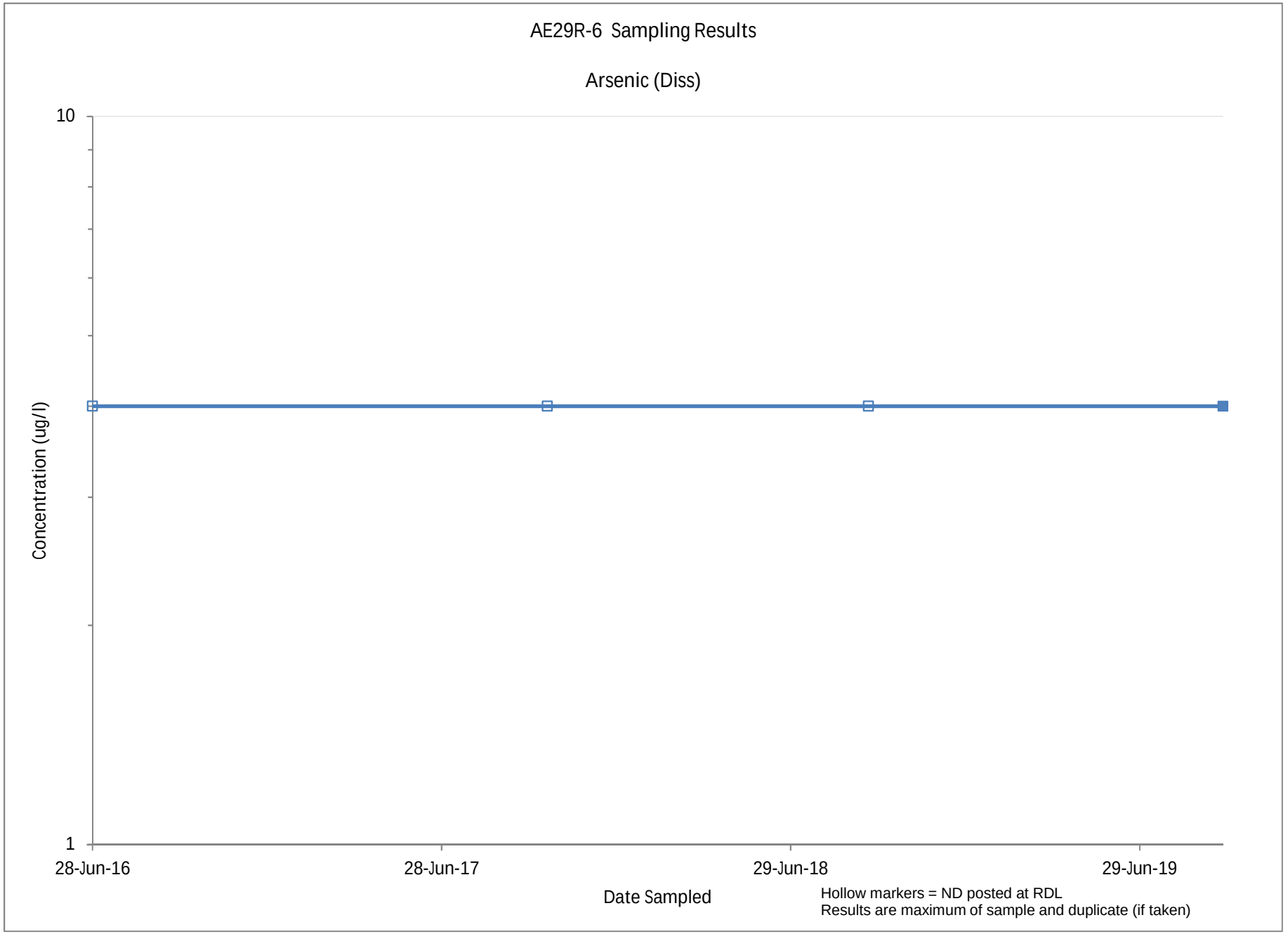

AE112R-1 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
26-Sep-18
27-Oct-18
26-Nov-18
26-Dec-18
26-Jan-19
25-Feb-19
28-Mar-19
27-Apr-19
28-May-19
27-Jun-19
27-Jul-19
27-Aug-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

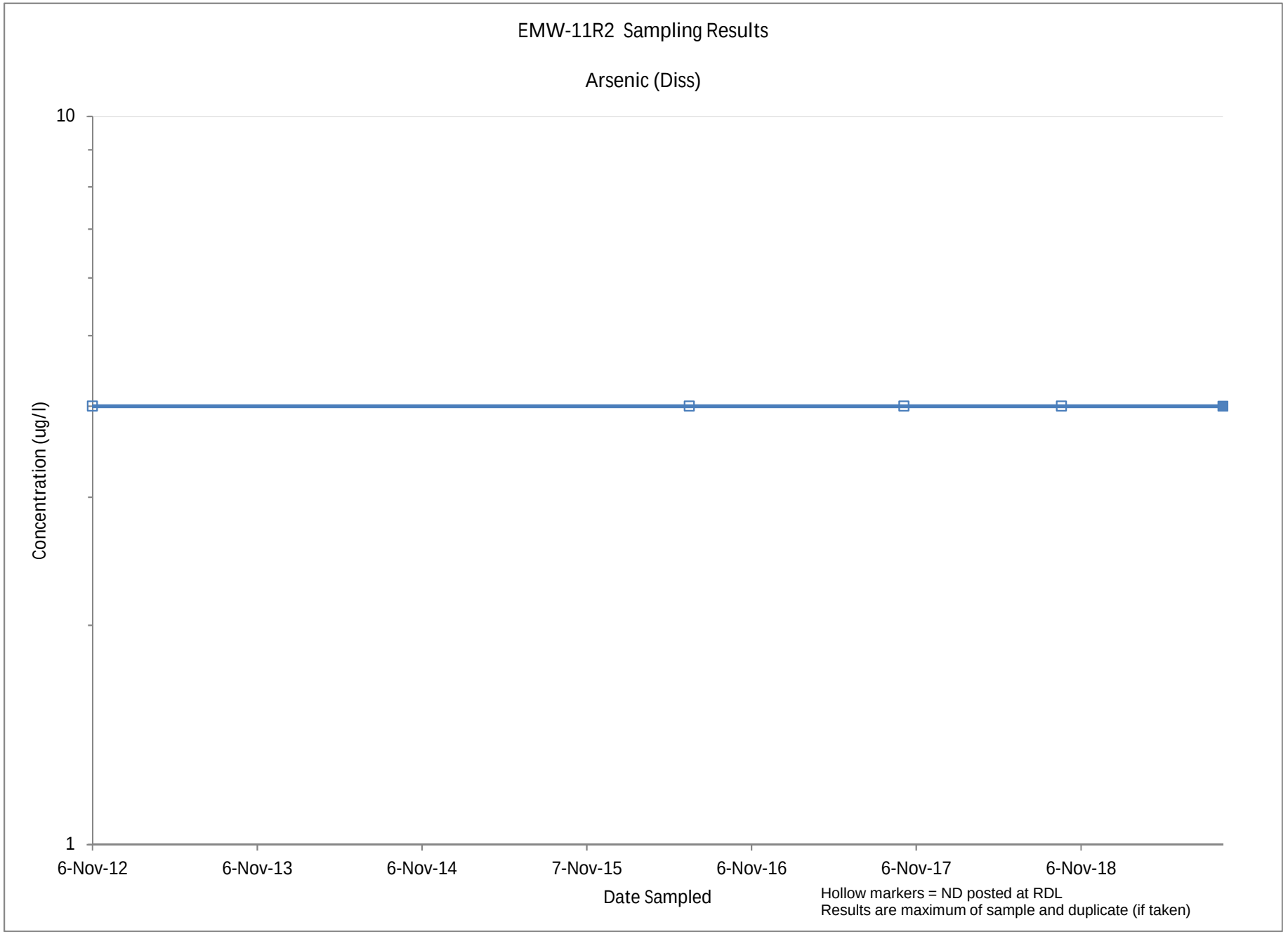

AE112R-6 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
21-Jun-16
21-Jun-17
22-Jun-18
22-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

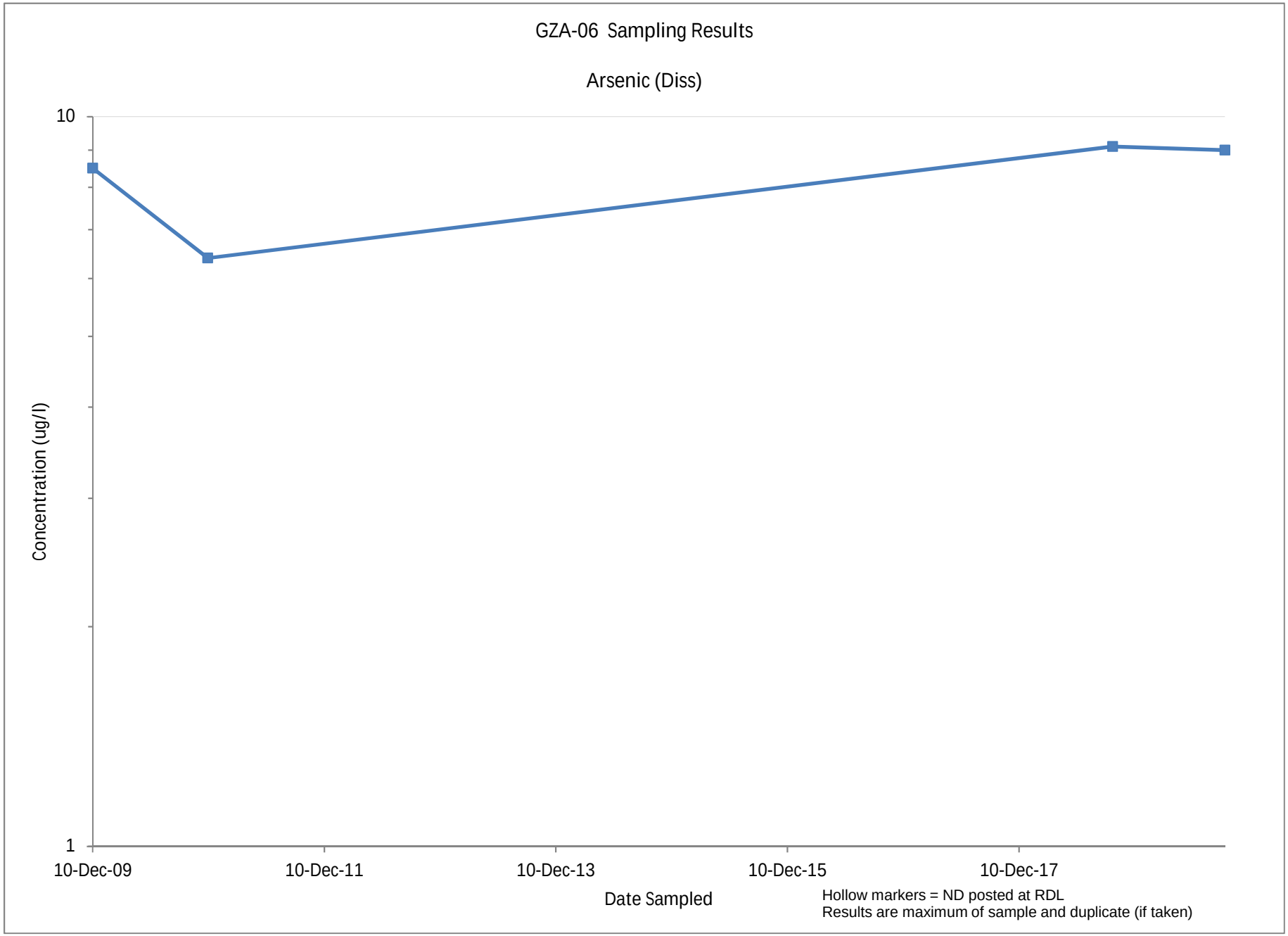

AE26R-1 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
23-Jun-16
23-Jun-17
23-Jun-18
24-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

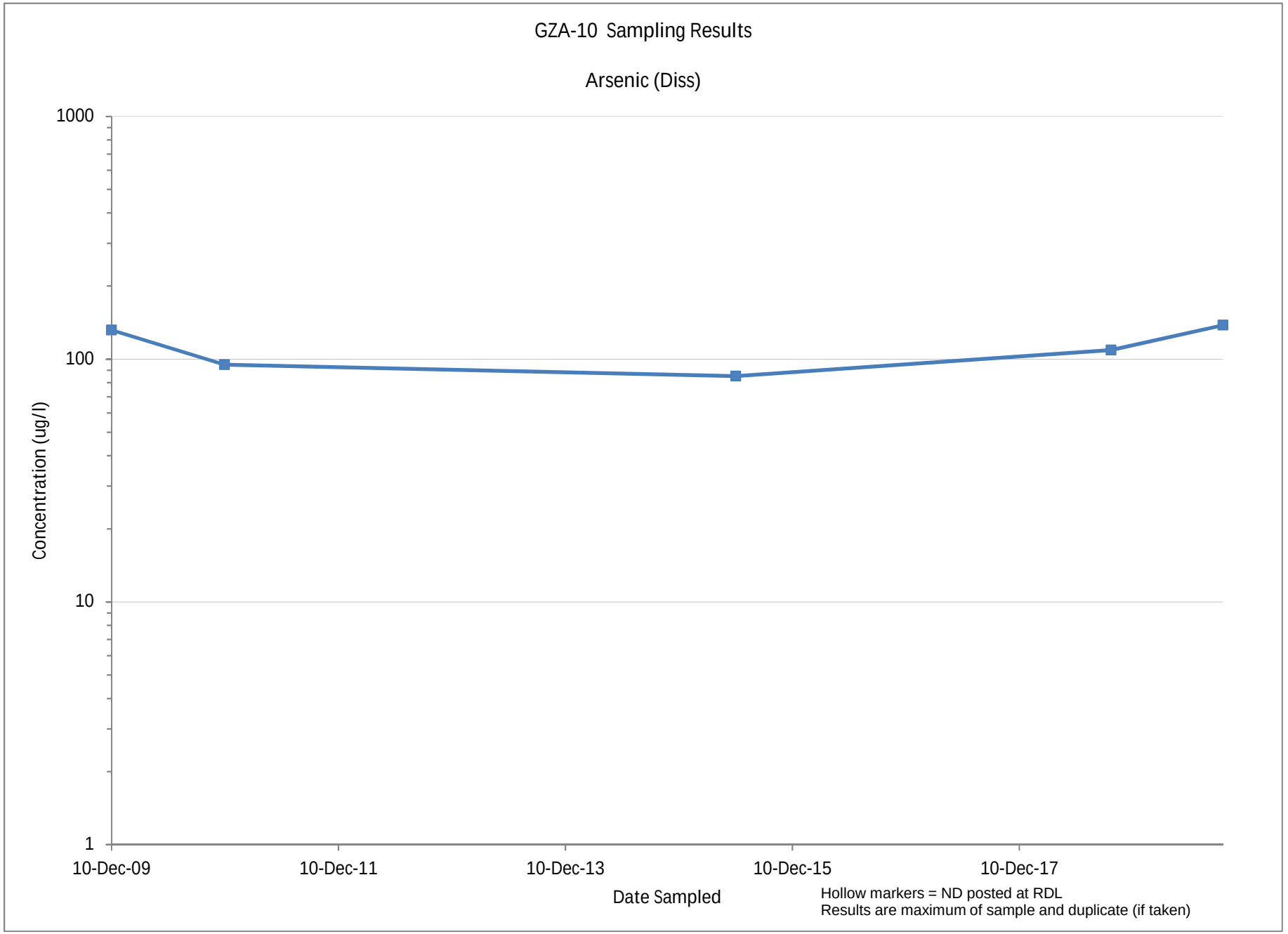

AE26S Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
25-Sep-18
25-Oct-18
25-Nov-18
25-Dec-18
25-Jan-19
24-Feb-19
27-Mar-19
26-Apr-19
26-May-19
26-Jun-19
26-Jul-19
26-Aug-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

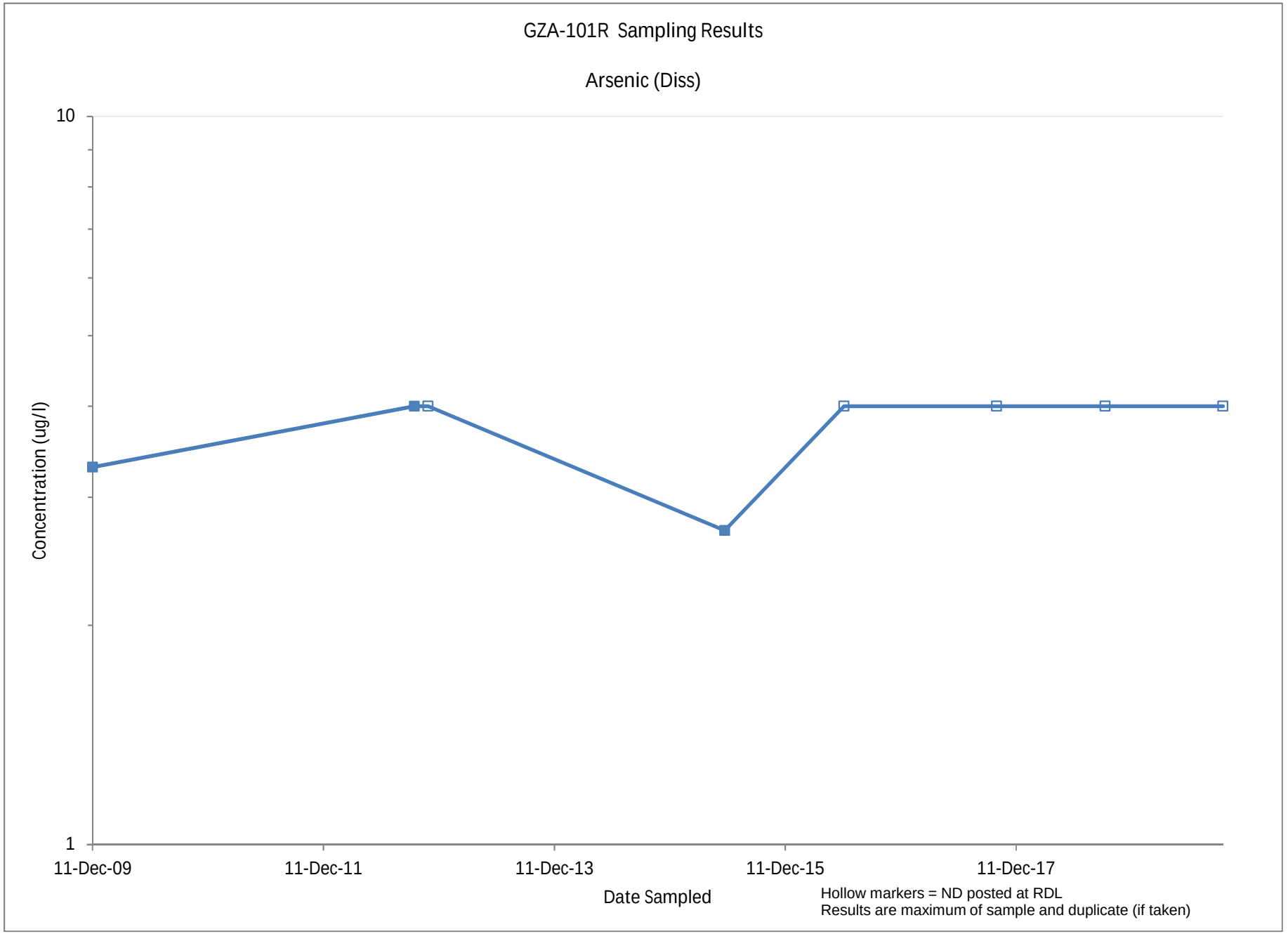

AE28R-2 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
23-Jun-16
23-Jun-17
24-Jun-18
24-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

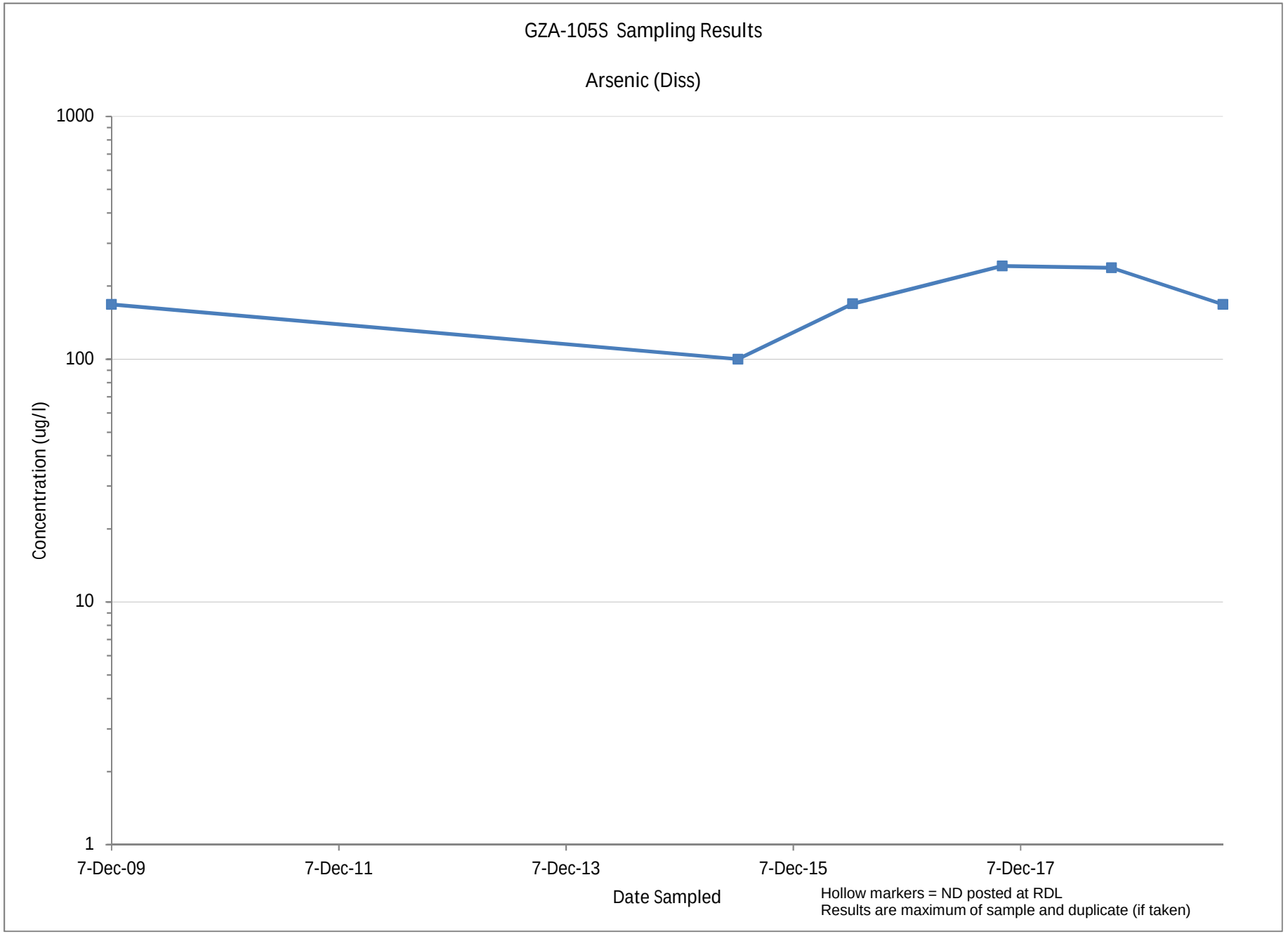

AE29R-6 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
28-Jun-16
28-Jun-17
29-Jun-18
29-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

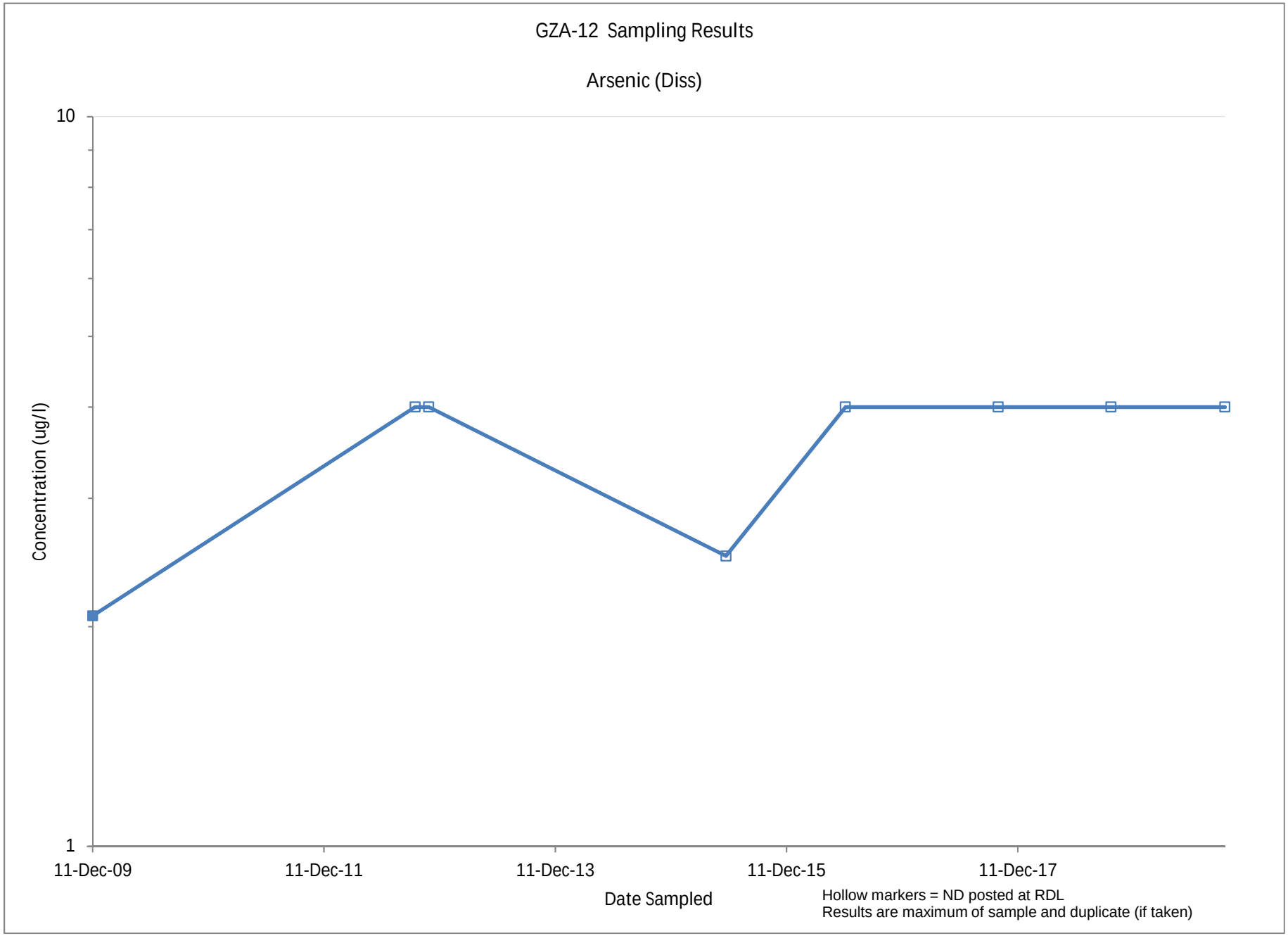

EMW-11R2 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
6-Nov-12
6-Nov-13
6-Nov-14
7-Nov-15
6-Nov-16
6-Nov-17
6-Nov-18
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

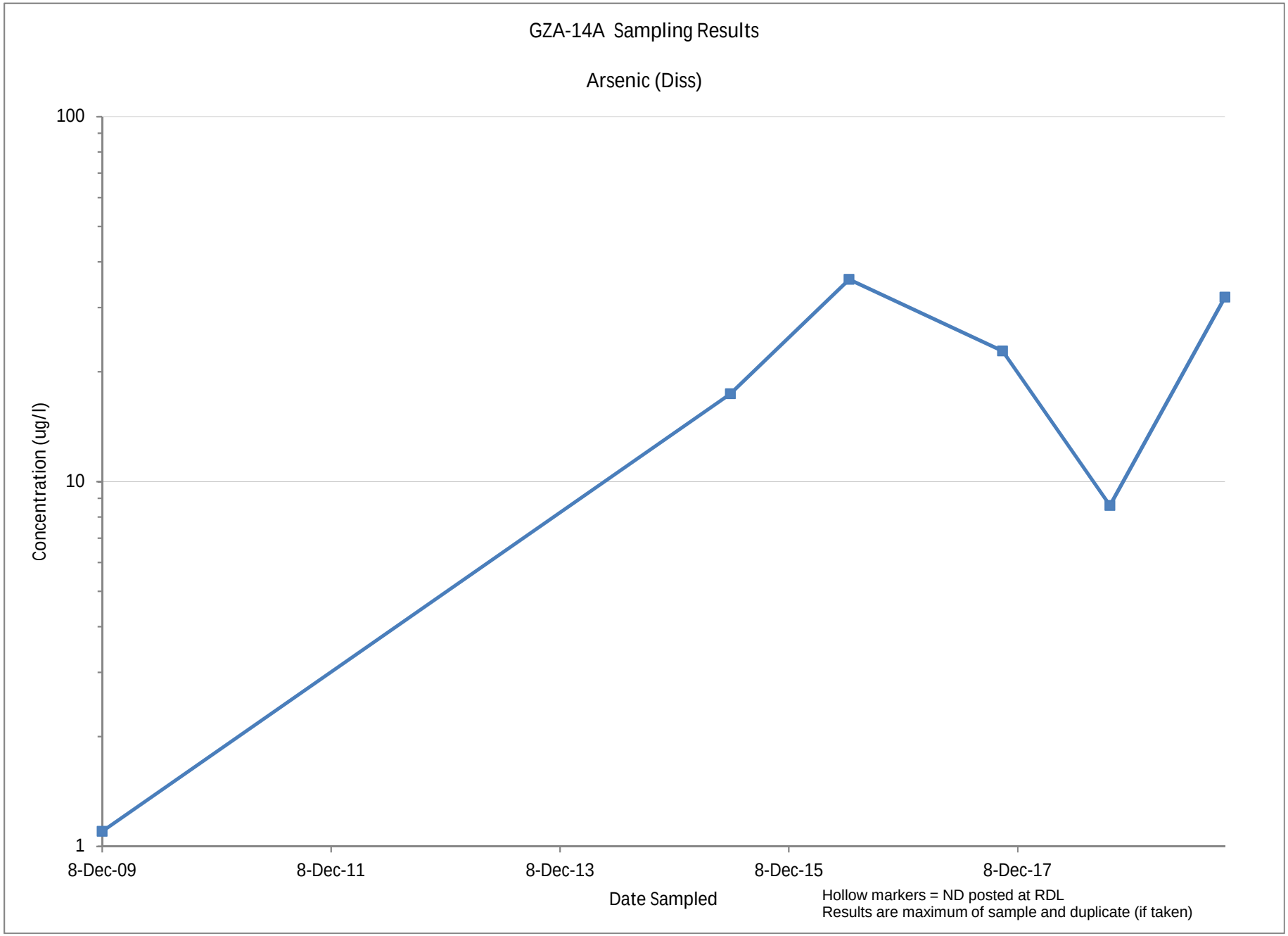

GZA-06 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
10-Dec-09
10-Dec-11
10-Dec-13
10-Dec-15
10-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

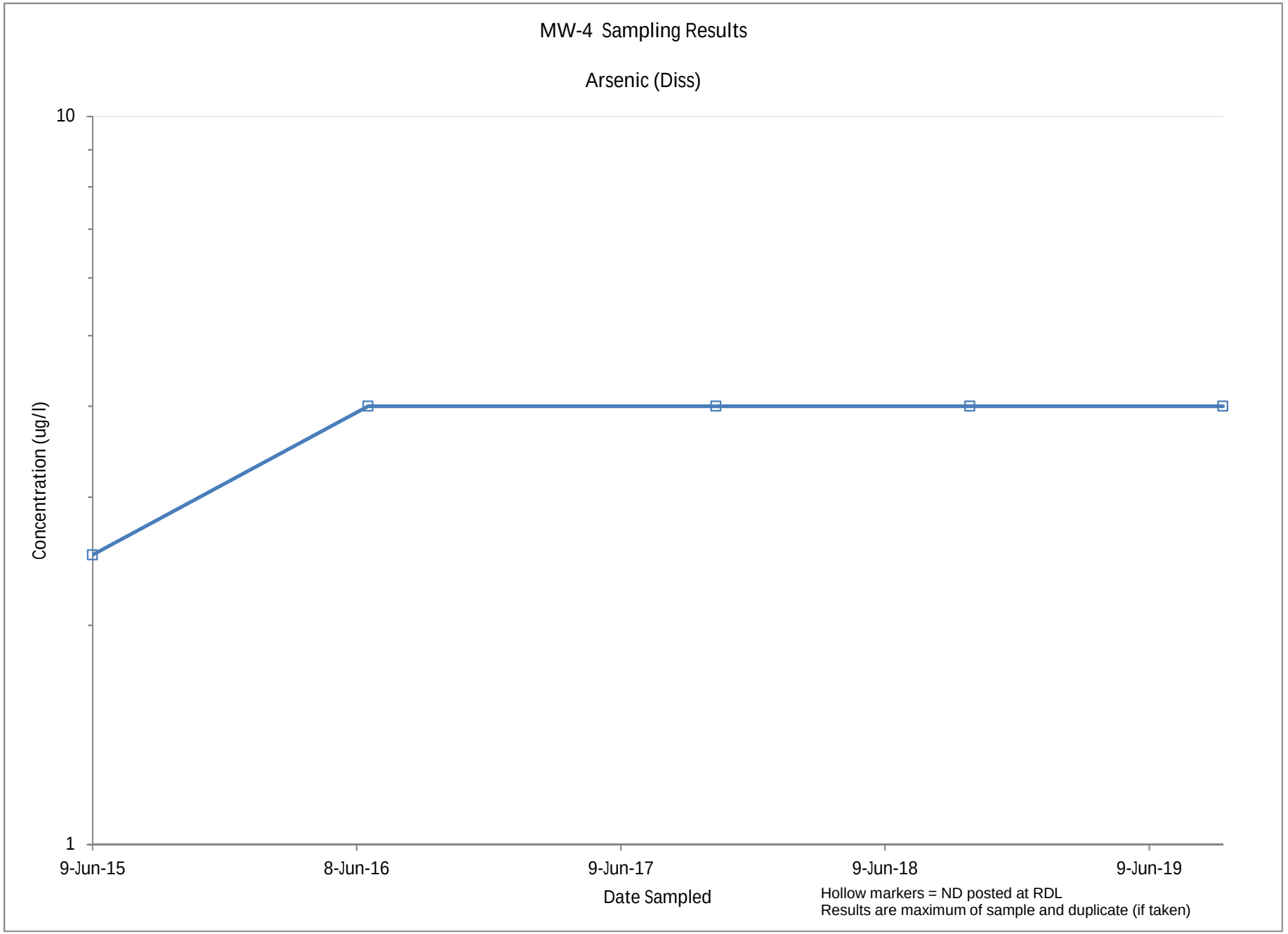

GZA-10 Sampling Results
Arsenic (Diss)
1000
100
10
1
Concentration (ug/l)
10-Dec-09
10-Dec-11
10-Dec-13
10-Dec-15
10-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

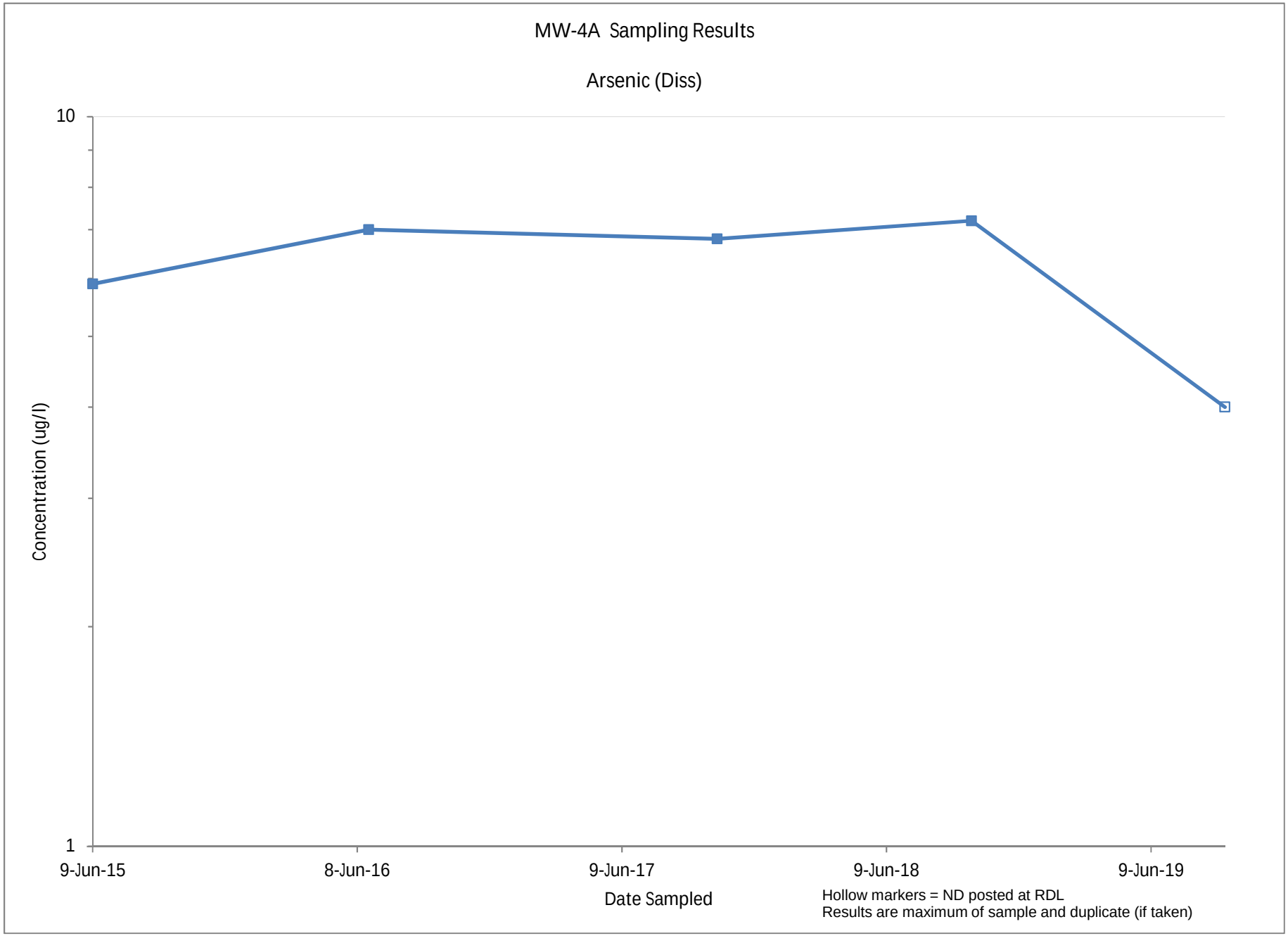

GZA-101R Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
11-Dec-09
11-Dec-11
11-Dec-13
11-Dec-15
11-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

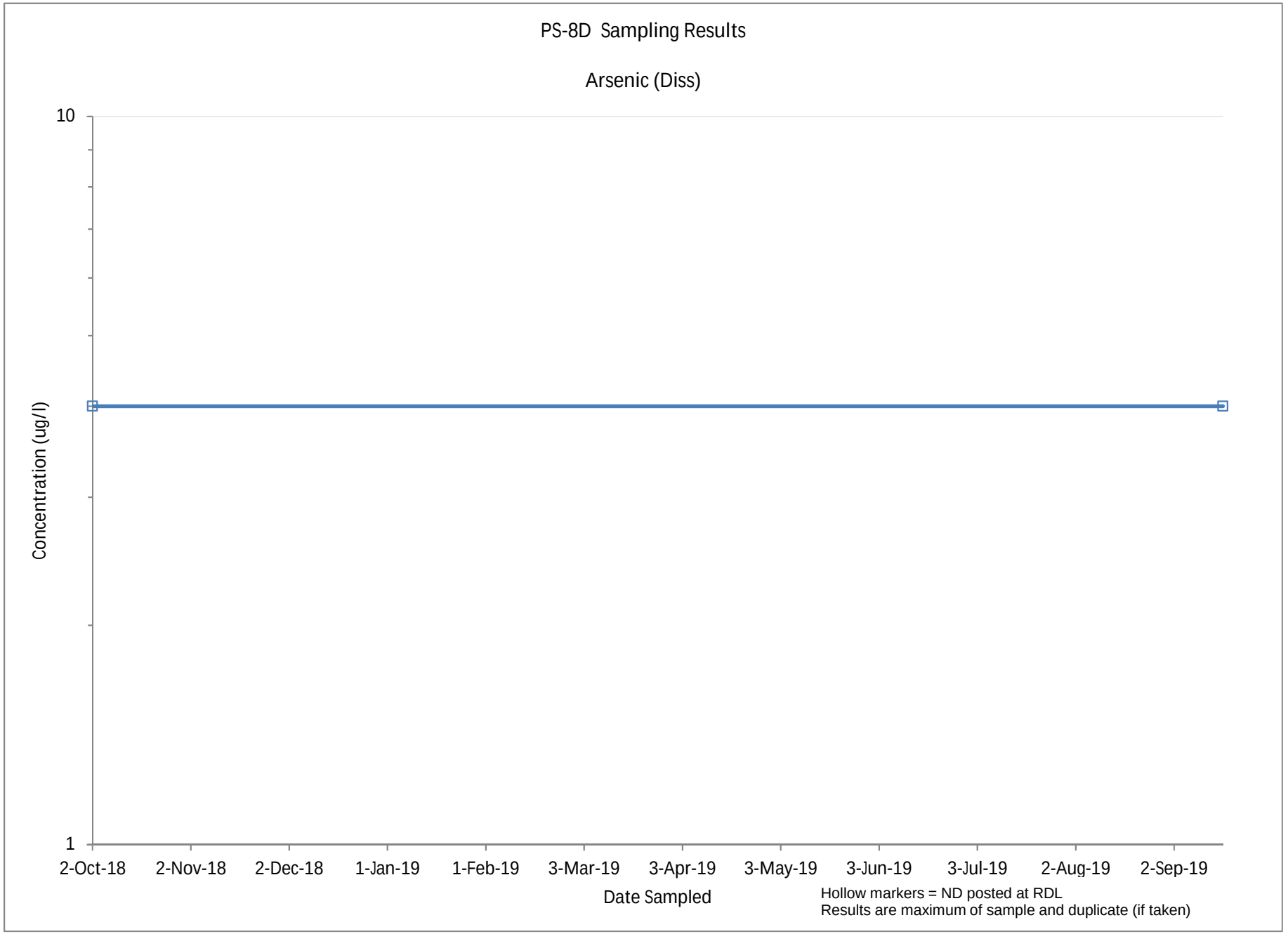

GZA-105S Sampling Results
Arsenic (Diss)
1000
100
10
1
Concentration (ug/l)
7-Dec-09
7-Dec-11
7-Dec-13
7-Dec-15
7-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

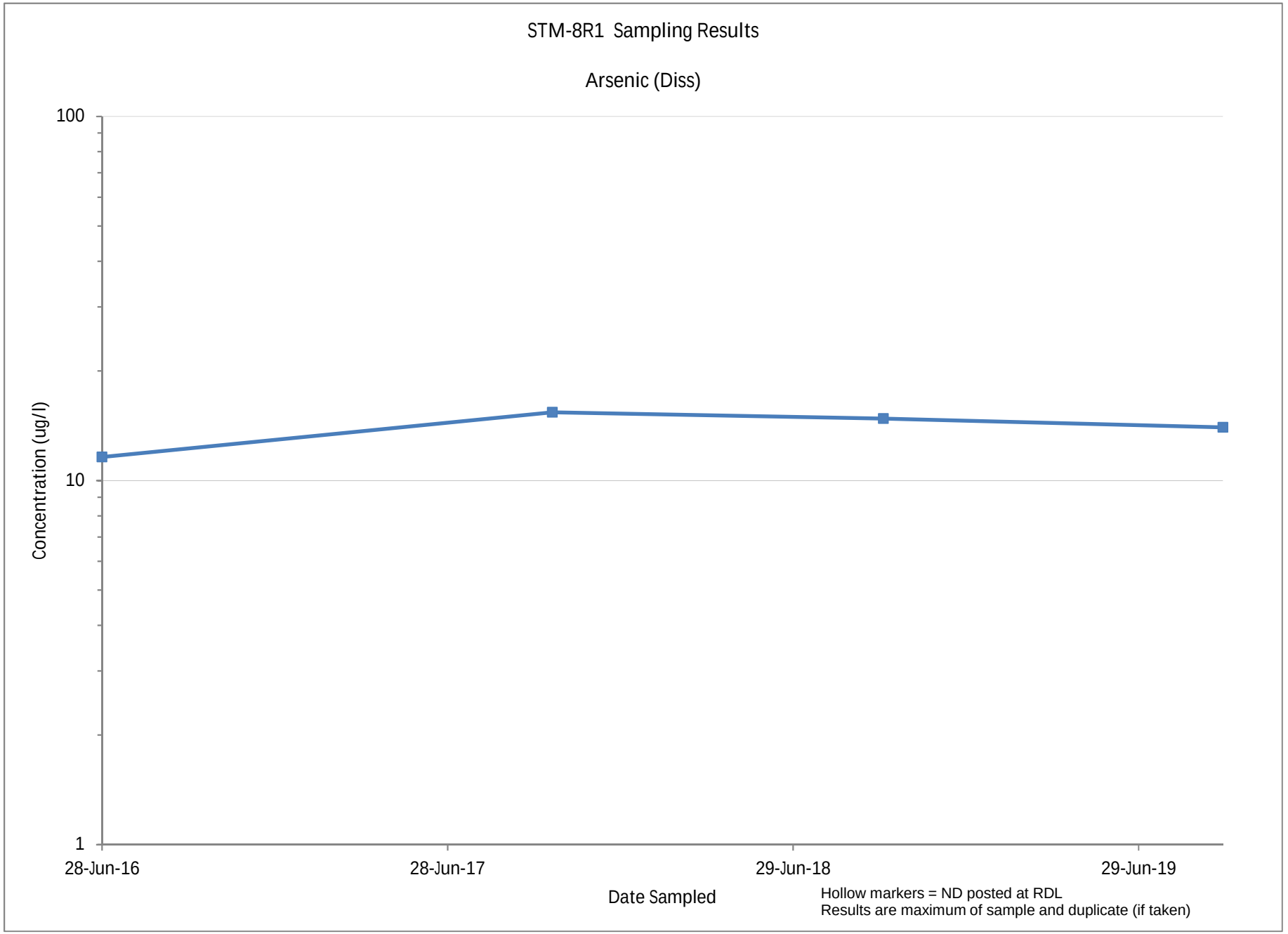

GZA-12 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
11-Dec-09
11-Dec-11
11-Dec-13
11-Dec-15
11-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

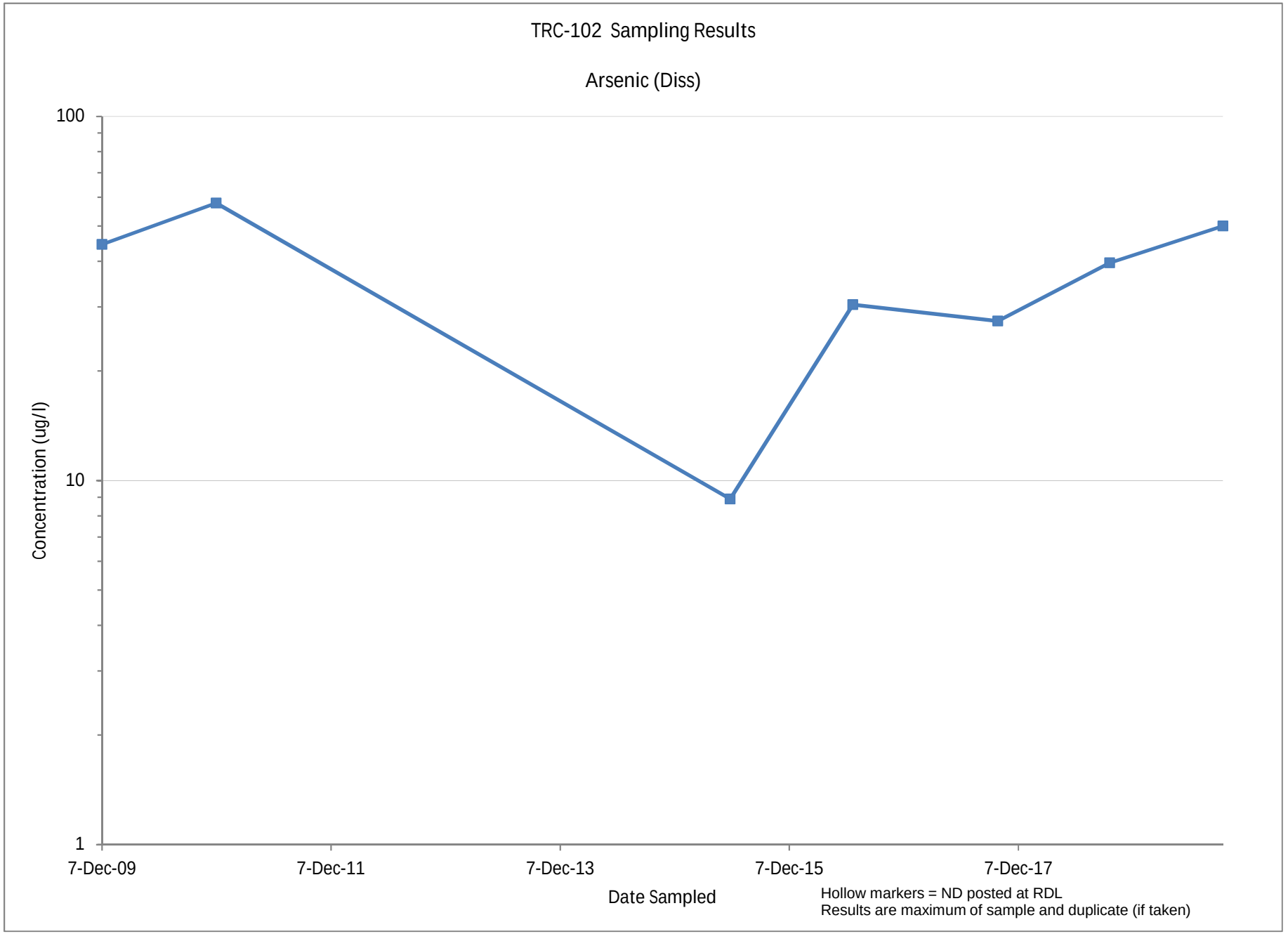

GZA-14A Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
8-Dec-09
8-Dec-11
8-Dec-13
8-Dec-15
8-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

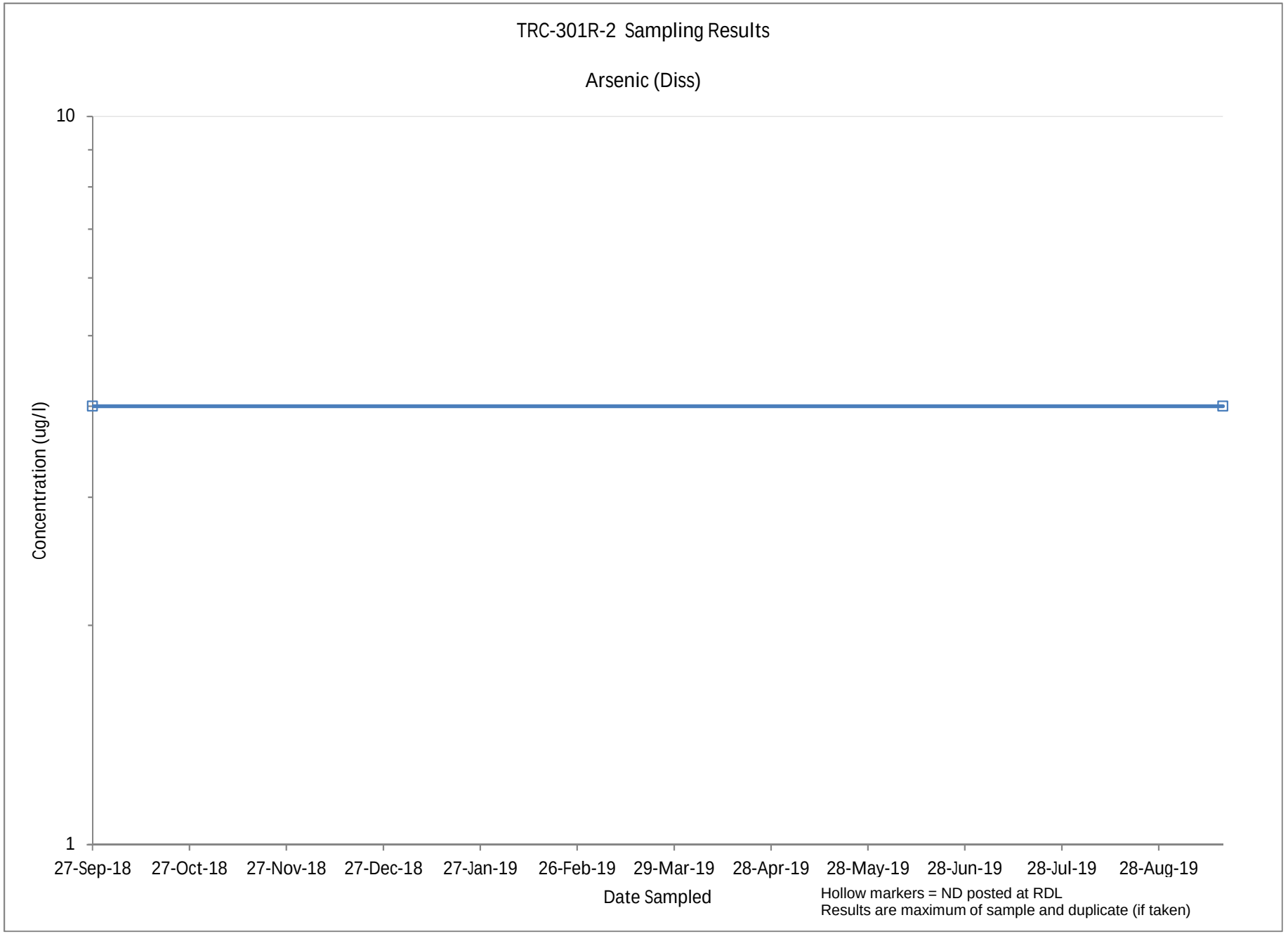

MW-4 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
9-Jun-15
8-Jun-16
9-Jun-17
9-Jun-18
9-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

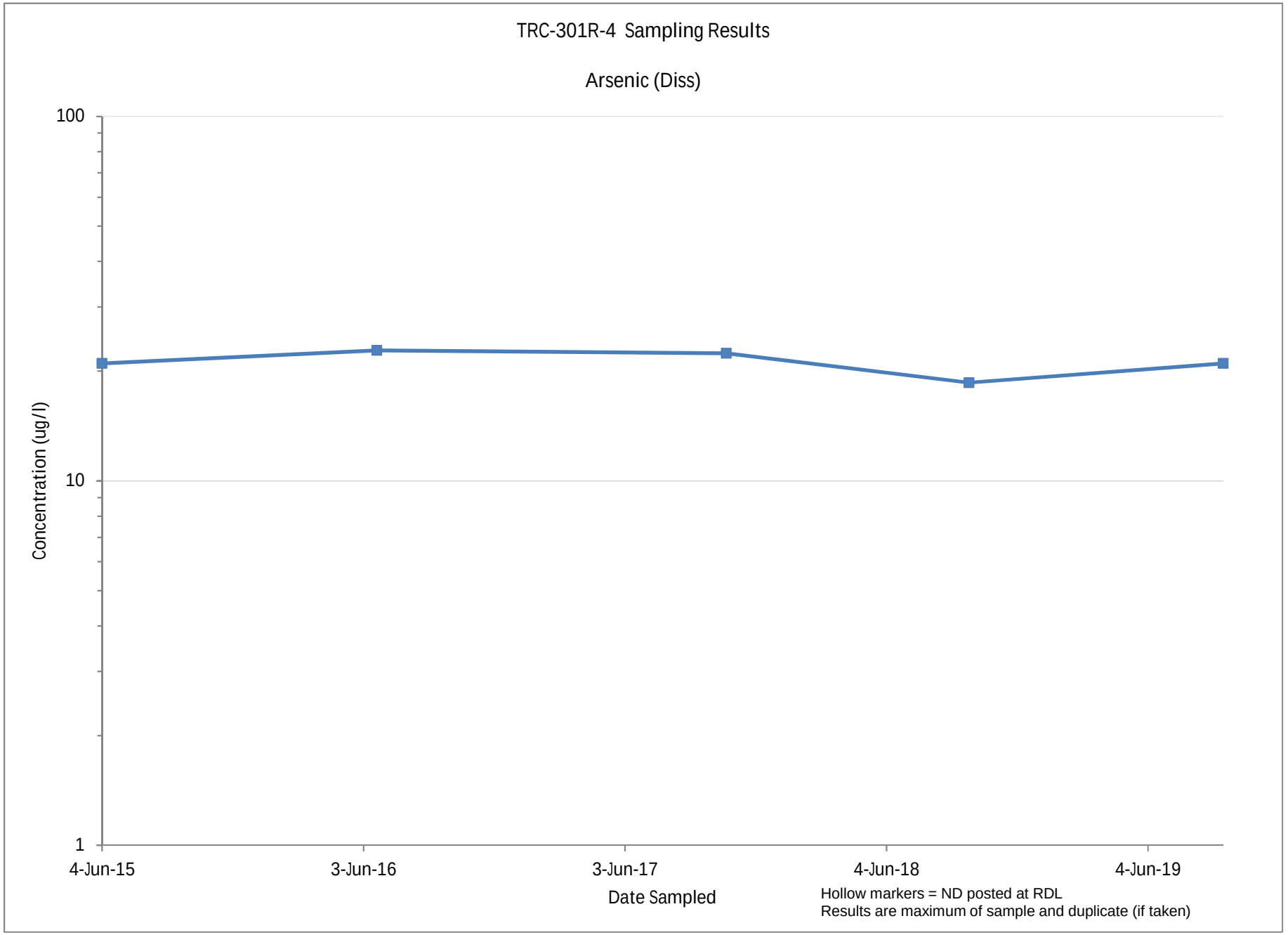

MW-4A Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
9-Jun-15
8-Jun-16
9-Jun-17
9-Jun-18
9-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)


PS-8D Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
2-Oct-18
2-Nov-18
2-Dec-18
1-Jan-19
1-Feb-19
3-Mar-19
3-Apr-19
3-May-19
3-Jun-19
3-Jul-19
2-Aug-19
2-Sep-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)


STM-8R1 Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
28-Jun-16
28-Jun-17
29-Jun-18
29-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)


TRC-102 Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
7-Dec-09
7-Dec-11
7-Dec-13
7-Dec-15
7-Dec-17
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)


TRC-301R-2 Sampling Results
Arsenic (Diss)
10
1
Concentration (ug/l)
27-Sep-18
27-Oct-18
27-Nov-18
27-Dec-18
27-Jan-19
26-Feb-19
29-Mar-19
28-Apr-19
28-May-19
28-Jun-19
28-Jul-19
28-Aug-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)


TRC-301R-4 Sampling Results
Arsenic (Diss)
100
10
1
Concentration (ug/l)
4-Jun-15
3-Jun-16
3-Jun-17
4-Jun-18
4-Jun-19
Date Sampled
Hollow markers = ND posted at RDL
Results are maximum of sample and duplicate (if taken)

APPENDIX G – PUBLIC NOTIFICATION DOCUMENTATION

BWSC 123 NOTIFICATION OF SAMPLING

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ken Polk - International Family Church

2. Street Address: 99 Concord Street

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 99 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed ~ September 12 - October 31, 2019

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following activities will be conducted onsite between the approximate dates of September 12 and October 31, 2019:

- Groundwater sampling for laboratory analyses from up to seven monitoring wells (MW-5, MW-7, GZA-14, GZA-14A, AE-109D, AE-109R, and AE-110R) which are located in the parking lot and wooded portions of the property at 99 Concord Street in N. Reading, MA. The wells will be accessed from the parking lot of the former GE property at 40 Fordham Rd which abuts the 99 Concord Street property.

- Surface water samples may also be collected for laboratory analyses from the wooden portions of the property during this time.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Patrick St. Pierre - Howland Development Corp.

2. Street Address: 155 West Street

City/Town: Wilmington, MA Zip Code: 01867

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 87 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed ~ September 11 - October 31, 2019.

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

This written notice satisfies the notification requirement from the access agreement in place between Howland Development Corporation and Lockheed Martin Corporation.

The following activities will be conducted onsite between the approximate dates of September 9 and October 31, 2019:

- Groundwater sample collection for laboratory analyses from up to four monitoring wells, AE-112D, AE-112R, plus MW-2 and MW-3 which AECOM has identified as HOW-2 and HOW-3 so as to not confuse them with other MW-2 and MW-3 locations previously existing as part of other sites in the area.

- The wells are located in the paved parking area around the building. AECOM will visit the wells periodically during the sampling event with tentative dates of September 11-13 for water level measurements, plus 1-2 days in September - October for groundwater sampling.

- Access is only needed to the localized area at each well. Each visit will include 1-2 people with 1-2 vehicles for durations of 1-8 hours. At no time will we disrupt traffic flow at the property or impede occupants use of the property.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ed and Gail Melanson

2. Street Address: 11 Jill Circle

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 0 Furbish Pond Lane

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☐ commerical ☐ industrial ☐ school/playground ☑ Other privately owned (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed September 12 to October 31, 2019

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

0Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following activities will be conducted onsite between the approximate dates of September 12 to October 31, 2019:

- Groundwater sampling for laboratory analyses from up to three monitoring wells which are in the wooded property (PS-8-S/M/D) property at 0 Furbish Pond Lane in North Reading, MA. The wells will be accessed from the Stickney Well Rd off of Redmond Ave.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Mark Clark - Town of North Reading

2. Street Address: 235 North Street

City/Town: N. Reading Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 51 & 71 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed ~ September 9 - October 31, 2019.

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following activities will be conducted onsite between the approximate dates of September 9 and October 31, 2019:

- Groundwater sample collection for laboratory analyses from up to seven monitoring wells, STM-3-S-D-R, and STM-8-S-M-D-R.

- The wells are located along the edge of Concord Rd in North Reading near the DL Maher and Richelieu Hardware properties. AECOM will visit the wells periodically during the sampling event with tentative dates of September 17 and 18 for water level measurements, plus 1-2 days in September - October for groundwater sampling.

- Access is only needed to the localized area at each well. At no time will we disrupt traffic flow along Concord Street, although we typically hire a North Reading Police detail for sampling STM-3 wells as they are close to the edge of the road.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Roland Gagne - Wilmington Masonry

2. Street Address: 62 Concord Street

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 62 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed ~ September 9 - October 31, 2019

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following activities will be conducted onsite between the approximate dates of September 9 and October 31, 2019:

- Groundwater sampling for laboratory analyses from one monitoring well (STM-8R1) located in the parking lot of the property at 62 Concord Street in North Reading, MA.
- Water levels will be obtained at locations along the Ipswich River through the back of the property at 62 Concord Street.
- Although unlikely, surface water samples may also be collected for laboratory analyses from along the Ipswich River during this time.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Gary Stanieich

2. Street Address: 424 Broadway

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 40 Fordham Rd (site formerly #50, but is now #40 Fordham Rd)

City/Town: Wilmington, MA Zip Code: 01887

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be conducted ~ September 9 - October 31, 2019.

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following groundwater monitoring activities will be conducted onsite between the dates of September 9 – October 31, 2019:

- Groundwater sampling for laboratory analyses from numerous overburden and bedrock monitoring wells located at 40 and 50 Fordham Rd at:
    - Up to 11 monitoring locations within Building 1, and
    - Approximately 50-60 monitoring wells outside of the Building at various locations on the property. Approximately 30 of these wells are located within the parking lot.
- Although unlikely, surface water samples may also be collected for laboratory analyses from select locations in the wetland.

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ruben Byerly

2. Street Address: 10990 Roe Avenue

City/Town: Overland Park, KS Zip Code: 66211-1213

C. This notice is being given to inform its recipient (the party listed in Section B):

☑ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☐ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☐ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 95 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached supplemental page for details of environmental work to be completed ~ September 9 - October 31, 2019

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

Notice of Environmental Sampling – BWSC 123

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

This Notice is Related to Release Tracking Number 03-0518

(Supplemental Page to BWSC-123 Form)

D.4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

The following activities will be conducted onsite between the approximate dates of September 9 and October 31, 2019:

- Groundwater sampling for laboratory analyses from up to four monitoring wells (AE-106 S/M/D/R) located in the woods/wetlands and one well (AE-111R) in the parking lot of the property at 95 Concord Street in North Reading, MA.

- Water level measurements may also be obtained from other existing monitoring wells on the property at 95 Concord Street, with permission from YRC.

BWSC 123 NOTIFICATION OF RESULTS

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Nathan and Lindsay Fletcher
3 Furbish Pond Lane
N. Reading, MA 01864

Subject: 2019 Irrigation Well Groundwater Measurement Results

Dear Mr. and Mrs. Fletcher,

On September 13, and November 11, 2019, AECOM under contract to Lockheed Martin Corporation obtained groundwater elevation data with your permission from the irrigation well located on your property at 3 Furbish Pond Lane. This effort was performed as part of environmental monitoring that is being conducted associated with the former GE Facility at 50 Fordham Road, Wilmington, MA. This letter summarizes the information developed from that event.

Massachusetts environmental regulations require notification to a property owner when environmental data are collected at a property on behalf of someone other than the owner of the property. Therefore, we are providing you with the data that we collected, specifically the depth to groundwater measurements and the calculated groundwater elevations.

Data from irrigation well located at #3 Furbish Pond Lane

Depth to water (from reference elevation) October 2, 2019: 47.73 ft (did not measure total depth)
Groundwater elevation on October 2, 2019 = 103.21 (Ref Elev.) – 47.73 ft = 55.48 ft NAVD29.

Depth to water (from reference elevation) Novemer 11, 2019: 13.91 ft (did not measure total depth)
Groundwater elevation on November 2, 2019 = 103.21 (Ref Elev.) – 13.91 ft = 89.30 ft NAVD29.

The groundwater elevations at your property are higher than those in the nearby wetlands and in the vicinity of the former GE Facility at 50 Fordham Road indicating that it would not be likely that any groundwater impacts from that site would come to be located beneath your property.

Should you be interested in more information, additional public involvement opportunities for this site are available by reviewing documents in the project repository located at the North Reading Flint Memorial Library (147 Park Street), on the Lockheed Martin project-specific website located at http://www.lockheedmartin.com/us/who-we-are/eesh/remediation/wilmington/archive.html., or on the MassDEP's website. If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corporation

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Mr. Ken Polk
Facility Manager, International Family Church
99 Concord St
N. Reading, MA 01864

Subject: September 2019 Groundwater Analytical Results
50 Fordham Road, Wilmington, MA

Dear Mr. Polk,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from 16 monitoring wells (MW-5, MW-7, GZA-14A, AE-109D, AE-109R (R1 through R8), and AE-110R (R1-R2-R4-R6) located on your property at 99 Concord Street in N. Reading, MA.

This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the owner of the property. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corp.
Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ken Polk - International Family Church

2. Street Address: 99 Concord Street

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 99 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☐ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

MW-5, MW-7, GZA-14A, AE-109D, AE-109R, and AE-110R

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

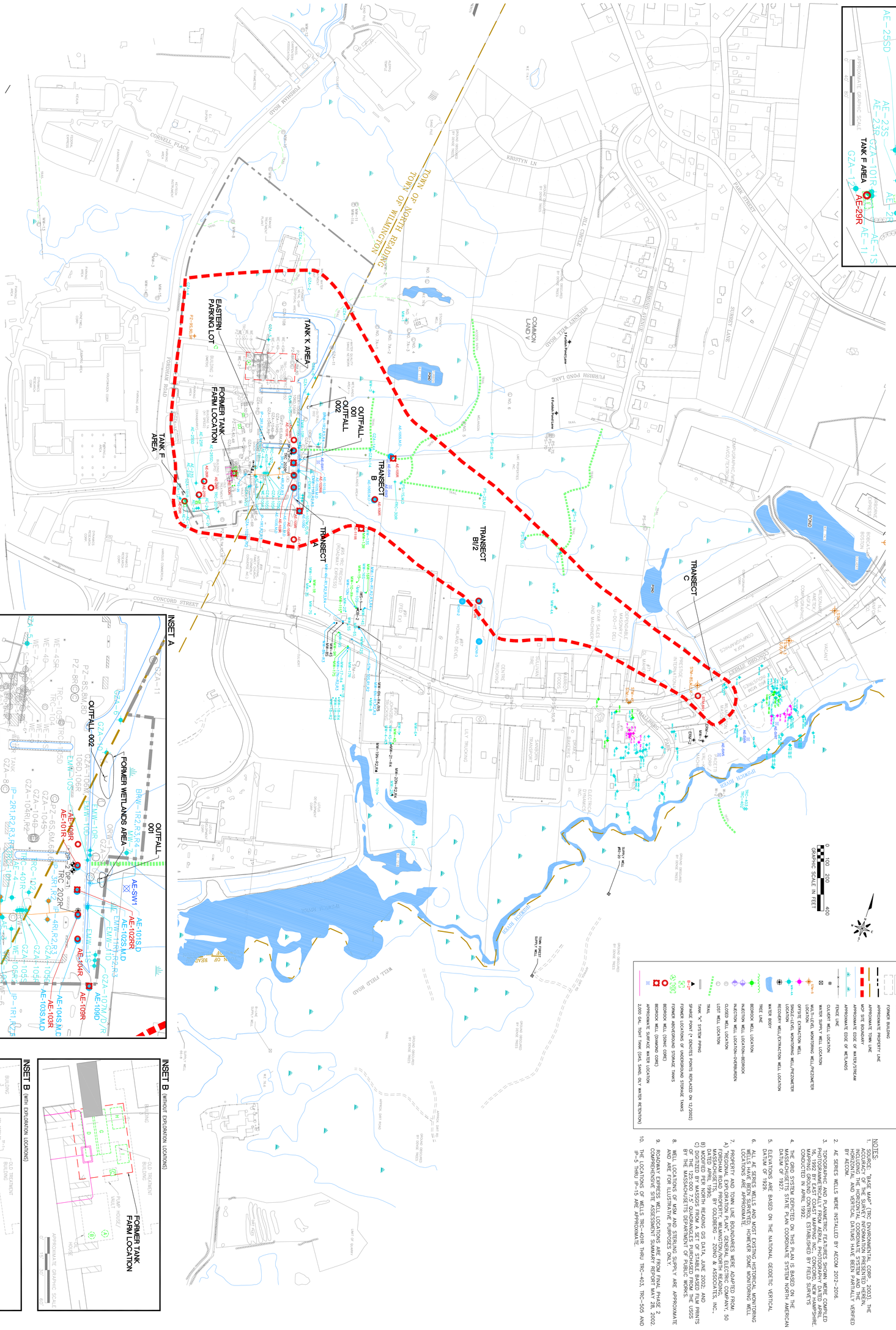
ATTACHMENT B

Groundwater Sampling Location Map

and Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	GZA-14A	MW-5	MW-7	AE109D	AE109R-1	AE109R-2	AE109R-3	AE109R-4	AE109R-5	AE109R-6	AE109R-7
				Sample ID:	19A-GZA14A-093019-1	19A-MW5-093019-1	19A-MW7-092619-1	19A-AE109D-092019-1	19A-AE109R1-091819-1	19A-AE109R2-091819-1	19A-AE109R3-091819-1	19A-AE109R4-091819-1	19A-AE109R5-091819-1	19A-AE109R6-091819-1	19A-AE109R7-091819-1
				Sample Date:	9/30/2019	9/30/2019	9/26/2019	9/20/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	0 - 15 ft	28-38 ft	15 - 25 ft	18 - 23 ft	38 - 43 ft	66 - 76 ft	126 - 136 ft	174 - 180.5 ft	183 - 189 ft	196 - 201 ft	204 - 214 ft
				Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**											
Conventional Parameters (ug/l)															
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**63400**	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	4 U	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**10100**	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	50 U	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	1000 U	NS	NS
Dissolved Gases (ug/l)															
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	0.50 U	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**0.70**	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**1.6**	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**1.7**	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**480**	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	**0.18**	NS	NS
EPH (ug/l)															
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS
Acenaphthene	20	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS
Acenaphthylene	30	10000	40	100000	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS
Anthracene	60	NE	30	600	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS	NS	NS	NS	NS	NS	**0.13**	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS	NS	NS	NS	NS	NS	0.19 U	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS	NS	NS	NS	NS	NS	**0.19**	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS	NS	NS	NS	NS	NS	**0.12**	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS	NS	NS	NS	NS	NS	**0.14**	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS
Chrysene	2	NE	70	700	NS	NS	NS	NS	NS	NS	NS	NS	**0.18**	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS	NS	NS	NS	NS	NS	**0.03**	NS	NS
Fluoranthene	90	NE	200	2000	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS
Fluorene	30	NE	40	400	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS	NS	NS	NS	NS	NS	**0.14**	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS
Phenanthrene	40	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS
Pyrene	60	NE	20	600	NS	NS	NS	NS	NS	NS	NS	NS	**0.26**	NS	NS
VPH (ug/l)															
Benzene	5	1000	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U	NS	NS
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	100 U	NS	NS
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	100 U	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	100 U	NS	NS
Ethylbenzene	700	20000	5000	100000	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U	NS	NS
mp-xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	5.0 U	NS	NS
o-Xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U	NS	NS
Toluene	1000	50000	40000	100000	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	100 U	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	100 U	NS	NS
Total Petroleum	NE	NE	NE	NE	NS	1 U	1 U	1 U	1 U	1 U	1 U	2 U	5 U	5 U	1 U
Total Xylenes	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	**0**	NS	NS
MAEPH (ug/l)															
Calculated EPH	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)															
Arsenic	10	NE	900	9000	**32**	NS	NS	4 U	NS	NS	NS	NS	4 U	NS	NS
Iron	NE	NE	NE	NE	**8030**	NS	NS	**14**	NS	NS	NS	NS	**122**	NS	NS
Manganese	NE	NE	NE	NE	**1650**	NS	NS	**1180**	NS	NS	NS	NS	**162**	NS	NS
Total Metals (ug/l)															
Arsenic	10	NE	900	9000	**43**	NS	NS	4 U	NS	NS	NS	NS	4 U	NS	NS
Iron	NE	NE	NE	NE	**8950**	NS	NS	**55**	NS	NS	NS	NS	**127**	NS	NS
Manganese	NE	NE	NE	NE	**1710**	NS	NS	**1830**	NS	NS	NS	NS	**149**	NS	NS
SVOCs SIM (ug/l)															
1,4-Dioxane	**0.3**	6000	50000	100000	NS	NS	NS	**0.37**	NS	**3.6**	NS	NS	**1.4**	NS	**1.5**

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	GZA-14A	MW-5	MW-7	AE109D	AE109R-1	AE109R-2	AE109R-3	AE109R-4	AE109R-5	AE109R-6	AE109R-7
					Sample ID:	19A-GZA14A-093019-1	19A-MW5-093019-1	19A-MW7-092619-1	19A-AE109D-092019-1	19A-AE109R1-091819-1	19A-AE109R2-091819-1	19A-AE109R3-091819-1	19A-AE109R4-091819-1	19A-AE109R5-091819-1	19A-AE109R6-091819-1	19A-AE109R7-091819-1
					Sample Date:	9/30/2019	9/30/2019	9/26/2019	9/20/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	0 - 15 ft	28-38 ft	15 - 25 ft	18 - 23 ft	38 - 43 ft	66 - 76 ft	126 - 136 ft	174 - 180.5 ft	183 - 189 ft	196 - 201 ft	204 - 214 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX
VOCs (ug/l)																
1,1,1,2-Tetrachloroethane	5	10	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	NS	**R**	**R**	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	2.5 U	2.5 U	**R**
1,1,2-Trichloroethane	5	900	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,1-Dichloroethane	70	2000	20000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.5**	**10**	**6.5**	**2.9**
1,1-Dichloroethylene	7	80	30000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	NS	0.50 U	0.50 U	1.0 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	2.5 U	2.5 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	2.5 U	2.5 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	NS	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	1.2 U	3.0 U	3.0 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	3.0 U	3.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	40 U	40 U	40 U	40 U	40 U	40 U	40 U	80 U	200 U	200 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
2-Butanone	4000	50000	50000	100000	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE	NS	**R**	**R**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U	25 U	**R**
2-Phenylbutane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	NS	**R**	**R**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U	25 U	**R**
Acetone	6300	50000	50000	100000	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000	NS	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	1.4 U	3.5 U	3.5 U	0.70 U
Bromobenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	2.5 U	2.5 U	0.50 U
Bromoform	4	700	50000	100000	NS	1.0 U	1.0 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	1.0 U
Bromomethane	10	7	800	8000	NS	**R**	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	**R**
Carbon Disulfide	NE	NE	NE	NE	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	10 U	25 U	25 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.5 U	2.5 U	1.0 U
Chlorobenzene	100	200	1000	10000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Chloroethane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Chloroform	70	50	20000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Chloromethane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	NS	**11**	**29**	1.0 U	**3.1**	**2.3**	**14**	**200**	**240**	**180**	**130**
cis-1,3-Dichloropropene	NE	NE	NE	NE	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	1.0 U	2.5 U	2.5 U	0.40 U
Cymene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	0.50 UJ	0.50 UJ	1.0 UJ	2.5 UJ	2.5 UJ	0.50 U
Dibromomethane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	1.0 U	2.5 U	2.5 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
mp-xylene	10000	3000	5000	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Naphthalene	140	700	20000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
o-Xylene	10000	3000	5000	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Styrene	100	100	6000	60000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Tetrachloroethene	**5**	**50**	30000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	**77**	**18**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	NS	**R**	**R**	2.5 U	2.5 U	**2.9**	**5.2**	5.0 U	13 U	13 U	**R**
Toluene	1000	50000	40000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Total CVOCs	NE	NE	NE	NE	NS	**11**	**58**	1.0 U	**4.6**	**3.7**	**15.1**	**227**	**687**	**404.5**	**146.6**
Trans-1,2-Dichloroethene	100	80	50000	100000	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.5**	5.0 U	5.0 U	**1.7**
Trans-1,3-Dichloropropene	NE	NE	NE	NE	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	1.0 U	2.5 U	2.5 U	0.40 U
TRICHLOROETHENE	**5**	**5**	5000	50000	NS	1.0 U	**27**	1.0 U	**1.5**	**1.4**	**1.1**	**20**	**360**	**200**	**12 J**
Trichlorofluoromethane	NE	NE	NE	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000	NS	1.0 U	**2.0**	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	2.5 U	2.5 U	1.0 U
Total Xylenes	10000	3000	5000	NE	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	2.0 U	5.0 U	5.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

					Location ID:	AE109R-7	AE109R-8	AE110R-1	AE110R-2	AE110R-4	AE110R-6
					Sample ID:	19A-AE109R7-091819-2	19A-AE109R8-091819-1	19A-AE110R1-091319-1	19A-AE110R2-091319-1	19A-AE110R4-091319-1	19A-AE110R6-091319-1
					Sample Date:	9/18/2019	9/18/2019	9/13/2019	9/13/2019	9/13/2019	9/13/2019
					Sample Type:	FD	N	N	N	N	N
					Depth Interval:	204 - 214 ft	245 - 250 ft	34 - 44 ft	70 - 80 ft	158 - 168 ft	190 - 200 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**							
Conventional Parameters (ug/l)											
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Dissolved Gases (ug/l)											
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
EPH (ug/l)											
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS	NS	NS	NS	NS
Acenaphthene	20	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS
Acenaphthylene	30	10000	40	100000	NS	NS	NS	NS	NS	NS	NS
Anthracene	60	NE	30	600	NS	NS	NS	NS	NS	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS	NS	NS	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS	NS	NS	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS	NS	NS	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS	NS	NS	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS	NS	NS	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS	NS	NS	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS	NS	NS	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS
Chrysene	2	NE	70	700	NS	NS	NS	NS	NS	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS	NS	NS	NS	NS
Fluoranthene	90	NE	200	2000	NS	NS	NS	NS	NS	NS	NS
Fluorene	30	NE	40	400	NS	NS	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS
Phenanthrene	40	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS
Pyrene	60	NE	20	600	NS	NS	NS	NS	NS	NS	NS
VPH (ug/l)											
Benzene	5	1000	10000	100000	NS	NS	NS	NS	NS	NS	NS
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS	NS	NS	NS	NS	NS	NS
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS	NS	NS	NS	NS	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	700	20000	5000	100000	NS	NS	NS	NS	NS	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS	NS	NS	NS	NS
mp-xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS
o-Xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS
Toluene	1000	50000	40000	100000	NS	NS	NS	NS	NS	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Total Petroleum	NE	NE	NE	NE	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS
MAEPH (ug/l)											
Calculated EPH	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)											
Arsenic	10	NE	900	9000	NS	NS	NS	NS	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Total Metals (ug/l)											
Arsenic	10	NE	900	9000	NS	NS	NS	NS	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS
SVOCs SIM (ug/l)											
1,4-Dioxane	**0.3**	6000	50000	100000	**1.6**	NS	NS	NS	NS	NS	**1.3**

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE109R-7	AE109R-8	AE110R-1	AE110R-2	AE110R-4	AE110R-6
					Sample ID:	19A-AE109R7-091819-2	19A-AE109R8-091819-1	19A-AE110R1-091319-1	19A-AE110R2-091319-1	19A-AE110R4-091319-1	19A-AE110R6-091319-1
					Sample Date:	9/18/2019	9/18/2019	9/13/2019	9/13/2019	9/13/2019	9/13/2019
					Sample Type:	FD	N	N	N	N	N
					Depth Interval:	204 - 214 ft	245 - 250 ft	34 - 44 ft	70 - 80 ft	158 - 168 ft	190 - 200 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)											
1,1,1,2-Tetrachloroethane	5	10	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	70	2000	20000	100000		**2.8**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethylene	7	80	30000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000		40 U	40 U	40 U	40 U	40 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	6300	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000		0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000		1.0 U	**R**	**R**	**R**	**R**	**R**
Bromomethane	10	7	800	8000		**R**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	70	50	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000		**130**	**4.7**	1.0 U	1.0 U	1.0 U	**1.5**
cis-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000		0.50 U	0.50 UJ	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000		1.0 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
mp-xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	6000	60000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	**5**	**50**	30000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE		**R**	2.5 U	**15**	**30**	**15**	**9.1**
Toluene	1000	50000	40000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs	NE	NE	NE	NE		**142.4**	**9.7**	1.0 U	1.0 U	1.0 U	**1.5**
Trans-1,2-Dichloroethene	100	80	50000	100000		**1.7**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
TRICHLOROETHENE	**5**	**5**	5000	50000		**7.9 J**	**5.0**	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results Packages

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:35
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10295

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R1-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	15	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	94		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	94		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	94		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	94		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:40
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10296

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	30	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:45
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10297

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R4-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	15	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	90		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	90		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	15:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10298

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE110R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	9.1	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	93		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.3	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	75		%	1	09/20/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13437

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	3.1	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.5	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	92		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	93		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	93		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	93		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13437
Client ID: 19A-AE109R1-091819-1

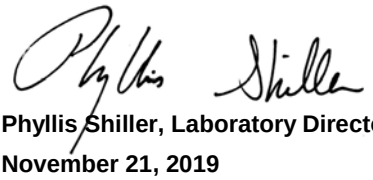
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:42
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13438

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R2-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	2.3	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	2.9	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.4	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13438
Client ID: 19A-AE109R2-091819-1

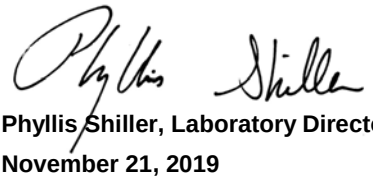
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	3.6	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	80		%	1	09/24/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:47
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13439

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13439
Client ID: 19A-AE109R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	5.2	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	1.1	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/26/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C

7

Ver 3

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13439
Client ID: 19A-AE109R3-091819-1

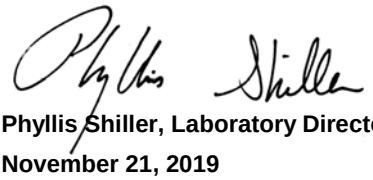
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:52
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13440

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloroethane	3.5	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	09/27/19	MH	SW8260C
Acetone	ND	50	ug/L	2	09/27/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13440

Client ID: 19A-AE109R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	09/27/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	200	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Tetrachloroethene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	09/27/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	3.5	2.0	ug/L	2	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	09/27/19	MH	SW8260C
Trichloroethene	20	2.0	ug/L	2	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
Vinyl chloride	ND	2.0	ug/L	2	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	96		%	2	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	94		%	2	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	93		%	2	09/27/19	MH	70 - 130 %
% Toluene-d8 (2x)	100		%	2	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	94		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	09/27/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13441

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.122	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	0.162	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.127	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.149	0.001	mg/L	1	09/24/19	TH	SW6010D
Chloride	63.4	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/19/19 21:08	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 21:08	B/E/G	E300.0
Sulfate	10.1	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethane	10	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13441

Client ID: 19A-AE109R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/26/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	09/26/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/26/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrachloroethene	77	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/26/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Trichloroethene	360	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	95		%	5	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	99		%	5	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	96		%	5	09/26/19	MH	70 - 130 %
% Toluene-d8 (5x)	117		%	5	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	100		%	20	09/25/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	09/25/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	200	ug/l	5	09/26/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benz(a)anthracene	0.13	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	0.19	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	0.12	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	0.14	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Chrysene	0.18	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	0.03	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	0.14	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)
Pyrene	0.26	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	74		%	1	09/23/19	WB	40 - 140 %
% Nitrobenzene-d5	87		%	1	09/23/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	54		%	1	09/23/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	1.4	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	71		%	1	09/24/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	97		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	09/24/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	106		%	1	09/23/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

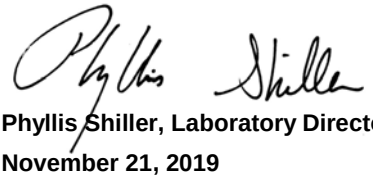
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13442

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethane	6.5	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13442

Client ID: 19A-AE109R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	09/26/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/26/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	180	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrachloroethene	18	5.0	ug/L	5	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/26/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
Trichloroethene	200	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/26/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	94		%	5	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	98		%	5	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	99		%	5	09/26/19	MH	70 - 130 %
% Toluene-d8 (5x)	108		%	5	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	94		%	20	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	98		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	09/26/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13443

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	2.9	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13443

Client ID: 19A-AE109R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	12	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	108		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	96		%	1	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	103		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.5	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	82		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13444

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R7-091819-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethane	2.8	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13444

Client ID: 19A-AE109R7-091819-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/26/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/26/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/26/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	1.7	1.0	ug/L	1	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/26/19	MH	SW8260C
Trichloroethene	7.9	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/26/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/26/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	09/26/19	MH	70 - 130 %
% Toluene-d8	100		%	1	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.6	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	86		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13445

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE109R8-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	4.7	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	5.0	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	09/27/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/27/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C

7

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13445

Client ID: 19A-AE109R8-091819-1

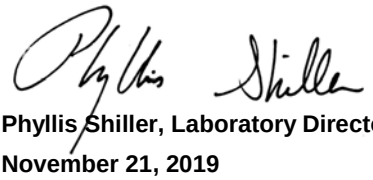
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14416

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE109D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.014	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	1.18	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.055	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.83	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE109D-092019-1

Phoenix I.D.: CE14416

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14416
Client ID: 19A-AE109D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	105		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	93		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.37	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 11, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	15:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/27/19	16:56
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE19865
Phoenix ID: CE19866

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-MW7-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/03/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/03/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE19866

Client ID: 19A-MW7-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/03/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
cis-1,2-Dichloroethene	29	20	ug/L	20	10/03/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/03/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/03/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/03/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/03/19	MH	SW8260C
Trichloroethene	27	1.0	ug/L	1	10/03/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/03/19	MH	SW8260C
Vinyl chloride	2.0	1.0	ug/L	1	10/03/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/03/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	10/03/19	MH	70 - 130 %
% Dibromofluoromethane	93		%	1	10/03/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/03/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	10/03/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	94		%	20	10/03/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	10/03/19	MH	70 - 130 %

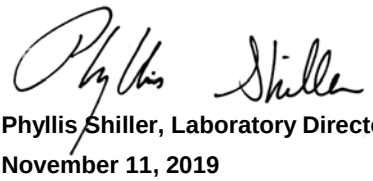
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	10/03/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/03/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/03/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 11, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:57
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23309

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-MW5-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23309

Client ID: 19A-MW5-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	11	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	105		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-MW5-093019-1

Phoenix I.D.: CE23309

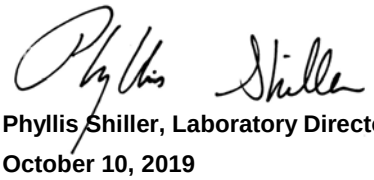
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	11:02
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23310

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-GZA14A-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.043	0.004	mg/L	1	10/04/19	TH	SW6010D
Arsenic (Dissolved)	0.032	0.004	mg/L	1	10/04/19	TH	SW6010D
Iron (Dissolved)	8.03	0.011	mg/L	1	10/04/19	TH	SW6010D
Manganese (Dissolved)	1.65	0.001	mg/L	1	10/04/19	TH	SW6010D
Iron	8.95	0.010	mg/L	1	10/04/19	TH	SW6010D
Manganese	1.71	0.001	mg/L	1	10/04/19	TH	SW6010D
Dissolved Metals Preparation	Completed				10/01/19	AG	SW3005A
Total Metals Digestion	Completed				10/02/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820009** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE109R5-091819-1** Date Collected: 9/18/2019 15:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**480**	ug/l	0.50	0.094	1	9/26/2019 14:17	MM	n
Ethane	**0.70**	ug/l	0.10	0.011	1	9/26/2019 14:17	MM	n
Ethene	**1.6**	ug/l	0.10	0.0080	1	9/26/2019 14:17	MM	n
Propane	**0.18**	ug/l	0.10	0.0080	1	9/26/2019 14:17	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:17	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820019** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE109R5-091819-1** Date Collected: 9/18/2019 16:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.7**	nM	1.0	0.75	1	9/28/2019 09:51	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Mr. Patrick St. Pierre
Howland Development
155 West Street
Wilmington, MA 01887

Subject: September 2019 Groundwater Sampling Analytical Results
Property at 87 Concord Street – North Reading, MA

Dear Mr. St. Pierre,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from five monitoring wells AE-112D and AE-112R (ports R1, R3, R5, R6) located on your property at 87 Concord Road in North Reading, MA. Monitoring wells HOW-2 and HOW-3 (also known as MW-2 and MW-3) were not sampled in September 2019.

This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the property owner. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September - September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corporation

Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Patrick St. Pierre - Howland Development Corp.

2. Street Address: 155 West Street

City/Town: Wilmington, MA Zip Code: 01867

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 87 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

Monitoring Wells AE-112D and AE-112R (R1, R3, R5, R6)

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

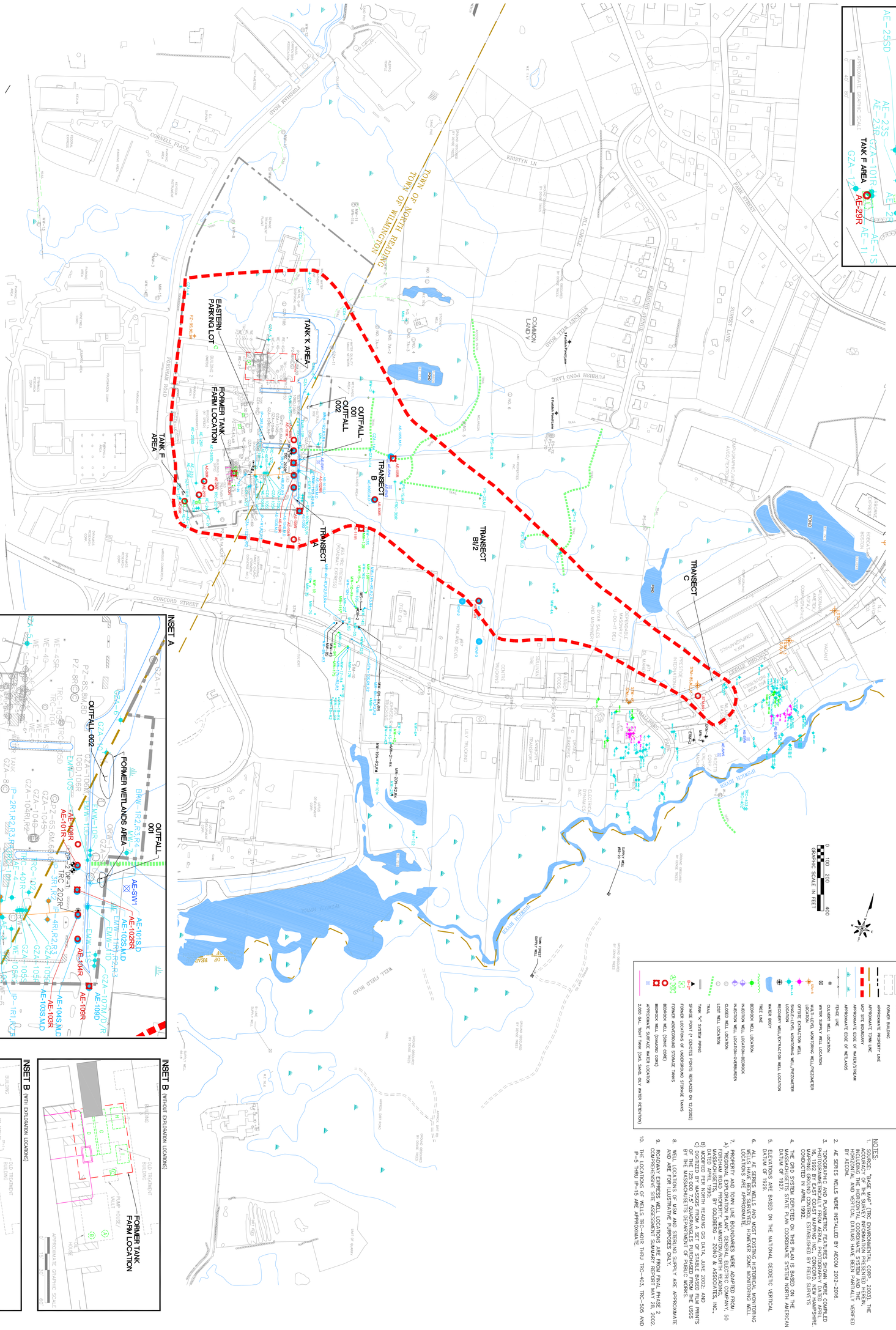
ATTACHMENT B

Groundwater Sampling Location Map

and Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	AE112D	AE112R-1	AE112R-3	AE112R-5	AE112R-6
				Sample ID:	19A-AE112D-091319-1	19A-AE112R1-091319-1	19A-AE112R3-091319-1	19A-AE112R5-091319-1	19A-AE112R6-091319-1
				Sample Date:	9/13/2019	9/13/2019	9/13/2019	9/13/2019	9/13/2019
				Sample Type:	N	N	N	N	N
				Depth Interval:	24.5 - 29.5 ft	41 - 51 ft	91 - 101 ft	136 - 146 ft	153 - 163 ft
				Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**					
Conventional Parameters (ug/l)									
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	NS
Dissolved Gases (ug/l)									
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS	NS	NS
EPH (ug/l)									
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS	NS	0.47 U
Acenaphthene	20	NE	10000	100000	NS	NS	NS	NS	0.47 U
Acenaphthylene	30	10000	40	100000	NS	NS	NS	NS	0.09 U
Anthracene	60	NE	30	600	NS	NS	NS	NS	0.09 U
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS	NS	0.09 U
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS	NS	0.19 U
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS	NS	0.09 U
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS	NS	0.02 U
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS	NS	0.09 U
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS	NS	200 U
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS	NS	200 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	200 U
Chrysene	2	NE	70	700	NS	NS	NS	NS	0.05 U
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS	NS	0.02 U
Fluoranthene	90	NE	200	2000	NS	NS	NS	NS	0.47 U
Fluorene	30	NE	40	400	NS	NS	NS	NS	0.09 U
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS	NS	0.09 U
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	0.47 U
Phenanthrene	40	NE	10000	100000	NS	NS	NS	NS	0.47 U
Pyrene	60	NE	20	600	NS	NS	NS	NS	0.07 U
VPH (ug/l)									
Benzene	5	1000	10000	100000	NS	NS	NS	NS	1.0 U
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS	NS	NS	NS	100 U
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS	NS	NS	NS	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	100 U
Ethylbenzene	700	20000	5000	100000	NS	NS	NS	NS	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS	NS	1.0 U
mp-xylene	10000	3000	5000	NE	NS	NS	NS	NS	2.0 U
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	5.0 U
o-Xylene	10000	3000	5000	NE	NS	NS	NS	NS	1.0 U
Toluene	1000	50000	40000	100000	NS	NS	NS	NS	**1.7**
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	100 U
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	100 U
Total Petroleum	NE	NE	NE	NE	1 U	1 U	1 U	1 U	**1.5**
Total Xylenes	10000	3000	5000	NE	NS	NS	NS	NS	2.0 U
MAEPH (ug/l)									
Calculated EPH	NE	NE	NE	NE	NS	NS	NS	NS	200 U
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	200 U
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)									
Arsenic	10	NE	900	9000	4 U	4 U	NS	NS	4 U
Iron	NE	NE	NE	NE	11 U	**815**	NS	NS	**3690**
Manganese	NE	NE	NE	NE	**18**	**2280**	NS	NS	**1330**
Total Metals (ug/l)									
Arsenic	10	NE	900	9000	4 U	**5**	NS	NS	4 U
Iron	NE	NE	NE	NE	**55**	**835**	NS	NS	**3790**
Manganese	NE	NE	NE	NE	**45**	**2080**	NS	NS	**1360**
SVOCs SIM (ug/l)									
1,4-Dioxane	0.3	6000	50000	100000	NS	NS	NS	NS	NS

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE112D	AE112R-1	AE112R-3	AE112R-5	AE112R-6
					Sample ID:	19A-AE112D-091319-1	19A-AE112R1-091319-1	19A-AE112R3-091319-1	19A-AE112R5-091319-1	19A-AE112R6-091319-1
					Sample Date:	9/13/2019	9/13/2019	9/13/2019	9/13/2019	9/13/2019
					Sample Type:	N	N	N	N	N
					Depth Interval:	24.5 - 29.5 ft	41 - 51 ft	91 - 101 ft	136 - 146 ft	153 - 163 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)										
1,1,1,2-Tetrachloroethane	5	10	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	70	2000	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethylene	7	80	30000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	0.3	6000	50000	100000		40 U	40 U	40 U	40 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	5.0 U	5.0 U	5.0 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	5.0 U	5.0 U	5.0 U	5.0 U
Acetone	6300	50000	50000	100000		**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000		0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000		1.0 U	**R**	**R**	**R**	**R**
Bromomethane	10	7	800	8000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE		5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	70	50	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	20	50000	100000		1.0 U	1.0 U	**1.9**	**14**	**8.6**
cis-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000		0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000		1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
mp-xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	6000	60000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	50	30000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE		**R**	**6.6**	**4.4**	**3.5**	**5.3**
Toluene	1000	50000	40000	100000		1.0 U	1.0 U	1.0 U	1.0 U	**1.5**
Total CVOCs	NE	NE	NE	NE		1.0 U	1.0 U	**3.4**	**17.9**	**10.5**
Trans-1,2-Dichloroethene	100	80	50000	100000		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
TRICHLOROETHENE	5	5	5000	50000		1.0 U	1.0 U	**1.5**	**3.9**	**1.9**
Trichlorofluoromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	2	50000	100000		1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Data Sheets

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	9:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09543

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE112D-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	0.018	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	0.055	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	0.045	0.001	mg/L	1	09/17/19	CPP	SW6010D
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09543

Client ID: 19A-AE112D-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09543
Client ID: 19A-AE112D-091319-1

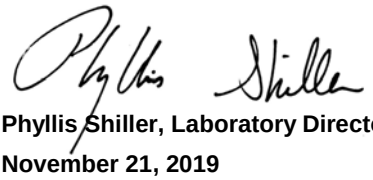
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	102		%	1	09/15/19	HM	70 - 130 %	
% Bromofluorobenzene	99		%	1	09/15/19	HM	70 - 130 %	
% Dibromofluoromethane	109		%	1	09/15/19	HM	70 - 130 %	
% Toluene-d8	99		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10299

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R1-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/18/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	0.815	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	2.28	0.011	mg/L	10	09/19/19	TH	SW6010D
Iron	0.835	0.010	mg/L	1	09/18/19	CPP	SW6010D
Manganese	2.08	0.010	mg/L	10	09/19/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R1-091319-1

Phoenix I.D.: CE10299

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	6.6	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

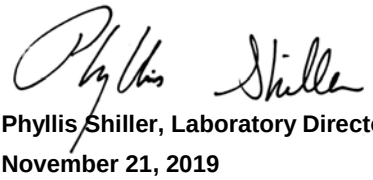
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane	95		%	1	09/20/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	95		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	94		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:33
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10300

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R3-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	1.9	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	4.4	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	96		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	92		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	95		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10301

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R5-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	14	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	3.5	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	3.9	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C
QA/QC Surrogates							

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	93		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	95		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	96		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	97		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10302

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/18/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/18/19	EK	SW6010D
Iron (Dissolved)	3.69	0.011	mg/L	1	09/18/19	EK	SW6010D
Manganese (Dissolved)	1.33	0.001	mg/L	1	09/18/19	EK	SW6010D
Iron	3.79	0.010	mg/L	1	09/18/19	CPP	SW6010D
Manganese	1.36	0.001	mg/L	1	09/18/19	CPP	SW6010D
EPH Extraction	Completed				09/17/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/16/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/17/19	AG	SW3005A
Total Metals Digestion	Completed				09/17/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE112R6-091319-1

Phoenix I.D.: CE10302

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	8.6	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	5.3	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	1.5	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	1.9	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	MH	70 - 130 %	
% Bromofluorobenzene	94		%	1	09/20/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	09/20/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	09/20/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C	7
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	94		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	94		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	96		%	1	09/20/19	HM	70 - 130 %	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	69		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	69		%	1	09/18/19	WB	40 - 140 %	
% Terphenyl-d14	56		%	1	09/18/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 605520044.13 Phoenix I.D.: CE10302
Client ID: 19A-AE112R6-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/19/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/19/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	09/18/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	69		%	1	09/19/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/18/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	92		%	1	09/18/19	AW	40 - 140 %
% o-terphenyl (aromatic)	65		%	1	09/18/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	1.7	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	110		%	1	09/19/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

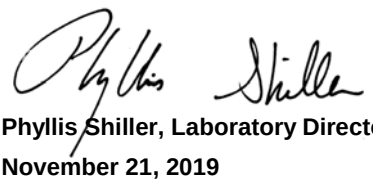
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

MA VPH method is not approved for drinking water matrices.
The analysis should not be used for compliance purposes.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Ed and Gail Melanson
11 Jill Circle
North Reading, MA 01864

Subject: September 2019 Groundwater Analytical Results
0 Furbish Pond Lane, North Reading, MA

Dear Ed and Gail,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from one monitoring well (PS-8D) located on your property at 0 Furbish Pond Lane in North Reading, MA.

The Site at 50 Fordham Rd, Wilmington, MA is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the owner of the property. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,



Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corp.
Mark Clark, North Reading Water Dept.
Project File

Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ed and Gail Melanson

2. Street Address: 11 Jill Circle

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 0 Furbish Pond Lane

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☐ commerical ☐ industrial ☐ school/playground ☑ Other privately owned (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

PS-8D

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

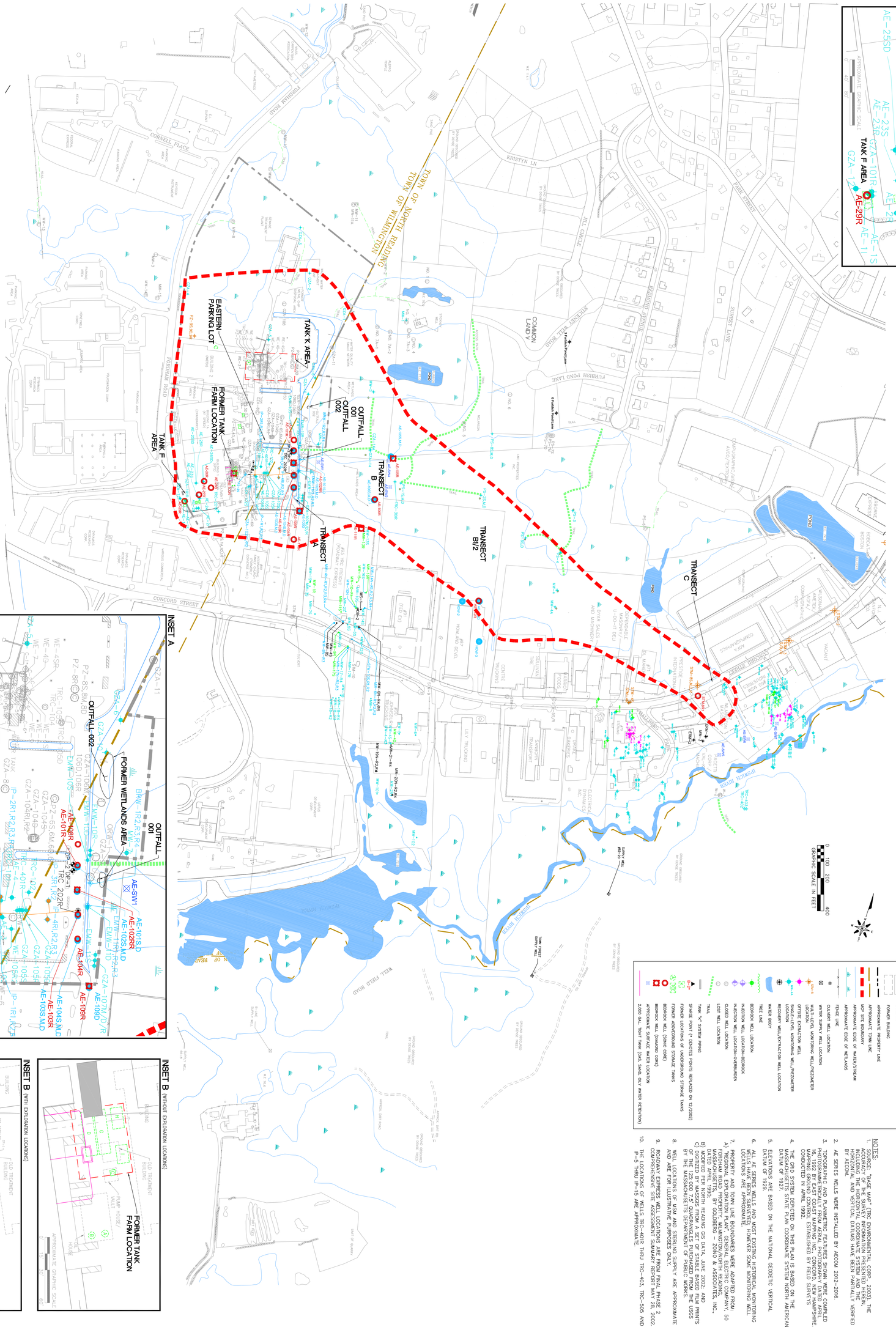
Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

ATTACHMENT B

Analytical Results Summary Tables and Sample Location Map

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	PS-8D
				Sample ID:	19A-PS8D-091719-1
				Sample Date:	9/17/2019
				Sample Type:	N
				Depth Interval:	51.8 - 56.8 ft
				Lab Name:	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**	
Conventional Parameters (ug/l)					
Chloride	NE	NE	NE	NE	NS
Nitrate	NE	NE	NE	NE	NS
Nitrite as N	NE	NE	NE	NE	NS
Sulfate	NE	NE	NE	NE	NS
Sulfide	NE	NE	NE	NE	NS
Total Organic Carbon	NE	NE	NE	NE	NS
Dissolved Gases (ug/l)					
Acetylene	NE	NE	NE	NE	NS
Ethane	NE	NE	NE	NE	NS
Ethene	NE	NE	NE	NE	NS
Hydrogen	NE	NE	NE	NE	NS
Methane	NE	NE	NE	NE	NS
Propane	NE	NE	NE	NE	NS
EPH (ug/l)					
2-Methylnaphthalene	10	2000	20000	100000	NS
Acenaphthene	20	NE	10000	100000	NS
Acenaphthylene	30	10000	40	100000	NS
Anthracene	60	NE	30	600	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS
Chrysene	2	NE	70	700	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS
Fluoranthene	90	NE	200	2000	NS
Fluorene	30	NE	40	400	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS
Naphthalene	140	700	20000	100000	NS
Phenanthrene	40	NE	10000	100000	NS
Pyrene	60	NE	20	600	NS
VPH (ug/l)					
Benzene	5	1000	10000	100000	NS
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS
Ethylbenzene	700	20000	5000	100000	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS
mp-xylene	10000	3000	5000	NE	NS
Naphthalene	140	700	20000	100000	NS
o-Xylene	10000	3000	5000	NE	NS
Toluene	1000	50000	40000	100000	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS
Total Petroleum	NE	NE	NE	NE	1 U
Total Xylenes	10000	3000	5000	NE	NS
MAEPH (ug/l)					
Calculated EPH	NE	NE	NE	NE	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS
Dissolved Metals (ug/l)					
Arsenic	10	NE	900	9000	4 U
Iron	NE	NE	NE	NE	**761**
Manganese	NE	NE	NE	NE	**7**
Total Metals (ug/l)					
Arsenic	10	NE	900	9000	4 U
Iron	NE	NE	NE	NE	**5380**
Manganese	NE	NE	NE	NE	**31**
SVOCs SIM (ug/l)					
1,4-Dioxane	0.3	6000	50000	100000	NS

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

VOCs (ug/l)					
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U
1,1-Dichloroethane	70	2000	20000	100000	1.0 U
1,1-Dichloroethylene	7	80	30000	100000	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	NE	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	**R**
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U
1,4-Dioxane	0.3	6000	50000	100000	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U
2-Butanone	4000	50000	50000	100000	**R**
2-Chlorotoluene	NE	NE	NE	NE	1.0 U
2-Hexanone	NE	NE	NE	NE	5.0 U
2-Phenylbutane	NE	NE	NE	NE	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5.0 U
Acetone	6300	50000	50000	100000	**R**
Benzene	5	1000	10000	100000	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U
Bromoform	4	700	50000	100000	**R**
Bromomethane	10	7	800	8000	1.0 U
Carbon Disulfide	NE	NE	NE	NE	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U
Chloroethane	NE	NE	NE	NE	1.0 U
Chloroform	70	50	20000	100000	1.0 U
Chloromethane	NE	NE	NE	NE	1.0 U
cis-1,2-Dichloroethene	70	20	50000	100000	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U
Cymene	NE	NE	NE	NE	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U
Methylene Chloride	5	2000	50000	100000	1.0 U
mp-xylene	10000	3000	5000	NE	1.0 U
Naphthalene	140	700	20000	100000	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U
o-Xylene	10000	3000	5000	NE	1.0 U
Styrene	100	100	6000	60000	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U
Tetrachloroethene	5	50	30000	100000	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.5 U
Toluene	1000	50000	40000	100000	1.0 U
Total CVOCs	NE	NE	NE	NE	1.0 U
Trans-1,2-Dichloroethene	100	80	50000	100000	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U
TRICHLOROETHENE	5	5	5000	50000	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U
Vinyl Chloride	2	2	50000	100000	1.0 U
Total Xylenes	10000	3000	5000	NE	1.0 U

Notes:

1) Bolded results represent detections

2) Yellow highlighted results exceed GW standard(s)

3) U = Non-detect at laboratory detection limit

4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.

5) J = Estimated Value (J- biased low and J+ biased high)

6) NE = Not Established

7) Sample Type N = normal sample; FD = field duplicate

8) R = Rejected based on data validation results

9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11181

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS8D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.761	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.007	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	5.38	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.031	0.001	mg/L	1	09/21/19	CPP	SW6010D
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-PS8D-091719-1

Phoenix I.D.: CE11181

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11181
Client ID: 19A-PS8D-091719-1

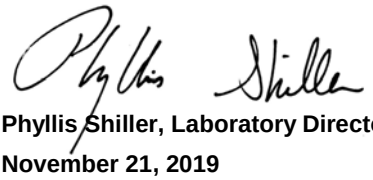
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	94		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	94		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	92		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	93		%	1	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Mr. Mark Clark
Town of N. Reading
235 North Street
N. Reading, MA 01864

Subject: September 2019 Groundwater Analytical Results
Former GE Facility – 50 Fordham Road, Wilmington, MA

Dear Mr. Clark,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from 3 monitoring wells (STM-3D and STM-8D/R) located within the right-of-way along Concord St in North Reading.

This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the property owner. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the groundwater sampling, and a map of the sampling locations close to your property lines. We have included summary tables of the September 2019 groundwater analytical results with a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Senior Technical Specialist

cc:

N. Reading Town Administrator

Paul Calligan, Lockheed Martin Corp.

Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Mark Clark - Town of North Reading

2. Street Address: 235 North Street

City/Town: N. Reading Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 51 & 71 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☐ industrial ☐ school/playground ☑ Other municipal right-of-way (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

STM-3D and STM-8D/R

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

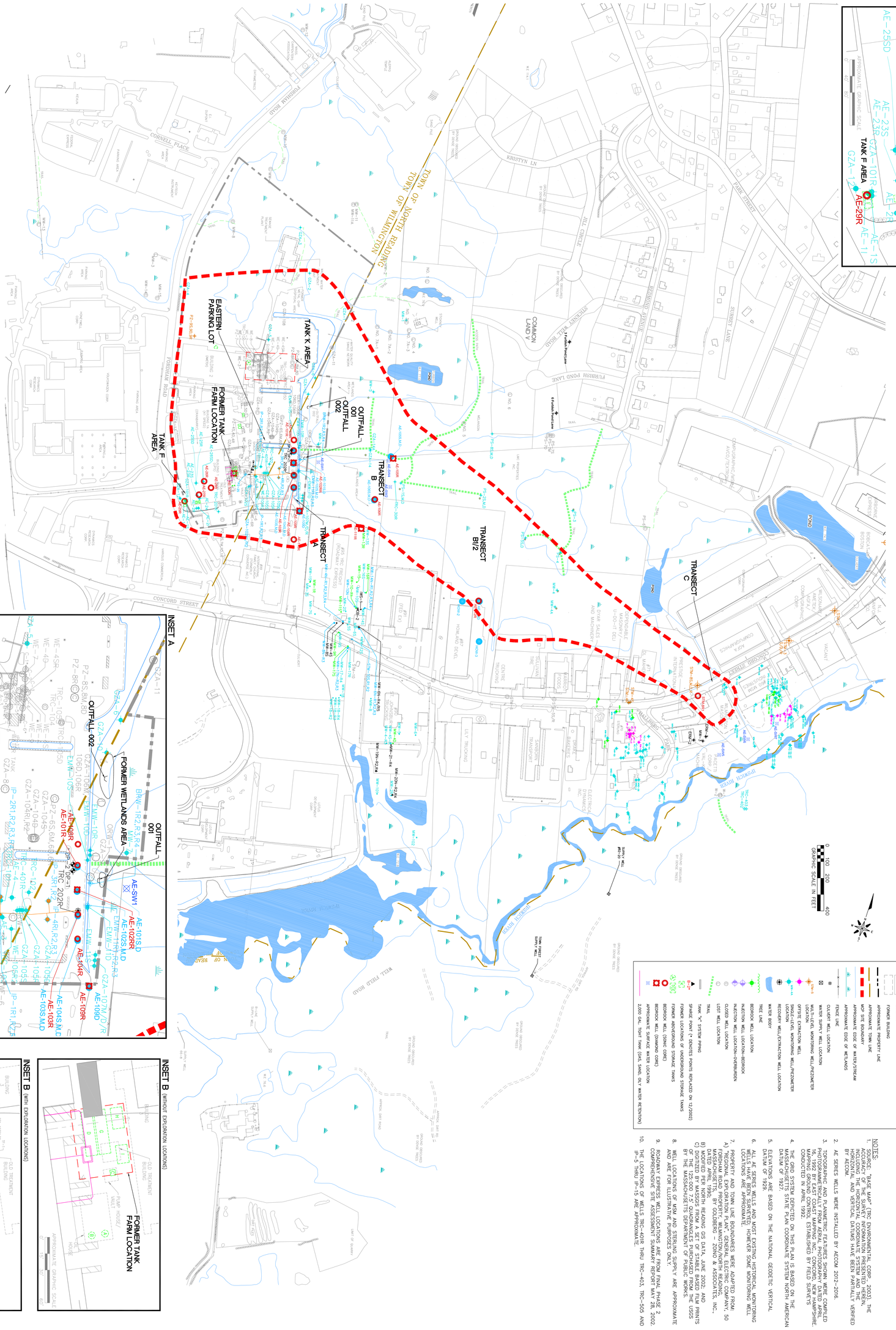
ATTACHMENT B

Groundwater Sampling Location Map

And Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	STM-3D	STM-8D	STM-8R
				Sample ID:	19A-STM3D-092619-1	19A-STM8D-092619-1	19A-STM8R-092619-1
				Sample Date:	9/26/2019	9/26/2019	9/26/2019
				Sample Type:	N	N	N
				Depth Interval:	49.8 - 54.8 ft	34.7 - 39.7 ft	46.5 - 51.5 ft
				Lab Name:	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**			
Conventional Parameters (ug/l)							
Chloride	NE	NE	NE	NE	NS	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS
Dissolved Gases (ug/l)							
Acetylene	NE	NE	NE	NE	NS	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS
EPH (ug/l)							
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS
Acenaphthene	20	NE	10000	100000	NS	NS	NS
Acenaphthylene	30	10000	40	100000	NS	NS	NS
Anthracene	60	NE	30	600	NS	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS
Chrysene	2	NE	70	700	NS	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS
Fluoranthene	90	NE	200	2000	NS	NS	NS
Fluorene	30	NE	40	400	NS	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS
Phenanthrene	40	NE	10000	100000	NS	NS	NS
Pyrene	60	NE	20	600	NS	NS	NS
VPH (ug/l)							
Benzene	5	1000	10000	100000	NS	NS	NS
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS	NS	NS
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS
Ethylbenzene	700	20000	5000	100000	NS	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS
mp-xylene	10000	3000	5000	NE	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	NS
o-Xylene	10000	3000	5000	NE	NS	NS	NS
Toluene	1000	50000	40000	100000	NS	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS
Total Petroleum	NE	NE	NE	NE	1 U	1 U	1 U
Total Xylenes	10000	3000	5000	NE	NS	NS	NS
MAEPH (ug/l)							
Calculated EPH	NE	NE	NE	NE	NS	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS
Dissolved Metals (ug/l)							
Arsenic	10	NE	900	9000	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS
Total Metals (ug/l)							
Arsenic	10	NE	900	9000	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS
SVOCs SIM (ug/l)							
1,4-Dioxane	**0.3**	6000	50000	100000	NS	**0.44**	0.20 U

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	STM-3D	STM-8D	STM-8R
					Sample ID:	19A-STM3D-092619-1	19A-STM8D-092619-1	19A-STM8R-092619-1
					Sample Date:	9/26/2019	9/26/2019	9/26/2019
					Sample Type:	N	N	N
					Depth Interval:	49.8 - 54.8 ft	34.7 - 39.7 ft	46.5 - 51.5 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)								
1,1,1,2-Tetrachloroethane	5	10	50000	100000		1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000		1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	**R**	**R**
1,1,2-Trichloroethane	5	900	50000	100000		1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	70	2000	20000	100000		1.0 U	1.0 U	1.0 U
1,1-Dichloroethylene	7	80	30000	100000		1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	NE		1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		0.60 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		1.0 U	1.0 U	1.0 U
1,4-Dioxane	0.3	6000	50000	100000		40 U	40 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	**R**	**R**
2-Phenylbutane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	**R**	**R**
Acetone	6300	50000	50000	100000		**R**	**R**	**R**
Benzene	5	1000	10000	100000		0.70 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000		0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000		1.0 U	1.0 U	1.0 U
Bromomethane	10	7	800	8000		1.0 UJ	1.0 UJ	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE		5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000		1.0 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000		1.0 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Chloroform	70	50	20000	100000		1.0 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	20	50000	100000		1.0 U	**10**	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000		0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000		1.0 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		0.40 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		1.0 U	**2.9**	1.0 U
Methylene Chloride	5	2000	50000	100000		1.0 U	1.0 U	1.0 U
mp-xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000		1.0 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
o-Xylene	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U
Styrene	100	100	6000	60000		1.0 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Tetrachloroethene	5	50	30000	100000		1.0 U	**1.3**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE		**R**	**R**	**R**
Toluene	1000	50000	40000	100000		1.0 U	1.0 U	1.0 U
Total CVOCs	NE	NE	NE	NE		1.0 U	**12.6**	1.0 U
Trans-1,2-Dichloroethene	100	80	50000	100000		1.0 U	1.0 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	0.40 U	0.40 U
TRICHLOROETHENE	5	5	5000	50000		1.0 U	**1.3**	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE		1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	2	50000	100000		1.0 U	1.0 U	1.0 U
Total Xylenes	10000	3000	5000	NE		1.0 U	1.0 U	1.0 U

Notes:

1) Bolded results represent detections

2) Yellow highlighted results exceed GW standard(s)

3) U = Non-detect at laboratory detection limit

4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.

5) J = Estimated Value (J- biased low and J+ biased high)

6) NE = Not Established

7) Sample Type N = normal sample; FD = field duplicate

8) R = Rejected based on data validation results

9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results Packages

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	12:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18828

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Phoenix I.D.: CE18828

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	98		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Ver 2

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM3D-092619-1

Phoenix I.D.: CE18828

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18829

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R-092619-1

Phoenix I.D.: CE18829

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	80		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	13:10
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18830

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8D-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	10	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	2.9	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8D-092619-1

Phoenix I.D.: CE18830

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	0.44	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	78		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 6, 2020

Mr. Roland Gagne
Manager, Wilmington Masonry
62 Concord Street
North Reading, MA 01889

Subject: September 2019 Groundwater Analytical Results
62 Concord Street, Wilmington, MA

Dear Mr. Gagne,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected a groundwater sample from one monitoring well (STM-8R1) located on your property as part of the ongoing work relating to the former GE facility formerly located at 50 Fordham Rd in Wilmington, MA.

The former GE facility is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the property owner. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corp.

Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Roland Gagne - Wilmington Masonry

2. Street Address: 62 Concord Street

City/Town: North Reading, MA Zip Code: 01864

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 62 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

STM-8R1, groundwater

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

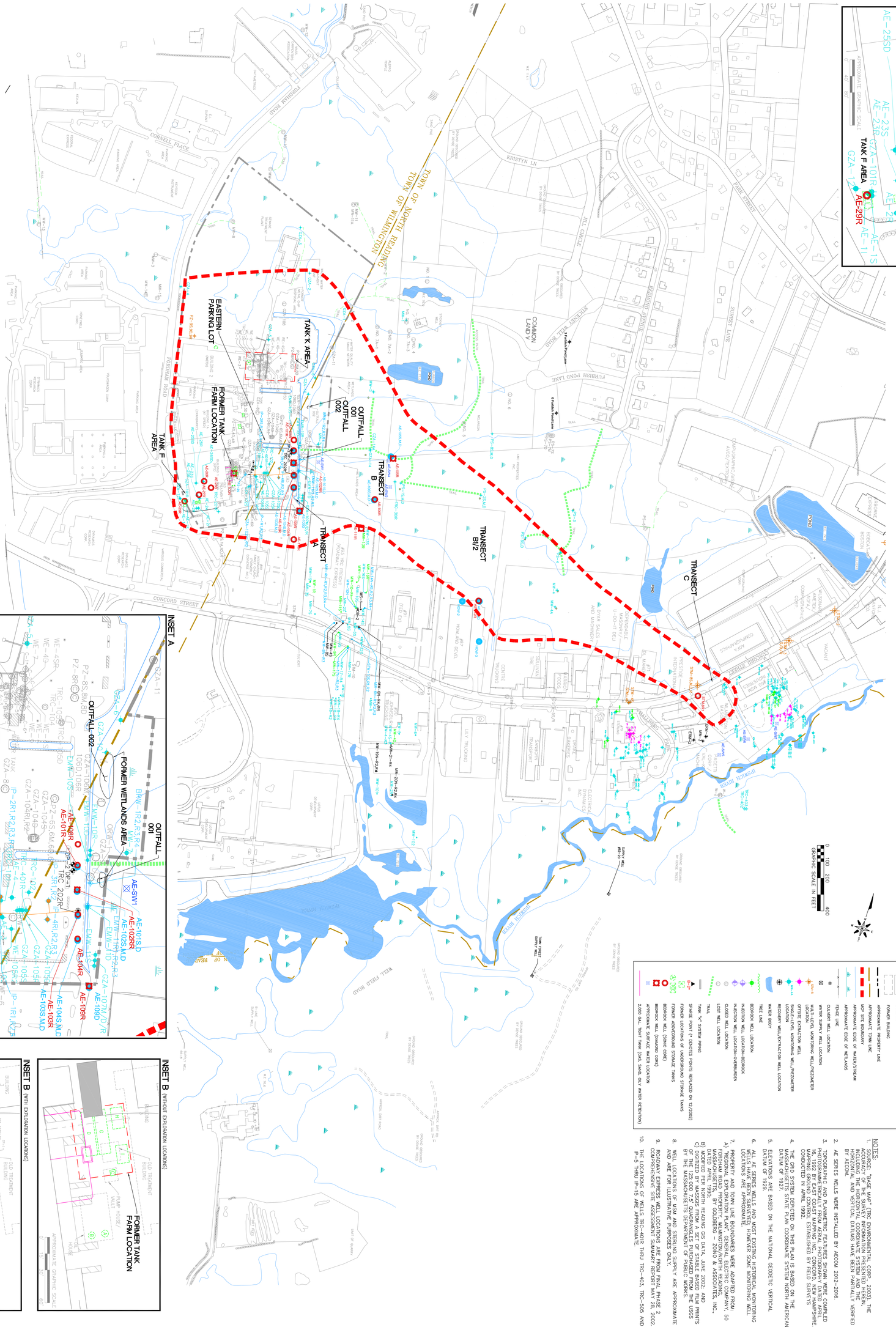
ATTACHMENT B

Groundwater Sampling Location Map

and Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	STM-8R1
				Sample ID:	19A-STM8R1-092619-1
				Sample Date:	9/26/2019
				Sample Type:	N
				Depth Interval:	85 - 90 ft
				Lab Name:	PHOENIX/PAES
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**	
Conventional Parameters (ug/l)					
Chloride	NE	NE	NE	NE	**78600**
Nitrate	NE	NE	NE	NE	**180**
Nitrite as N	NE	NE	NE	NE	4 U
Sulfate	NE	NE	NE	NE	**40600**
Sulfide	NE	NE	NE	NE	50 U
Total Organic Carbon	NE	NE	NE	NE	1000 U
Dissolved Gases (ug/l)					
Acetylene	NE	NE	NE	NE	0.50 U
Ethane	NE	NE	NE	NE	0.10 U
Ethene	NE	NE	NE	NE	0.10 U
Hydrogen	NE	NE	NE	NE	**7.9**
Methane	NE	NE	NE	NE	**0.51 J-**
Propane	NE	NE	NE	NE	0.10 U
EPH (ug/l)					
2-Methylnaphthalene	10	2000	20000	100000	0.48 U
Acenaphthene	20	NE	10000	100000	0.48 U
Acenaphthylene	30	10000	40	100000	0.10 U
Anthracene	60	NE	30	600	0.09 U
Benzo(a)Anthracene	1	NE	1000	10000	0.10 U
Benzo(a)Pyrene	0.2	NE	500	5000	0.19 U
Benzo(b)Fluoranthene	1	NE	400	4000	0.10 U
Benzo(g,h,i)Perylene	50	NE	20	500	0.02 U
Benzo(k)Fluoranthene	1	NE	100	1000	0.10 U
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	190 U
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	190 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	190 UJ
Chrysene	2	NE	70	700	0.05 U
Dibenzo(a,h)Anthracene	0.5	NE	40	400	0.02 U
Fluoranthene	90	NE	200	2000	0.48 U
Fluorene	30	NE	40	400	0.10 U
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	0.10 U
Naphthalene	140	700	20000	100000	0.48 U
Phenanthrene	40	NE	10000	100000	0.48 U
Pyrene	60	NE	20	600	0.07 U
VPH (ug/l)					
Benzene	5	1000	10000	100000	1.0 U
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	100 U
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	100 U
Ethylbenzene	700	20000	5000	100000	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U
mp-xylene	10000	3000	5000	NE	2.0 U
Naphthalene	140	700	20000	100000	5.0 U
o-Xylene	10000	3000	5000	NE	1.0 U
Toluene	1000	50000	40000	100000	1.0 U
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	100 U
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	100 U
Total Petroleum	NE	NE	NE	NE	1 U
Total Xylenes	10000	3000	5000	NE	2.0 U
MAEPH (ug/l)					
Calculated EPH	NE	NE	NE	NE	190 U
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	190 U
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS
Dissolved Metals (ug/l)					
Arsenic	**10**	NE	900	9000	**14**
Iron	NE	NE	NE	NE	**12**
Manganese	NE	NE	NE	NE	**140**
Total Metals (ug/l)					
Arsenic	**10**	NE	900	9000	**17**
Iron	NE	NE	NE	NE	**69**
Manganese	NE	NE	NE	NE	**156**
SVOCs SIM (ug/l)					
1,4-Dioxane	0.3	6000	50000	100000	**0.28**

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

VOCs (ug/l)					
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	**R**
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U
1,1-Dichloroethane	70	2000	20000	100000	1.0 U
1,1-Dichloroethylene	7	80	30000	100000	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	NE	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	**R**
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U
2-Butanone	4000	50000	50000	100000	**R**
2-Chlorotoluene	NE	NE	NE	NE	1.0 U
2-Hexanone	NE	NE	NE	NE	**R**
2-Phenylbutane	NE	NE	NE	NE	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	**R**
Acetone	6300	50000	50000	100000	**R**
Benzene	5	1000	10000	100000	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U
Bromoform	4	700	50000	100000	1.0 U
Bromomethane	10	7	800	8000	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U
Chloroethane	NE	NE	NE	NE	1.0 U
Chloroform	70	50	20000	100000	1.0 U
Chloromethane	NE	NE	NE	NE	1.0 U
cis-1,2-Dichloroethene	70	20	50000	100000	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U
Cymene	NE	NE	NE	NE	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U
Methylene Chloride	5	2000	50000	100000	1.0 U
mp-xylene	10000	3000	5000	NE	1.0 U
Naphthalene	140	700	20000	100000	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U
o-Xylene	10000	3000	5000	NE	1.0 U
Styrene	100	100	6000	60000	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U
Tetrachloroethene	5	50	30000	100000	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	**R**
Toluene	1000	50000	40000	100000	1.0 U
Total CVOCs	NE	NE	NE	NE	**1.9**
Trans-1,2-Dichloroethene	100	80	50000	100000	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U
TRICHLOROETHENE	5	5	5000	50000	**1.9**
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U
Vinyl Chloride	2	2	50000	100000	1.0 U
Total Xylenes	10000	3000	5000	NE	1.0 U

Notes:

1) Bolded results represent detections

2) Yellow highlighted results exceed GW standard(s)

3) U = Non-detect at laboratory detection limit

4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.

5) J = Estimated Value (J- biased low and J+ biased high)

6) NE = Not Established

7) Sample Type N = normal sample; FD = field duplicate

8) R = Rejected based on data validation results

9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results Packages

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	9:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18826

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R1-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.017	0.004	mg/L	1	10/02/19	EK	SW6010D
Arsenic (Dissolved)	0.014	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	0.012	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	0.140	0.001	mg/L	1	09/27/19	TH	SW6010D
Iron	0.069	0.010	mg/L	1	10/02/19	EK	SW6010D
Manganese	0.156	0.001	mg/L	1	10/02/19	EK	SW6010D
Chloride	78.6	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/27/19 09:11	BS/EG	E300.0
Nitrate as Nitrogen	0.18	0.05	mg/L	1	09/27/19 09:11	BS/EG	E300.0
Sulfate	40.6	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/28/19	EG	SM5310B-11
EPH Extraction	Completed				10/01/19	JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/26/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/26/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/30/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-STM8R1-092619-1

Phoenix I.D.: CE18826

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	1.9	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	98		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.48	ug/L	1	09/29/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/29/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	49		%	1	09/29/19	WB	40 - 140 %	
% Nitrobenzene-d5	45		%	1	09/29/19	WB	40 - 140 %	
% Terphenyl-d14	48		%	1	09/29/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	0.28	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	67		%	1	10/01/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	78		%	1	10/01/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	80		%	1	10/01/19	AW	40 - 140 %
% o-terphenyl (aromatic)	68		%	1	10/01/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/30/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	117		%	1	09/30/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	115		%	1	09/30/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

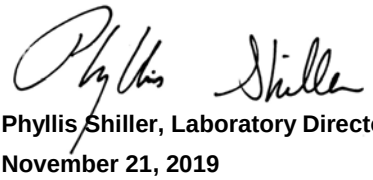
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670013** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-STM8R1-092619-1** Date Collected: 9/26/2019 09:35

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.51**	ug/l	0.50	0.046	1	10/4/2019 12:53	BW	n
Ethane	**0.10 U**	ug/l	0.10	0.0050	1	10/4/2019 12:53	BW	n
Ethene	**0.033J**	ug/l	0.10	0.0040	1	10/4/2019 12:53	BW	n
Propane	**0.10 U**	ug/l	0.10	0.011	1	10/4/2019 12:53	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:53	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670022** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-STM8R1-092619-1** Date Collected: 9/26/2019 11:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**7.9**	nM	1.0	0.75	1	10/5/2019 08:38	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 3, 2020

Mr. Gary Stanieich
Manager, Wilmington Realty Trust
424 Broadway
Somerville, MA 02145

Subject: September 2019 Groundwater Analytical Results
50 Fordham Road, Wilmington, MA

Dear Mr. Stanieich,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from 72 monitoring well [screen intervals] located on your property at 40-50 Fordham Road in Wilmington and North Reading, MA. This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP).

This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the property owner. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corp.
Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Gary Stanieich

2. Street Address: 424 Broadway

City/Town: Somerville, MA Zip Code: 02145

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 40 Fordham Rd (site formerly #50, but is now #40 Fordham Rd)

City/Town: Wilmington, MA Zip Code: 01887

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

See attached letter and data sheets for groundwater sample results from 72 wells/screens in September 2019.

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

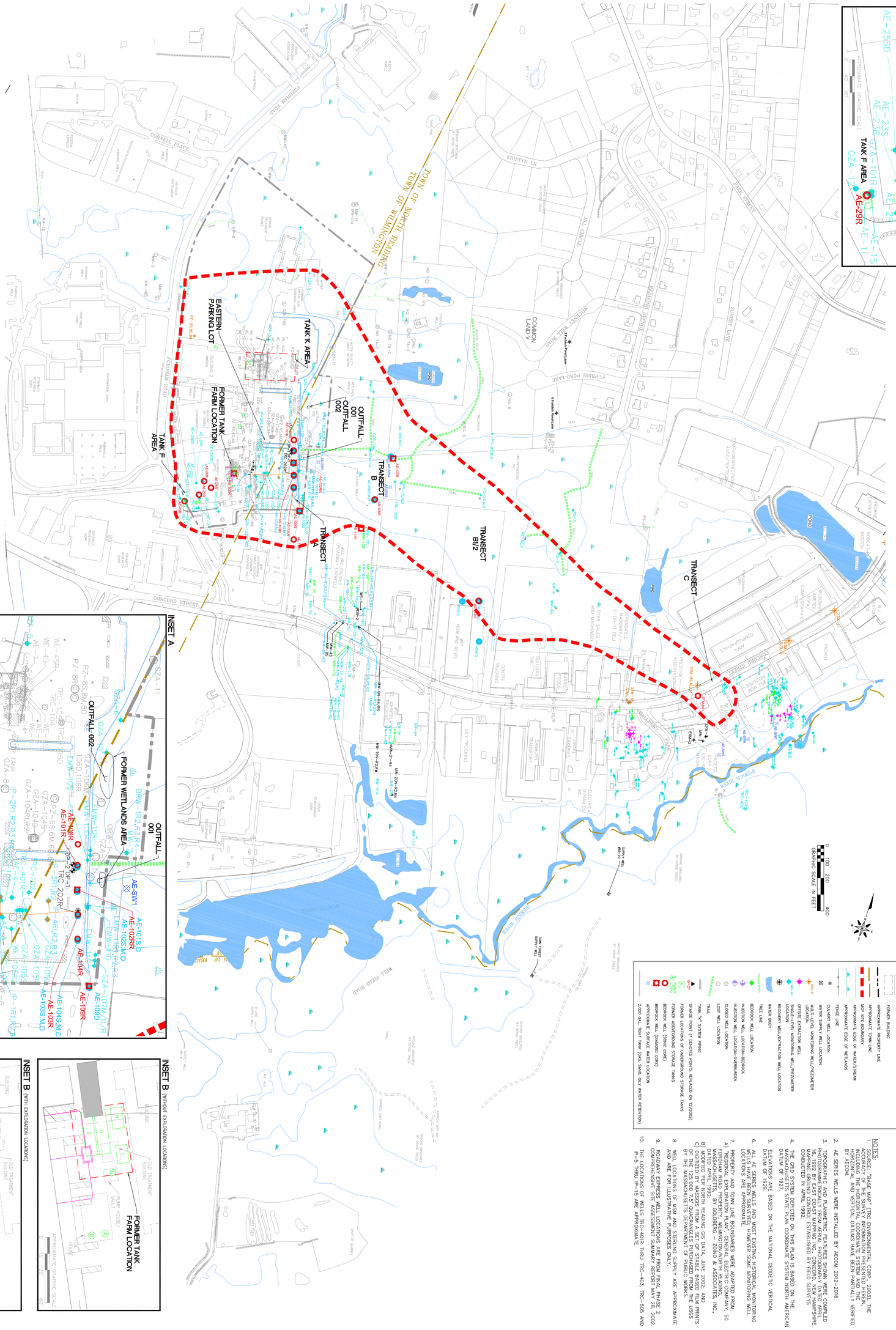
ATTACHMENT B

Groundwater Sampling Location Map

and Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	AE23R	AE24	AE26R-1	AE26R-2	AE26R-5	AE26S	AE28R-1	AE28R-2	AE28R-3	AE28R-4	AE29R-1	AE29R-3	AE29R-5	AE29R-6	GZA-101R	TRC-201R
				Sample ID:	19A-AE23R-092319-1	19A-AE24-092319-1	19A-AE26R1-092319-1	19A-AE26R2-092319-1	19A-AE26R5-092319-1	19A-AE26S-092319-1	19A-AE28R1-092319-1	19A-AE28R2-092319-1	19A-AE28R3-092319-1	19A-AE28R4-092319-1	19A-AE29R1-092419-1	19A-AE29R3-092419-1	19A-AE29R5-092419-1	19A-AE29R6-092419-1	19A-GZA101R-092619-1	19A-TRC201R-092519-1
				Sample Date:	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/24/2019	9/24/2019	9/24/2019	9/24/2019	9/26/2019	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
				Depth Interval:	44.75-54.75 ft	7.25-17.25 ft	50 - 56 ft	72-78 ft	123-132 ft	25-30 ft	45-51 ft	75-85 ft	98-108 ft	132-142 ft	37 - 44 ft	70 - 76 ft	113 - 119 ft	140-146 ft	36.5 - 38 ft	38 - 161 ft
				Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**																
Conventional Parameters (ug/l)																				
Chloride	NE	NE	NE	NE	NS	NS	**133000**	NS	NS	NS	NS	**422000**	NS	NS	NS	NS	NS	**424000**	**1370000**	NS
Nitrate	NE	NE	NE	NE	NS	NS	50 U	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	50 U	50 U	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	4 U	NS	NS	NS	NS	40 U	NS	NS	NS	NS	NS	40 U	100 U	NS
Sulfate	NE	NE	NE	NE	NS	NS	**17500**	NS	NS	NS	NS	**39400**	NS	NS	NS	NS	NS	**46300**	**52800**	NS
Sulfide	NE	NE	NE	NE	NS	NS	**170**	NS	NS	NS	NS	**300**	NS	NS	NS	NS	NS	50 U	50 U	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	1000 U	NS	NS	NS	NS	1000 U	NS	NS	NS	NS	NS	1000 U	NS	NS
Dissolved Gases (ug/l)																				
Acetylene	NE	NE	NE	NE	NS	NS	**0.25 J**	NS	NS	NS	NS	**0.90**	NS	NS	NS	NS	NS	0.50 U	0.50 U	NS
Ethane	NE	NE	NE	NE	NS	NS	**1.0**	NS	NS	NS	NS	**7.7**	NS	NS	NS	NS	NS	**0.26**	**0.59**	NS
Ethene	NE	NE	NE	NE	NS	NS	**1.3**	NS	NS	NS	NS	**11**	NS	NS	NS	NS	NS	**0.90**	0.10 U	NS
Hydrogen	NE	NE	NE	NE	NS	NS	**20**	NS	NS	NS	NS	**220**	NS	NS	NS	NS	NS	**180**	**22**	NS
Methane	NE	NE	NE	NE	NS	NS	**190 J-**	NS	NS	NS	NS	**190 J-**	NS	NS	NS	NS	NS	**1100 J-**	**11 J-**	NS
Propane	NE	NE	NE	NE	NS	NS	**0.11**	NS	NS	NS	NS	**0.74**	NS	NS	NS	NS	NS	**0.14**	**0.17**	NS
EPH (ug/l)																				
2-Methylnaphthalene	10	2000	20000	100000	0.47 U	NS	0.47 U	NS	NS	NS	NS	0.47 U	NS	NS	NS	NS	NS	0.47 U	NS	NS
Acenaphthene	20	NE	10000	100000	0.47 U	NS	0.47 U	NS	NS	NS	NS	0.47 U	NS	NS	NS	NS	NS	0.47 U	NS	NS
Acenaphthylene	30	10000	40	100000	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Anthracene	60	NE	30	600	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	0.19 U	NS	0.19 U	NS	NS	NS	NS	0.19 U	NS	NS	NS	NS	NS	0.19 U	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	0.02 U	NS	0.02 U	NS	NS	NS	NS	0.02 U	NS	NS	NS	NS	NS	0.02 U	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	190 U	NS	190 U	NS	NS	NS	NS	190 U	NS	NS	NS	NS	NS	190 U	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	190 U	NS	190 U	NS	NS	NS	NS	190 U	NS	NS	NS	NS	NS	190 U	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	190 UJ	NS	190 UJ	NS	NS	NS	NS	190 UJ	NS	NS	NS	NS	NS	190 U	NS	NS
Chrysene	2	NE	70	700	0.05 U	NS	0.05 U	NS	NS	NS	NS	0.05 U	NS	NS	NS	NS	NS	0.05 U	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	0.02 U	NS	0.02 U	NS	NS	NS	NS	0.02 U	NS	NS	NS	NS	NS	0.02 U	NS	NS
Fluoranthene	90	NE	200	2000	0.47 U	NS	0.47 U	NS	NS	NS	NS	0.47 U	NS	NS	NS	NS	NS	0.47 U	NS	NS
Fluorene	30	NE	40	400	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	0.09 U	NS	0.09 U	NS	NS	NS	NS	0.09 U	NS	NS	NS	NS	NS	0.09 U	NS	NS
Naphthalene	140	700	20000	100000	**1.1**	NS	0.47 U	NS	NS	NS	NS	**0.87**	NS	NS	NS	NS	NS	0.47 U	NS	NS
Phenanthrene	40	NE	10000	100000	0.47 U	NS	0.47 U	NS	NS	NS	NS	0.47 U	NS	NS	NS	NS	NS	0.47 U	NS	NS
Pyrene	60	NE	20	600	0.07 U	NS	0.07 U	NS	NS	NS	NS	0.07 U	NS	NS	NS	NS	NS	0.07 U	NS	NS
VPH (ug/l)																				
Benzene	5	1000	10000	100000	1.0 U	NS	1.0 U	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	1.0 U	NS	NS
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	50000	100000	100 U	NS	100 U	NS	NS	NS	NS	100 U	NS	NS	NS	NS	NS	100 U	NS	NS
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	100 U	NS	100 U	NS	NS	NS	NS	100 U	NS	NS	NS	NS	NS	100 U	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	100 U	NS	100 U	NS	NS	NS	NS	100 U	NS	NS	NS	NS	NS	100 U	NS	NS
Ethylbenzene	700	20000	5000	100000	1.0 U	NS	1.0 U	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	1.0 U	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U	NS	1.0 U	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	1.0 U	NS	NS
mp-xylene	10000	3000	5000	NE	**33**	NS	2.0 U	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	2.0 U	NS	NS
Naphthalene	140	700	20000	100000	5.0 U	NS	5.0 U	NS	NS	NS	NS	5.0 U	NS	NS	NS	NS	NS	5.0 U	NS	NS
o-Xylene	10000	3000	5000	NE	**12**	NS	1.0 U	NS	NS	NS	NS	5 U	NS	NS	NS	NS	NS	1.0 U	NS	NS
Toluene	**1000**	50000	40000	100000	**4000**	NS	1.0 U	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	1.0 U	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	**4000**	NS	100 U	NS	NS	NS	NS	100 U	NS	NS	NS	NS	NS	100 U	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	200 U	NS	100 U	NS	NS	NS	NS	100 U	NS	NS	NS	NS	NS	100 U	NS	NS
Total Petroleum	NE	NE	NE	NE	**4200**	50 U	5 U	2 U	20 U	1 U	50 U	50 U	50 U	50 U	1 U	1 U	1 U	5 U	5 U	1 U
Total Xylenes	10000	3000	5000	NE	**45**	NS	2.0 U	NS	NS	NS	NS	10 U	NS	NS	NS	NS	NS	2.0 U	NS	NS
MAEPH (ug/l)																				
Calculated EPH	NE	NE	NE	NE	190 U	NS	190 U	NS	NS	NS	NS	190 U	NS	NS	NS	NS	NS	190 U	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	190 U	NS	190 U	NS	NS	NS	NS	190 U	NS	NS	NS	NS	NS	190 U	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	NS	NS	4 U	NS	NS	4 U	NS	4 U	NS	NS	NS	NS	NS	**4**	4 U	NS
Iron	NE	NE	NE	NE	NS	NS	**58**	NS	NS	**11**	NS	**823**	NS	NS	NS	NS	NS	**1280**	**17200**	NS
Manganese	NE	NE	NE	NE	NS	NS	**636**	NS	NS	**440**	NS	**1870**	NS	NS	NS	NS	NS	**974**	**8200**	NS
Total Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	NS	NS	4 U	NS	NS	4 U	NS	4 U	NS	NS	NS	NS	NS	4 U	4 U	NS
Iron	NE	NE	NE	NE	NS	NS	**243**	NS	NS	**57**	NS	**892**	NS	NS	NS	NS	NS	**1210**	**19600**	NS
Manganese	NE	NE	NE	NE	NS	NS	**667**	NS	NS	**437**	NS	**1920**	NS	NS	NS	NS	NS	**886**	**8020**	NS
SVOCs SIM (ug/l)																				
1,4-Dioxane	**0.3**	6000	50000	100000	**15**	**1.4**	**25**	NS	**34**	NS	NS	**60**	**46**	NS	NS	NS	NS	**50**	NS	NS

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE23R	AE24	AE26R-1	AE26R-2	AE26R-5	AE26S	AE28R-1	AE28R-2	AE28R-3	AE28R-4	AE29R-1	AE29R-3	AE29R-5	AE29R-6	GZA-101R	TRC-201R
					Sample ID:	19A-AE23R-092319-1	19A-AE24-092319-1	19A-AE26R1-092319-1	19A-AE26R2-092319-1	19A-AE26R5-092319-1	19A-AE26S-092319-1	19A-AE28R1-092319-1	19A-AE28R2-092319-1	19A-AE28R3-092319-1	19A-AE28R4-092319-1	19A-AE29R1-092419-1	19A-AE29R3-092419-1	19A-AE29R5-092419-1	19A-AE29R6-092419-1	19A-GZA101R-092619-1	19A-TRC201R-092519-1
					Sample Date:	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/24/2019	9/24/2019	9/24/2019	9/24/2019	9/26/2019	9/25/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	44.75-54.75 ft	7.25-17.25 ft	50 - 56 ft	72-78 ft	123-132 ft	25-30 ft	45-51 ft	75-85 ft	98-108 ft	132-142 ft	37 - 44 ft	70 - 76 ft	113 - 119 ft	140-146 ft	36.5 - 38 ft	38 - 161 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES	PHOENIX
VOCs (ug/l)																					
1,1,1,2-Tetrachloroethane	5	10	50000	100000		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000		**1200**	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	2.5 U	2.5 U	1.0 U	**R**	0.50 U	**R**	**R**	**R**	**R**	0.50 U	0.50 U	0.50 U	2.5 U	**R**	**R**
1,1,2-Trichloroethane	5	900	50000	100000		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000		**800**	70 U	**22**	**20**	**38**	1.0 U	**100**	**160**	70 U	**72**	1.0 U	**6.3**	**34**	**56**	5.0 U	**77**
1,1-Dichloroethylene	**7**	**80**	30000	100000		**580**	50 U	**3.7**	**2.4**	10 U	1.0 U	50 U	**50**	50 U	50 U	1.0 U	**1.7**	**7.5**	**13**	5.0 U	**20**
1,1-Dichloropropene	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		500 U	50 U	2.5 U	1.0 U	10 U	0.50 U	50 U	50 U	50 U	50 U	1.0 U	0.50 U	0.50 U	5.0 U	5.0 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	NE		500 U	70 U	5.0 U	2.0 U	20 U	1.0 U	70 U	70 U	70 U	70 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		500 U	56 U	5.0 U	2.0 U	20 U	1.0 U	56 U	56 U	56 U	56 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	1.0 U	0.50 U	0.50 U	5.0 U	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		500 U	50 U	2.5 U	1.0 U	10 U	0.50 U	50 U	50 U	50 U	50 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		600 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		500 U	50 U	3.0 U	1.2 U	10 U	0.60 U	50 U	50 U	50 U	50 U	0.60 U	0.60 U	0.60 U	3.0 U	3.0 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		500 U	50 U	3.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	3.0 U	3.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		500 U	60 U	5.0 U	2.0 U	20 U	1.0 U	60 U	60 U	60 U	60 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		500 U	50 U	5.0 U	2.0 U	20 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000		40000 U	4000 U	200 U	80 U	800 U	40 U	4000 U	4000 U	4000 U	4000 U	100 U	10 U	10 U	500 U	200 U	**55 J**
2,2-Dichloropropane	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	5.0 U	5.0 UJ	5.0 UJ	25 U	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	**R**	25 U	10 U	**R**	5.0 U	**R**	**R**	**R**	**R**	5.0 U	5.0 U	5.0 U	25 U	**R**	**R**
2-Phenylbutane	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	**R**	25 U	10 U	**R**	5.0 U	**R**	**R**	**R**	**R**	5.0 U	5.0 U	5.0 U	25 U	**R**	**R**
Acetone	6300	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	25 U	25 U	25 U	130 U	**R**	**R**
Benzene	5	1000	10000	100000		500 U	50 U	3.5 U	1.4 U	10 U	0.70 U	50 U	50 U	50 U	50 U	0.70 U	0.70 U	0.70 U	3.5 U	3.5 U	0.70 U
Bromobenzene	NE	NE	NE	NE		500 U	62 U	5.0 U	2.0 U	20 U	1.0 U	62 U	62 U	62 U	62 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		500 U	83 U	5.0 U	2.0 U	20 U	1.0 U	83 U	83 U	83 U	83 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000		500 U	50 U	2.5 U	1.0 U	10 U	0.50 U	50 U	50 U	50 U	50 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U
Bromoform	4	700	50000	100000		500 UJ	50 U	**R**	**R**	10 U	**R**	50 U	50 U	50 U	50 UJ	1.0 U	1.0 U	1.0 U	4.0 U	**R**	1.0 U
Bromomethane	10	7	800	8000		**R**	5.0 U	2.0 U	**R**	1.0 U	**R**	1.0 U	**R**	**R**	**R**	1.0 U	1.0 U	1.0 U	5.0 U	**R**	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE		810 U	500 U	25 U	10 U	100 U	5.0 U	500 U	500 U	500 U	500 U	5.0 U	5.0 U	5.0 U	25 U	25 UJ	5.0 U
Carbon Tetrachloride	5	2	5000	50000		500 U	50 U	2.5 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	2.5 U	2.5 U	1.0 U
Chlorobenzene	100	200	1000	10000		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Chloroethane	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 UJ	1.0 UJ	5.0 U	5.0 U	1.0 U
Chloroform	70	50	20000	100000		500 U	50 U	5.0 U	2.0 U	20 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Chloromethane	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000		500 U	50 U	**260**	**130**	**510**	**57**	**1900**	**840**	**730**	**540**	1.0 U	**36**	**190**	**320**	5.0 U	**170**
cis-1,3-Dichloropropene	NE	NE	NE	NE		500 U	50 U	2.5 U	1.0 U	10 U	0.40 U	50 U	50 U	50 U	50 U	0.40 U	0.40 U	0.40 U	2.5 U	2.5 U	0.40 U
Cymene	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000		500 U	50 U	2.5 U	1.0 U	10 U	0.50 U	50 U	50 U	50 U	50 U	0.50 U	0.50 U	0.50 U	2.5 U	2.5 U	0.50 U
Dibromomethane	NE	NE	NE	NE		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000		700 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	**2.2**	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		500 U	50 U	2.5 U	1.0 U	10 U	0.40 U	50 U	50 U	50 U	50 U	0.40 U	0.40 U	0.40 U	2.5 U	2.5 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		500 U	70 U	5.0 U	2.0 U	20 U	1.0 U	70 U	70 U	70 U	70 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000		500 U	50 U	5.0 U	2.0 U	10 U	1.0 U	50 U	50 U	50 U	50 U	1.0 U	1.0 UJ	1.0 UJ	5.0 U	5.0 UJ	1.0 U
mp-xylene	10000	3000	5000	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Naphthalene	140	700	20000	100000		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		660 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
o-Xylene	10000	3000	5000	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Styrene	100	100	6000	60000		500 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		690 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000		**100000**	**5500**	**270**	**9.3**	**1000**	**29**	**3500**	**17000**	**3600**	**7000**	1.0 U	1.0 U	1.0 U	5.0 U	**300**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE		**R**	**R**	13 U	5.0 U	**R**	2.5 U	**R**	**R**	**R**	**R**	2.5 U	2.5 UJ	2.5 UJ	13 U	**R**	**R**
Toluene	**1000**	50000	40000	100000		**4200**	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Total CVOCs	NE	NE	NE	NE		**341380**	**5500**	**1074.7**	**247.3**	**3485**	**111.3**	**16130**	**37289**	**9550**	**14912**	**2.4**	**65**	**278.3**	**493**	**420**	**347.1**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000		500 U	80 U	**19**	**6.6**	**37**	**2.3**	**250**	**140**	**120**	80 U	1.0 U	1.0 U	**5.8**	**19**	5.0 U	**28**
Trans-1,3-Dichloropropene	NE	NE	NE	NE		500 U	50 U	2.5 U	1.0 U	10 U	0.40 U	50 U	50 U	50 U	50 U	0.40 U	0.40 U	0.40 U	2.5 U	2.5 U	0.40 U
TRICHLOROETHENE	**5**	**5**	**5000**	50000		**240000**	50 U	**500**	**79**	**1900**	**23**	**10000**	**19000**	**5100**	**7300**	**2.4**	**21**	**41**	**85**	**120**	**50**
Trichlorofluoromethane	NE	NE	NE	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000		500 U	50 U	2.5 U	2.0 U	10 U	1.0 U	**380**	**99**	50 U	50 U	1.0 U	1.0 U	1.0 U	2.5 U	2.5 UJ	**2.1**
Total Xylenes	10000	3000	5000	NE		1000 U	100 U	5.0 U	2.0 U	20 U	1.0 U	100 U	100 U	100 U	100 U	1.0 U	1.0 U	1.0 U	5.0 U	5.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

Location ID:					GZA-06	GZA-10	AE03	AE03	AE04	AE04	GZA-102S	GZA-105D	GZA-105R	GZA-105S	IP-01R2	PZ-2S	TRC-101	TRC-102	TRC-103	TRC-401R
Sample ID:					19A-GZA6-092019-1	19A-GZA10-092619-1	19A-AE03-091219-1	19A-AE03-091219-2	19A-AE04-091219-1	19A-AE04-091219-2	19A-GZA102S-091319-1	19A-GZA105D-091819-1	19A-GZA105R-091819-1	19A-GZA105S-091819-1	19A-IP1R2-091319-1	19A-PZ2S-093019-1	19A-TRC101-091919-1	19A-TRC102-092019-1	19A-TRC103-091919-1	19A-TRC401R-093019-1
Sample Date:					9/20/2019	9/26/2019	9/12/2019	9/12/2019	9/12/2019	9/12/2019	9/13/2019	9/18/2019	9/18/2019	9/18/2019	9/13/2019	9/30/2019	9/19/2019	9/20/2019	9/19/2019	9/30/2019
Sample Type:					N	N	N	FD	N	FD	N	N	N	N	N	N	N	N	N	N
Depth Interval:					8 - 18 ft	13 - 38 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	1.7 - 10.7 ft	16 - 26 ft	34.5 - 36.5 ft	4 - 14 ft	54 - 74 ft	3.55 - 8.55 ft	1.5 - 10.5 ft	2.25 - 12.25 ft	1.25 - 11.25 ft	38 - 58 ft
Lab Name:					PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**																
Conventional Parameters (ug/l)																				
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Gases (ug/l)																				
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
EPH (ug/l)																				
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	**3.3**	**3.2**	0.47 U	0.47 U	0.47 U	0.47 U	NS	0.47 U	NS	0.49 U	**0.62**	0.47 U	0.47 U	NS
Acenaphthene	20	NE	10000	100000	NS	NS	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	NS	0.47 U	NS	0.49 U	0.47 U	0.47 U	0.47 U	NS
Acenaphthylene	30	10000	40	100000	NS	NS	0.09 U	0.09 U	0.09 U	**0.12**	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 U	**0.21**	0.09 U	NS
Anthracene	60	NE	30	600	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.09 U	0.09 U	0.09 U	0.09 U	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 U	0.09 U	0.09 U	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	NS	0.19 U	NS	0.19 U	0.19 U	0.19 U	0.19 U	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 U	0.09 U	0.09 U	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NS	0.02 U	NS	0.02 UJ	**0.03**	0.02 U	0.02 U	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 U	0.09 U	0.09 U	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	190 U	190 U	190 U	190 U	190 U	200 U	NS	200 U	NS	200 U	200 U	200 U	200 U	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	190 U	190 U	190 U	190 U	190 U	200 U	NS	200 U	NS	200 U	200 U	200 U	200 U	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	190 U	190 U	190 U	190 U	190 U	200 U	NS	200 U	NS	200 UJ	200 U	200 U	200 U	NS
Chrysene	2	NE	70	700	NS	NS	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	NS	0.05 U	NS	0.05 U	0.05 U	0.05 U	0.05 U	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	NS	0.02 U	NS	0.02 UJ	0.02 U	0.02 UJ	0.02 UJ	NS
Fluoranthene	90	NE	200	2000	NS	NS	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	NS	0.47 U	NS	0.49 U	0.47 U	0.47 U	0.47 U	NS
Fluorene	30	NE	40	400	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 U	0.09 U	0.09 U	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	0.09 U	NS	0.09 U	NS	0.10 U	0.09 UJ	0.09 U	0.09 U	NS
Naphthalene	140	700	20000	100000	NS	NS	**5.1**	**5.0**	0.47 U	0.47 U	0.47 U	0.47 U	NS	0.47 U	NS	0.49 U	0.47 U	0.47 U	0.47 U	NS
Phenanthrene	40	NE	10000	100000	NS	NS	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	0.47 U	NS	0.47 U	NS	0.49 U	0.47 U	0.47 U	0.47 U	NS
Pyrene	60	NE	20	600	NS	NS	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	0.07 U	NS	0.07 U	NS	0.07 U	**0.09**	0.07 U	0.07 U	NS
VPH (ug/l)																				
Benzene	5	1000	10000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	NS
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	50000	100000	NS	NS	100 U	100 U	100 U	100 U	100 U	100 U	NS	100 U	NS	100 U	100 U	100 U	100 U	NS
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	NS	NS	**240**	**240**	100 U	100 U	100 U	100 U	NS	100 U	NS	**100**	**220**	100 U	100 U	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	**340**	**300**	100 U	100 U	100 U	100 U	NS	**150**	NS	**160**	**280**	100 U	100 U	NS
Ethylbenzene	700	20000	5000	100000	NS	NS	1.0 U	1.0 U	1.0 U	**1.5**	1.0 U	1.0 U	NS	**1.8**	NS	1.0 U	1.0 U	**1.1**	1.0 U	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	NS
mp-xylene	10000	3000	5000	NE	NS	NS	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	2.0 U	NS	2.0 U	NS	2.0 U	2.0 U	2.0 U	2.0 U	NS
Naphthalene	140	700	20000	100000	NS	NS	**7.9**	**8.3**	5.0 U	5.0 U	5.0 U	5.0 U	NS	5.0 U	NS	5.0 U	5.0 U	5.0 U	5.0 U	NS
o-Xylene	10000	3000	5000	NE	NS	NS	**1.4**	**1.3**	1.0 U	**1.7**	**1.2**	**1.4**	NS	1.0 U	NS	**2.0**	1.0 U	**2.4**	1.0 U	NS
Toluene	**1000**	50000	40000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	NS	1.0 U	NS	1.0 U	1.0 U	1.0 U	1.0 U	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	100 U	100 U	100 U	100 U	100 U	100 U	NS	100 U	NS	100 U	100 U	100 U	100 U	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	**580**	**540**	**120**	**120**	100 U	100 U	NS	**240**	NS	**270**	**500**	100 U	100 U	NS
Total Petroleum	NE	NE	NE	NE	NS	NS	**580**	**540**	1 U	1 U	1 U	1 U	50 U	**150**	40 U	**260**	**500**	1 U	1 U	20 U
Total Xylenes	10000	3000	5000	NE	NS	NS	**1.4**	**1.3**	2.0 U	**1.7**	**1.2**	**1.4**	NS	2.0 U	NS	2.0 U	2.0 U	**2.4**	**0**	NS
MAEPH (ug/l)																				
Calculated EPH	NE	NE	NE	NE	NS	NS	190 U	190 U	190 U	190 U	190 U	200 U	NS	200 U	NS	200 U	200 U	200 U	200 U	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	190 U	190 U	190 U	190 U	190 U	200 U	NS	200 U	NS	200 U	200 U	200 U	200 U	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	**9**	**138**	**57**	**58**	NS	NS	NS	NS	NS	**168**	NS	NS	NS	**50**	NS	NS
Iron	NE	NE	NE	NE	**1500**	**6820**	**10900**	**10800**	NS	NS	NS	NS	NS	**28500**	NS	NS	NS	**22500**	NS	NS
Manganese	NE	NE	NE	NE	**143**	**1170**	**1430**	**1430**	NS	NS	NS	NS	NS	**1800**	NS	NS	NS	**3180**	NS	NS
Total Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	**11**	**130**	**58**	**56**	NS	NS	NS	NS	NS	**182**	NS	NS	NS	**60**	NS	NS
Iron	NE	NE	NE	NE	**1590**	**7000**	**10300**	**10400**	NS	NS	NS	NS	NS	**28800**	NS	NS	NS	**23700**	NS	NS
Manganese	NE	NE	NE	NE	**147**	**1130**	**1490**	**1470**	NS	NS	NS	NS	NS	**1830**	NS	NS	NS	**3260**	NS	NS
SVOCs SIM (ug/l)																				
1,4-Dioxane	**0.3**	6000	50000	100000	NS	NS	NS	NS	NS	NS	NS	**1.0**	NS	NS	NS	NS	NS	NS	NS	NS

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	GZA-06	GZA-10	AE03	AE03	AE04	AE04	GZA-102S	GZA-105D	GZA-105R	GZA-105S	IP-01R2	PZ-2S	TRC-101	TRC-102	TRC-103	TRC-401R
					Sample ID:	19A-GZA6-092019-1	19A-GZA10-092619-1	19A-AE03-091219-1	19A-AE03-091219-2	19A-AE04-091219-1	19A-AE04-091219-2	19A-GZA102S-091319-1	19A-GZA105D-091819-1	19A-GZA105R-091819-1	19A-GZA105S-091819-1	19A-IP1R2-091319-1	19A-PZ2S-093019-1	19A-TRC101-091919-1	19A-TRC102-092019-1	19A-TRC103-091919-1	19A-TRC401R-093019-1
					Sample Date:	9/20/2019	9/26/2019	9/12/2019	9/12/2019	9/12/2019	9/12/2019	9/13/2019	9/18/2019	9/18/2019	9/18/2019	9/13/2019	9/30/2019	9/19/2019	9/20/2019	9/19/2019	9/30/2019
					Sample Type:	N	N	N	FD	N	FD	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	8 - 18 ft	13 - 38 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	3 - 13 ft	1.7 - 10.7 ft	16 - 26 ft	34.5 - 36.5 ft	4 - 14 ft	54 - 74 ft	3.55 - 8.55 ft	1.5 - 10.5 ft	2.25 - 12.25 ft	1.25 - 11.25 ft	38 - 58 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)																					
1,1,1,2-Tetrachloroethane	5	10	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1,1-Trichloroethane	**200**	4000	20000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	NS	NS	**R**	**R**	**R**	**R**	**R**	0.50 U	50 U	**R**	20 U	**R**	0.50 U	0.50 U	0.50 U	0.50 U	**R**
1,1,2-Trichloroethane	5	900	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,1-Dichloroethane	**70**	2000	20000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**3.6**	**93**	1.0 U	**130**	1.0 U	**1.4**	1.0 U	1.0 U	**92**
1,1-Dichloroethylene	**7**	**80**	30000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**2.8**	50 U	1.0 U	**34**	1.0 U	1.0 U	1.0 U	1.0 U	**20**
1,1-Dichloropropene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,2,3-Trichloropropane	NE	NE	NE	NE	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	50 U	0.50 U	20 U	0.50 U	1.0 U	1.0 U	1.0 U	10 U
1,2,4-Trichlorobenzene	70	200	50000	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	70 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	56 U	1.0 U	40 U	**1.4**	1.0 U	1.0 U	1.0 U	20 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	NS	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	50 U	0.50 U	20 U	0.50 U	0.50 U	0.50 U	0.50 U	10 U
1,2-Dichlorobenzene	600	8000	2000	80000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,2-Dichloroethane	5	5	20000	100000	NS	NS	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	50 U	0.60 U	20 U	0.60 U	0.60 U	0.60 U	0.60 U	10 U
1,2-Dichloropropane	5	3	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	60 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,3-Dichlorobenzene	100	6000	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,3-Dichloropropane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
1,4-Dichlorobenzene	5	60	8000	80000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
1,4-Dioxane	**0.3**	6000	50000	100000	NS	NS	40 U	40 U	40 U	40 U	40 U	40 U	4000 U	40 U	1600 U	40 U	40 U	40 U	40 U	800 U
2,2-Dichloropropane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
2-Butanone	4000	50000	50000	100000	NS	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
2-Hexanone	NE	NE	NE	NE	NS	NS	**R**	**R**	**R**	**R**	**R**	5.0 U	200 U	**R**	80 U	**R**	5.0 U	5.0 U	5.0 U	**R**
2-Phenylbutane	NE	NE	NE	NE	NS	NS	**7.7**	**7.6**	**2.4**	**2.4**	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	**7.6**	1.0 U	1.0 U	20 U
4-Chlorotoluene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
4-Methyl-2-Pentanone	350	50000	50000	100000	NS	NS	**R**	**R**	**R**	**R**	**R**	5.0 U	350 U	**R**	200 U	**R**	5.0 U	5.0 U	5.0 U	**R**
Acetone	6300	50000	50000	100000	NS	NS	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000	NS	NS	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	50 U	0.70 U	20 U	0.70 U	0.70 U	0.70 U	0.70 U	10 U
Bromobenzene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	62 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Bromochloromethane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	83 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Bromodichloromethane	3	6	50000	100000	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	50 U	0.50 U	20 U	0.50 U	0.50 U	0.50 U	0.50 U	10 U
Bromoform	4	700	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**R**	**R**	1.0 U	**R**	1.0 U	**R**	**R**	**R**	10 U
Bromomethane	10	7	800	8000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	**R**	20 U	1.0 U	1.0 U	1.0 U	1.0 U	**R**
Carbon Disulfide	NE	NE	NE	NE	NS	NS	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	500 U	5.0 U	200 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U
Carbon Tetrachloride	5	2	5000	50000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Chlorobenzene	100	200	1000	10000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Chloroethane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 UJ	1.0 U	1.0 U	1.0 U	20 U
Chloroform	70	50	20000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Chloromethane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	**2.7**	**130**	**210**	1.0 U	**120**	1.0 U	1.0 U	1.0 U	**1.2**	**100**
cis-1,3-Dichloropropene	NE	NE	NE	NE	NS	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	50 U	0.40 U	20 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U
Cymene	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Dibromochloromethane	2	20	50000	100000	NS	NS	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 UJ	50 UJ	0.50 U	20 U	0.50 U	0.50 U	0.50 UJ	0.50 U	10 U
Dibromomethane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Diethyl Ether	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Diisopropyl Ether	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Ethylbenzene	700	20000	5000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000	NS	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	50 U	0.40 U	20 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U
Isopropylbenzene	NE	NE	NE	NE	NS	NS	**4.6**	**4.6**	**2.0**	**2.0**	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	**3.0**	1.0 U	1.0 U	20 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	70 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Methylene Chloride	5	2000	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	50 U	1.0 U	20 UJ	1.0 U	1.0 U	1.0 U	1.0 U	10 U
mp-xylene	10000	3000	5000	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Naphthalene	140	700	20000	100000	NS	NS	**9.4**	**9.5**	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
N-Butylbenzene	NE	NE	NE	NE	NS	NS	**6.0**	**5.8**	**1.1**	**1.0**	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	**5.6**	1.0 U	1.0 U	20 U
N-Propylbenzene	NE	NE	NE	NE	NS	NS	**12**	**12**	**4.5**	**4.6**	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	**11**	1.0 U	1.0 U	20 U
o-Xylene	10000	3000	5000	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Styrene	100	100	6000	60000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Tert-Butylbenzene	NE	NE	NE	NE	NS	NS	**6.3**	**6.2**	**8.9**	**9.0**	1.0 U	1.0 U	100 U	**2.9**	40 U	1.0 U	**11**	**6.1**	**1.1**	20 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Tetrachloroethene	**5**	**50**	**30000**	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	**2.0**	**24**	**5100**	1.0 U	**3400**	1.0 U	1.0 U	1.0 U	1.0 U	**2600**
Tetrahydrofuran	NE	NE	NE	NE	NS	NS	**R**	**R**	**R**	**R**	**R**	2.5 U	250 U	**R**	100 U	**R**	2.5 U	2.5 U	2.5 U	**R**
Toluene	**1000**	50000	40000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Total CVOCs	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	**8.9**	**239.9**	**12103**	1.0 U	**10984**	1.0 U	**1.4**	1.0 U	**1.2**	**8012**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**1.5**	80 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	NS	NS	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	50 U	0.40 U	20 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U
TRICHLOROETHENE	**5**	**5**	**5000**	50000	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	**2.9**	**55**	**6700**	1.0 U	**7300**	1.0 U	1.0 U	1.0 U	1.0 U	**5200**
Trichlorofluoromethane	NE	NE	NE	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U
Vinyl Chloride	**2**	**2**	50000	100000	NS	NS	1.0 UJ	1.0 U	1.0 UJ	1.0 UJ	**1.3**	**23**	50 U	1.0 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U
Total Xylenes	10000	3000	5000	NE	NS	NS	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	100 U	1.0 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE100R-1	AE100R-3	AE100R-4	AE100R-5	AE100R-6	AE101D	AE101R-1	AE101R-1	AE101R-2	AE101R-3	AE101R-5	AE101R-6	AE101S	AE102D	AE102M	AE102M
					Sample ID:	19A-AE100R1-092319-1	19A-AE100R3-092319-1	19A-AE100R4-092319-1	19A-AE100R5-092319-1	19A-AE100R6-092319-1	19A-AE101D-093019-1	19A-AE101R1-092519-1	19A-AE101R1-092519-2	19A-AE101R2-092519-1	19A-AE101R3-092519-1	19A-AE101R5-092519-1	19A-AE101R6-093019-1	19A-AE101S-093019-1	19A-AE102D-092519-1	19A-AE102M-092519-1	19A-AE102M-092519-2
					Sample Date:	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/30/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019	9/30/2019	9/30/2019	9/25/2019	9/25/2019	9/25/2019
					Sample Type:	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	FD
					Depth Interval:	18 - 24 ft	50 - 56 ft	63 - 68 ft	88 - 93 ft	108.5 - 113.5 ft	20-25 ft	30.5 - 35.5 ft	30.5 - 35.5 ft	55 - 60 ft	80 - 85 ft	175 - 180 ft	227 - 232 ft	10 - 15 ft	33 - 38 ft	23 - 28 ft	23 - 28 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**																	
Conventional Parameters (ug/l)																					
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	**368000**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**530000**	**532000**
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	**680**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50 U	50 U
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	40 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	40 U	40 U
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	**31000**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**7600**	**7500**
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	50 U	50 U
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1600**	**1600**
Dissolved Gases (ug/l)																					
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	0.50 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.50 U	0.50 U
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	**2.4**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**6.3**	**6.3**
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	**5.4**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1.4**	**1.4**
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	**2.4**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**2.3**	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	**99 J-**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**260 J-**	**260 J-**
Propane	NE	NE	NE	NE	NS	NS	NS	NS	**0.19**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.052 J**	**0.052 J**
EPH (ug/l)																					
2-Methylnaphthalene	10	2000	20000	100000	0.49 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthene	20	NE	10000	100000	0.49 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Acenaphthylene	30	10000	40	100000	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Anthracene	60	NE	30	600	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	0.20 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	0.02 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	190 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	190 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	190 UJ	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Chrysene	2	NE	70	700	0.05 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	0.02 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluoranthene	90	NE	200	2000	0.49 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Fluorene	30	NE	40	400	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	0.10 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	**1.7**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Phenanthrene	40	NE	10000	100000	0.49 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Pyrene	60	NE	20	600	0.07 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
VPH (ug/l)																					
Benzene	5	1000	10000	100000	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	50000	100000	100 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	**100**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	100 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Ethylbenzene	700	20000	5000	100000	**4.4**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
mp-xylene	10000	3000	5000	NE	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	5.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
o-Xylene	10000	3000	5000	NE	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Toluene	**1000**	50000	40000	100000	**1.3**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Total Petroleum	NE	NE	NE	NE	**106.1**	50 U	50 U	50 U	50 U	20 U	1 U	1 U	2 U	1 U	1 U	20 U	20 U	1 U	1 U	1 U	1 U
Total Xylenes	10000	3000	5000	NE	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MAEPH (ug/l)																					
Calculated EPH	NE	NE	NE	NE	190 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	190 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)																					
Arsenic	**10**	NE	900	9000	NS	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**8**	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	**76**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1810**	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	**675**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**10800**	NS
Total Metals (ug/l)																					
Arsenic	**10**	NE	900	9000	NS	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**9**	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	**76**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**1870**	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	**642**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**11100**	NS
SVOCs SIM (ug/l)																					
1,4-Dioxane	**0.3**	6000	50000	100000	NS	**13**	**13**	NS	**12**	0.20 U	NS	NS	**5.2**	**3.5 J**	**16**	**11**	0.20 U	**5.4**	**0.76**	**0.78**

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE100R-1	AE100R-3	AE100R-4	AE100R-5	AE100R-6	AE101D	AE101R-1	AE101R-1	AE101R-2	AE101R-3	AE101R-5	AE101R-6	AE101S	AE102D	AE102M	AE102M
					Sample ID:	19A-AE100R1-092319-1	19A-AE100R3-092319-1	19A-AE100R4-092319-1	19A-AE100R5-092319-1	19A-AE100R6-092319-1	19A-AE101D-093019-1	19A-AE101R1-092519-1	19A-AE101R1-092519-2	19A-AE101R2-092519-1	19A-AE101R3-092519-1	19A-AE101R5-092519-1	19A-AE101R6-093019-1	19A-AE101S-093019-1	19A-AE102D-092519-1	19A-AE102M-092519-1	19A-AE102M-092519-2
					Sample Date:	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/23/2019	9/30/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019	9/30/2019	9/30/2019	9/25/2019	9/25/2019	9/25/2019
					Sample Type:	N	N	N	N	N	N	N	FD	N	N	N	N	N	N	N	FD
					Depth Interval:	18 - 24 ft	50 - 56 ft	63 - 68 ft	88 - 93 ft	108.5 - 113.5 ft	20-25 ft	30.5 - 35.5 ft	30.5 - 35.5 ft	55 - 60 ft	80 - 85 ft	175 - 180 ft	227 - 232 ft	10 - 15 ft	33 - 38 ft	23 - 28 ft	23 - 28 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES
VOCs (ug/l)																					
1,1,1,2-Tetrachloroethane	5	10	50000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	0.50 U		**R**	**R**	**R**	**R**	**R**	0.50 U	0.50 U	0.50 U	0.50 U
1,1,2-Trichloroethane	5	900	50000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000		1.0 U	**73**	70 U	50 U	**32**	1.0 U	**1.7**		2.0 U	**5.8**	**4.0**	**51**	**42**	1.0 U	**6.0**	**2.4**	**2.5**
1,1-Dichloroethylene	**7**	**80**	30000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	**14**	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	0.50 U	0.50 U		1.0 U	0.50 U	0.50 U	20 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2,4-Trichlorobenzene	70	200	50000	NE		1.0 U	70 U	70 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**	**R**	0.50 U		**R**	**R**	**R**	**R**	**R**	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dibromoethane	0.02	2	50000	100000		0.50 U	50 U	50 U	25 U	10 U	0.50 U	0.50 U		1.0 U	0.50 U	0.50 U	10 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		0.60 U	50 U	50 U	25 U	10 U	0.60 U	0.60 U		1.2 U	0.60 U	0.60 U	10 U	10 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		1.0 U	50 U	50 U	40 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000		40 U	4000 U	4000 U	2000 U	800 U	40 U	10 U		80 U	40 U	40 U	800 U	800 U	40 U	10 U	10 U	10 U
2,2-Dichloropropane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	5.0 UJ		**R**	**R**	**R**	**R**	**R**	**R**	5.0 UJ	5.0 UJ	5.0 UJ
2-Chlorotoluene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**	**R**	5.0 U		**R**	**R**	**R**	**R**	**R**	**R**	5.0 U	5.0 U	5.0 U
2-Phenylbutane	NE	NE	NE	NE		**2.2**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	5.0 U		**R**	**R**	**R**	**R**	**R**	**R**	5.0 U	5.0 U	5.0 U
Acetone	6300	50000	50000	100000		**R**	**R**	**R**	**R**	**R**	**R**	25 U		**R**	**R**	**R**	**R**	**R**	**R**	25 U	25 U	25 U
Benzene	5	1000	10000	100000		0.70 U	50 U	50 U	25 U	10 U	0.70 U	0.70 U		1.4 U	0.70 U	0.70 U	10 U	10 U	0.70 U	0.70 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000		0.50 U	50 U	50 U	25 U	10 U	0.50 U	0.50 U		1.0 U	0.50 U	0.50 U	10 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		**R**	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	10	7	800	8000		**R**	**R**	**R**	**R**	**R**	1.0 U	1.0 UJ		1.0 UJ	1.0 UJ	10 UJ	**R**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Carbon Disulfide	NE	NE	NE	NE		5.0 U	500 U	500 U	250 U	100 U	5.0 U	5.0 U		10 UJ	5.0 U	5.0 U	100 U	100 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 UJ		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
Chloroform	70	50	20000	100000		1.0 U	50 U	50 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	**1.5**	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000		**16**	**61**	**89**	**160**	**110**	**32**	**30**		**27**	**34**	**19**	**1200**	**1500**	**19**	**4.6**	**43**	**45**
cis-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	50 U	50 U	25 U	10 U	0.40 U	0.40 U		1.0 U	0.40 U	0.40 U	10 U	10 U	0.40 U	0.40 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000		0.50 U	50 U	50 U	25 U	10 U	0.50 U	0.50 U		1.0 U	0.50 U	0.50 U	10 U	10 U	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	10 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000		**4.7**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		0.40 U	50 U	50 U	25 U	10 U	0.40 U	0.40 U		1.0 U	0.40 U	0.40 U	10 U	10 U	0.40 U	0.40 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		**4.3**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		1.0 U	70 U	70 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000		1.0 U	50 U	50 U	25 U	10 U	1.0 U	1.0 UJ		2.0 UJ	1.0 U	1.0 U	10 U	10 U	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ
mp-xylene	10000	3000	5000	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000		**2.0**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		**1.2**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		**13**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	10000	3000	5000	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	6000	60000		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		**6.7**	100 U	100 U	50 U	20 U	**1.2**	**1.1**		2.0 U	1.0 U	1.0 U	20 U	20 U	**1.3**	1.0 U	**2.8**	**3.0**
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000		**3.6**	**5700**	**4000**	**1400**	**1200**	1.0 U	**160**		**170**	**19**	**6.9**	**730**	**17**	1.0 U	1.0 U	**8.8**	**10**
Tetrahydrofuran	NE	NE	NE	NE		**R**	**R**	**R**	**R**	**R**	**R**	2.5 UJ		**R**	**R**	**R**	**R**	**R**	**R**	2.5 UJ	2.5 UJ	2.5 UJ
Toluene	**1000**	50000	40000	100000		**1.4**	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Total CVOCs	NE	NE	NE	NE		**37.4**	**13134**	**9489**	**3860**	**2942**	**37.4**	**248.1**		**241.5**	**108.6**	**52.8**	**4809**	**3134**	**19**	**16.3**	**92.4**	**97.6**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000		1.0 U	80 U	80 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	**25**	1.0 U	**1.9**	**1.2**	**1.1**
Trans-1,3-Dichloropropene	NE	NE	NE	NE		0.40 U	50 U	50 U	25 U	10 U	0.40 U	0.40 U		1.0 U	0.40 U	0.40 U	10 U	10 U	0.40 U	0.40 U	0.40 U	0.40 U
TRICHLOROETHENE	**5**	**5**	**5000**	50000		**13**	**7300**	**5400**	**2300**	**1600**	**3.8**	**50**		**39**	**44**	**18**	**2800**	**1300**	1.0 U	**1.1**	**23**	**24**
Trichlorofluoromethane	NE	NE	NE	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000		**4.8**	50 U	50 U	25 U	10 U	**1.6**	**6.4**		**5.5 J-**	**5.8**	**4.9**	**14**	**250**	1.0 U	**2.7**	**14**	**15**
Total Xylenes	10000	3000	5000	NE		1.0 U	100 U	100 U	50 U	20 U	1.0 U	1.0 U		2.0 U	1.0 U	1.0 U	20 U	20 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE102RR-2	AE102RR-4	AE102RR-5	AE102RR-6	AE103D	AE103R-1	AE103R-3	AE103R-4	AE103R-5	AE103R-7	AE103S	AE104D	AE104R-1	AE104R-3	AE104R-4
					Sample ID:	19A-AE102RR2-092419-1	19A-AE102RR4-092419-1	19A-AE102RR5-092419-1	19A-AE102RR6-092419-1	19A-AE103D-091919-1	19A-AE103R1-091819-1	19A-AE103R3-091819-1	19A-AE103R4-091819-1	19A-AE103R5-091819-1	19A-AE103R7-091819-1	19A-AE103S-091919-1	19A-AE104D-092019-1	19A-AE104R1-091819-1	19A-AE104R3-091819-1	19A-AE104R4-091819-1
					Sample Date:	9/24/2019	9/24/2019	9/24/2019	9/24/2019	9/19/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/19/2019	9/20/2019	9/18/2019	9/18/2019	9/18/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	75 - 80 ft	125-130 ft	141-146 ft	153-158 ft	35 - 40 ft	48 - 53 ft	70 - 76 ft	98 - 105 ft	122 - 128 ft	162.5 - 168 ft	15 - 20 ft	35 - 40 ft	48 - 54 ft	97 - 102 ft	128 - 133 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**																
Conventional Parameters (ug/l)																				
Chloride	NE	NE	NE	NE	NS	NS	NS	NS	**163000**	**42000**	**667000**	NS	NS	**233000**	NS	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NE	NS	NS	NS	NS	50 U	50 U	**2990**	NS	NS	50 U	NS	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	NS	4 U	4 U	40 U	NS	NS	20 U	NS	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NE	NS	NS	NS	NS	**26600**	**7600**	**29800**	NS	NS	**35800**	NS	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NE	NS	NS	NS	NS	50 U	50 U	50 U	NS	NS	50 U	NS	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	NS	1000 U	**1400**	**1100**	NS	NS	1000 U	NS	NS	NS	NS	NS	NS
Dissolved Gases (ug/l)																				
Acetylene	NE	NE	NE	NE	NS	NS	NS	NS	**0.073 J**	0.50 U	0.50 U	NS	NS	**0.057 J**	NS	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NE	NS	NS	NS	NS	**0.81**	**0.54**	**0.98**	NS	NS	**1.6**	NS	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NE	NS	NS	NS	NS	**7.5**	**0.044 J**	**12**	NS	NS	**120**	NS	NS	NS	NS	NS	NS
Hydrogen	NE	NE	NE	NE	NS	NS	NS	NS	**3.7**	**2.1**	**1.6**	NS	NS	**1.7**	NS	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NE	NS	NS	NS	NS	**55 J-**	**25**	**190**	NS	NS	**150**	NS	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NE	NS	NS	NS	NS	**0.052 J**	**0.16**	**0.15**	NS	NS	**0.13**	NS	NS	NS	NS	NS	NS
EPH (ug/l)																				
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS	NS	0.47 U	NS	0.47 U	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U
Acenaphthene	20	NE	10000	100000	NS	NS	NS	NS	0.47 U	NS	0.47 U	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U
Acenaphthylene	30	10000	40	100000	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Anthracene	60	NE	30	600	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS	NS	0.19 U	NS	0.19 U	NS	NS	NS	NS	NS	NS	NS	NS	0.19 U
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS	NS	0.02 U	NS	0.02 U	NS	NS	NS	NS	NS	NS	NS	NS	0.02 U
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS	NS	190 U	NS	200 U	NS	NS	NS	NS	NS	NS	NS	NS	200 U
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS	NS	190 U	NS	200 U	NS	NS	NS	NS	NS	NS	NS	NS	200 U
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	190 U	NS	200 U	NS	NS	NS	NS	NS	NS	NS	NS	200 U
Chrysene	2	NE	70	700	NS	NS	NS	NS	0.05 U	NS	0.05 U	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS	NS	0.02 U	NS	0.02 U	NS	NS	NS	NS	NS	NS	NS	NS	0.02 U
Fluoranthene	90	NE	200	2000	NS	NS	NS	NS	0.47 U	NS	0.47 U	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U
Fluorene	30	NE	40	400	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS	NS	0.09 U	NS	0.09 U	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	0.47 U	NS	0.47 U	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U
Phenanthrene	40	NE	10000	100000	NS	NS	NS	NS	0.47 U	NS	0.47 U	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U
Pyrene	60	NE	20	600	NS	NS	NS	NS	0.07 U	NS	0.07 U	NS	NS	NS	NS	NS	NS	NS	NS	0.07 U
VPH (ug/l)																				
Benzene	5	1000	10000	100000	NS	NS	NS	NS	1.0 U	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	50000	100000	NS	NS	NS	NS	100 U	NS	100 U	NS	NS	NS	NS	NS	NS	NS	NS	**2200**
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	NS	NS	NS	NS	100 U	NS	100 U	NS	NS	NS	NS	NS	NS	NS	NS	100 U
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	100 U	NS	100 U	NS	NS	NS	NS	NS	NS	NS	NS	100 U
Ethylbenzene	700	20000	5000	100000	NS	NS	NS	NS	1.0 U	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS	NS	1.0 U	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U
mp-xylene	10000	3000	5000	NE	NS	NS	NS	NS	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	5.0 U	NS	5.0 U	NS	NS	NS	NS	NS	NS	NS	NS	5.0 U
o-Xylene	10000	3000	5000	NE	NS	NS	NS	NS	1.0 U	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	1.0 U
Toluene	**1000**	50000	40000	100000	NS	NS	NS	NS	1.0 U	NS	1.0 U	NS	NS	NS	NS	NS	NS	NS	NS	**3.4**
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	100 U	NS	100 U	NS	NS	NS	NS	NS	NS	NS	NS	**2200**
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	100 U	NS	100 U	NS	NS	NS	NS	NS	NS	NS	NS	100 U
Total Petroleum	NE	NE	NE	NE	5 U	5 U	20 U	20 U	20 U	**0.75**	20 U	20 U	50 U	50 U	20 U	1 U	1 U	5 U	20 U	**2200**
Total Xylenes	10000	3000	5000	NE	NS	NS	NS	NS	2.0 U	NS	2.0 U	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U
MAEPH (ug/l)																				
Calculated EPH	NE	NE	NE	NE	NS	NS	NS	NS	190 U	NS	200 U	NS	NS	NS	NS	NS	NS	NS	NS	200 U
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	190 U	NS	200 U	NS	NS	NS	NS	NS	NS	NS	NS	200 U
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	**190**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	NS	NS	NS	NS	**5**	4 U	4 U	NS	NS	4 U	NS	**138**	NS	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	**645**	11 U	**648**	NS	NS	**430**	NS	**9080**	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	**636**	**1990**	**2480**	NS	NS	**813**	NS	**1560**	NS	NS	NS	NS
Total Metals (ug/l)																				
Arsenic	**10**	NE	900	9000	NS	NS	NS	NS	4 U	4 U	**5**	NS	NS	**5**	NS	**162**	NS	NS	NS	NS
Iron	NE	NE	NE	NE	NS	NS	NS	NS	**594**	**165**	**786**	NS	NS	**458**	NS	**9360**	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	NS	NS	NS	NS	**595**	**1900**	**2210**	NS	NS	**822**	NS	**1560**	NS	NS	NS	NS
SVOCs SIM (ug/l)																				
1,4-Dioxane	**0.3**	6000	50000	100000	**6.0**	**6.0**	NS	**26**	**0.82**	**8.0**	NS	**43**	**36**	NS	NS	**0.42**	**9.0**	**14**	**19**	

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE102RR-2	AE102RR-4	AE102RR-5	AE102RR-6	AE103D	AE103R-1	AE103R-3	AE103R-4	AE103R-5	AE103R-7	AE103S	AE104D	AE104R-1	AE104R-3	AE104R-4
					Sample ID:	19A-AE102RR2-092419-1	19A-AE102RR4-092419-1	19A-AE102RR5-092419-1	19A-AE102RR6-092419-1	19A-AE103D-091919-1	19A-AE103R1-091819-1	19A-AE103R3-091819-1	19A-AE103R4-091819-1	19A-AE103R5-091819-1	19A-AE103R7-091819-1	19A-AE103S-091919-1	19A-AE104D-092019-1	19A-AE104R1-091819-1	19A-AE104R3-091819-1	19A-AE104R4-091819-1
					Sample Date:	9/24/2019	9/24/2019	9/24/2019	9/24/2019	9/19/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/18/2019	9/19/2019	9/20/2019	9/18/2019	9/18/2019	9/18/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	75 - 80 ft	125-130 ft	141-146 ft	153-158 ft	35 - 40 ft	48 - 53 ft	70 - 76 ft	98 - 105 ft	122 - 128 ft	162.5 - 168 ft	15 - 20 ft	35 - 40 ft	48 - 54 ft	97 - 102 ft	128 - 133 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX/PAES	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)																				
1,1,1,2-Tetrachloroethane	5	10	50000	100000		5.0 U	5.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
1,1,1-Trichloroethane	**200**	4000	20000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		2.5 U	2.5 U	10 U	10 U	0.50 U	10 U	10 U	50 U	50 U	10 U	0.50 U	0.50 U	2.5 U	**R**	**R**
1,1,2-Trichloroethane	5	900	50000	100000		5.0 U	5.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
1,1-Dichloroethane	**70**	2000	20000	100000		**11**	**13**	**47**	**80**	**1.6**	**28**	**77 J+**	**140**	**120**	**66**	1.0 U	1.0 U	**26**	**49**	**75**
1,1-Dichloroethylene	**7**	**80**	30000	100000		5.0 U	5.0 U	**11**	**23**	1.0 U	10 U	**20 J+**	50 U	50 U	**17**	1.0 U	1.0 U	5.0 U	**12**	25 U
1,1-Dichloropropene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
1,2,3-Trichloropropane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	0.50 U	10 U	10 U	50 U	50 U	10 U	0.50 U	1.0 U	2.5 U	10 U	25 U
1,2,4-Trichlorobenzene	70	200	50000	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	70 U	70 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	56 U	56 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		5.0 U	**R**	20 U	20 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		2.5 U	2.5 U	10 U	10 U	0.50 U	10 U	10 U	50 U	50 U	10 U	0.50 U	0.50 U	2.5 U	10 U	25 U
1,2-Dichlorobenzene	600	8000	2000	80000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,2-Dichloroethane	5	5	20000	100000		3.0 U	3.0 U	10 U	10 U	0.60 U	10 U	10 U	50 U	50 U	10 U	0.60 U	0.60 U	3.0 U	10 U	25 U
1,2-Dichloropropane	5	3	50000	100000		3.0 U	3.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	3.0 U	10 U	25 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	60 U	60 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,3-Dichlorobenzene	100	6000	50000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	50 U	50 U	20 U	1.0 U	1.0 U	5.0 U	20 U	40 U
1,3-Dichloropropane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
1,4-Dichlorobenzene	5	60	8000	80000		5.0 U	5.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
1,4-Dioxane	**0.3**	6000	50000	100000		500 U	200 U	2000 U	2000 U	40 U	800 U	800 U	4000 U	4000 U	800 U	40 U	40 U	200 U	800 U	2000 U
2,2-Dichloropropane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
2-Butanone	4000	50000	50000	100000		25 U	**R**	100 U	100 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
2-Hexanone	NE	NE	NE	NE		25 U	**R**	100 U	100 U	5.0 U	40 U	40 U	200 U	200 U	40 U	5.0 U	5.0 U	25 U	**R**	**R**
2-Phenylbutane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
4-Chlorotoluene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
4-Methyl-2-Pentanone	350	50000	50000	100000		25 U	25 U	100 U	100 U	5.0 U	100 U	100 U	350 U	350 U	100 U	5.0 U	5.0 U	25 U	**R**	**R**
Acetone	6300	50000	50000	100000		130 U	**R**	500 U	500 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000		3.5 U	3.5 U	10 U	10 U	**0.75**	10 U	10 U	50 U	50 U	10 U	0.70 U	0.70 U	3.5 U	10 U	25 U
Bromobenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	62 U	62 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Bromochloromethane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	83 U	83 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Bromodichloromethane	3	6	50000	100000		2.5 U	2.5 U	10 U	10 U	0.50 U	10 U	10 U	50 U	50 U	10 U	0.50 U	0.50 U	2.5 U	10 U	25 U
Bromoform	4	700	50000	100000		4.0 U	**R**	10 U	10 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	10 U	25 U
Bromomethane	10	7	800	8000		5.0 U	5.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	**R**	**R**
Carbon Disulfide	NE	NE	NE	NE		25 U	25 U	100 U	100 U	5.0 U	100 U	100 U	500 U	500 U	100 U	5.0 U	5.0 U	25 U	100 U	250 U
Carbon Tetrachloride	5	2	5000	50000		2.5 U	2.5 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	2.5 U	10 U	25 U
Chlorobenzene	100	200	1000	10000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Chloroethane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Chloroform	70	50	20000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	50 U	50 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Chloromethane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000		**130**	**83**	**180**	**240**	**3.2**	**360**	**330 J+**	**700**	**1100**	**390**	1.0 U	1.0 U	**240**	**230**	**490**
cis-1,3-Dichloropropene	NE	NE	NE	NE		2.5 U	2.5 U	10 U	10 U	0.40 U	10 U	10 U	50 U	50 U	10 U	0.40 U	0.40 U	2.5 U	10 U	25 U
Cymene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Dibromochloromethane	2	20	50000	100000		2.5 U	2.5 U	10 U	10 U	0.50 U	10 UJ	10 UJ	50 UJ	50 UJ	10 UJ	0.50 U	0.50 U	2.5 U	10 U	25 U
Dibromomethane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Diethyl Ether	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Diisopropyl Ether	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Ethylbenzene	700	20000	5000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		2.5 U	2.5 U	10 U	10 U	0.40 U	10 U	10 U	50 U	50 U	10 U	0.40 U	0.40 U	2.5 U	10 U	25 U
Isopropylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	70 U	70 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Methylene Chloride	5	2000	50000	100000		5.0 U	5.0 U	10 U	10 U	1.0 U	10 U	10 U	50 U	50 U	10 U	1.0 U	1.0 U	5.0 U	10 U	25 U
mp-xylene	10000	3000	5000	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Naphthalene	140	700	20000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
N-Butylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
N-Propylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
o-Xylene	10000	3000	5000	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Styrene	100	100	6000	60000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Tert-Butylbenzene	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Tetrachloroethene	**5**	**50**	**30000**	100000		**130**	**340**	**1200**	**3200**	**28**	**870**	**1700**	**4100**	**5500**	**2100**	1.0 U	1.0 U	**130**	**1800**	**2100**
Tetrahydrofuran	NE	NE	NE	NE		13 U	13 U	50 U	50 U	2.5 U	50 U	50 U	250 U	250 U	50 U	2.5 U	2.5 U	13 U	**R**	**R**
Toluene	**1000**	50000	40000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Total CVOCs	NE	NE	NE	NE		**676.8**	**986**	**3538**	**7843**	**85.8**	**2681**	**5427**	**12440**	**16110**	**6615**	1.0 U	**2.2**	**965**	**5607**	**6914**
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	80 U	80 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE		2.5 U	2.5 U	10 U	10 U	0.40 U	10 U	10 U	50 U	50 U	10 U	0.40 U	0.40 U	2.5 U	10 U	25 U
TRICHLOROETHENE	**5**	**5**	**5000**	50000		**400**	**550**	**2100**	**4300**	**53**	**1400**	**3200**	**7400**	**9200**	**4000**	1.0 U	**2.2**	**540**	**3500**	**4200**
Trichlorofluoromethane	NE	NE	NE	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U
Vinyl Chloride	**2**	**2**	50000	100000		**5.8**	2.5 U	10 U	10 U	1.0 U	**23**	**100 J+**	**100**	**190**	**42**	1.0 U	1.0 U	**29**	**16**	**49**
Total Xylenes	10000	3000	5000	NE		5.0 U	5.0 U	20 U	20 U	1.0 U	20 U	20 U	100 U	100 U	20 U	1.0 U	1.0 U	5.0 U	20 U	50 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

					Location ID:	AE104R-5	AE104R-6	AE104S	AE108R-1	AE108R-3	AE108R-5	EMW-10D	EMW-10R	EMW-11D	EMW-11R1	EMW-11R2	EMW-11R3	GZA-12
					Sample ID:	19A-AE104R5-091819-1	19A-AE104R6-091819-1	19A-AE104S-092019-1	19A-AE108R1-092419-1	19A-AE108R3-092419-1	19A-AE108R5-092419-1	19A-EMW10D-093019-1	19A-EMW10R-093019-1	19A-EMW11D-091919-1	19A-EMW11R1-091719-1	19A-EMW11R2-091719-1	19A-EMW11R3-091719-1	19A-GZA12-092619-1
					Sample Date:	9/18/2019	9/18/2019	9/20/2019	9/24/2019	9/24/2019	9/24/2019	9/30/2019	9/30/2019	9/19/2019	9/17/2019	9/17/2019	9/17/2019	9/26/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	156 - 162 ft	168 - 174 ft	15 - 20 ft	36.5 - 43.5 ft	84 - 89 ft	163-168 ft	19 - 29 ft	42 - 52 ft	22 - 32 ft	79 - 89 ft	104 - 114 ft	158 - 168 ft	9.5 - 24.5 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX/PAES
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**														
Conventional Parameters (ug/l)																		
Chloride	NE	NE	NE	NE	NS	NS	NS	**1330000**	NS	NS	NS	NS	NS	NS	**225000**	NS	**1140000**	
Nitrate	NE	NE	NE	NE	NS	NS	NS	**60**	NS	NS	NS	NS	NS	NS	50 U	NS	**9290**	
Nitrite as N	NE	NE	NE	NE	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	20 U	NS	20 U	
Sulfate	NE	NE	NE	NE	NS	NS	NS	**11200**	NS	NS	NS	NS	NS	NS	**36800**	NS	**36800**	
Sulfide	NE	NE	NE	NE	NS	NS	NS	50 U	NS	NS	NS	NS	NS	NS	50 U	NS	50 U	
Total Organic Carbon	NE	NE	NE	NE	NS	NS	NS	**4600**	NS	NS	NS	NS	NS	NS	1000 U	NS	**1400**	
Dissolved Gases (ug/l)																		
Acetylene	NE	NE	NE	NE	NS	NS	NS	0.50 U	NS	NS	NS	NS	NS	NS	0.50 U	NS	0.50 U	
Ethane	NE	NE	NE	NE	NS	NS	NS	**0.32**	NS	NS	NS	NS	NS	NS	**7.6**	NS	0.10 U	
Ethene	NE	NE	NE	NE	NS	NS	NS	**0.48**	NS	NS	NS	NS	NS	NS	**35**	NS	0.10 U	
Hydrogen	NE	NE	NE	NE	NS	NS	NS	**2.6**	NS	NS	NS	NS	NS	NS	**1.6**	NS	**1.8**	
Methane	NE	NE	NE	NE	NS	NS	NS	**2200 J-**	NS	NS	NS	NS	NS	NS	**630**	NS	**0.30 J-**	
Propane	NE	NE	NE	NE	NS	NS	NS	**0.19**	NS	NS	NS	NS	NS	NS	**0.073 J**	NS	0.10 U	
EPH (ug/l)																		
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS	
Acenaphthene	20	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS	
Acenaphthylene	30	10000	40	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 UJ	NS	NS	
Anthracene	60	NE	30	600	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.19 U	NS	NS	
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02 U	NS	NS	
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS	
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS	
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS	
Chrysene	2	NE	70	700	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.05 U	NS	NS	
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.02 U	NS	NS	
Fluoranthene	90	NE	200	2000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS	
Fluorene	30	NE	40	400	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.09 U	NS	NS	
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS	
Phenanthrene	40	NE	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.47 U	NS	NS	
Pyrene	60	NE	20	600	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.07 U	NS	NS	
VPH (ug/l)																		
Benzene	5	1000	10000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS	
C5-C8 Aliphatic Hydrocarbons	**300**	**3000**	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**4000**	NS	NS	
C9-C10 Aromatic Hydrocarbons	**200**	4000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200 U	NS	NS	
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200 U	NS	NS	
Ethylbenzene	700	20000	5000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS	
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS	
mp-xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.0 U	NS	NS	
Naphthalene	140	700	20000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10 U	NS	NS	
o-Xylene	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS	
Toluene	**1000**	50000	40000	100000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2.0 U	NS	NS	
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**4000**	NS	NS	
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	200 U	NS	NS	
Total Petroleum	NE	NE	NE	NE	50 U	50 U	1 U	**1**	1 U	1 U	1 U	1 U	1 U	20 U	**4000**	40 U	1 U	
Total Xylenes	10000	3000	5000	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	4.0 U	NS	NS	
MAEPH (ug/l)																		
Calculated EPH	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS	
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	190 U	NS	NS	
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	
Dissolved Metals (ug/l)																		
Arsenic	**10**	NE	900	9000	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	**4**	NS	4 U	
Iron	NE	NE	NE	NE	NS	NS	NS	**5300**	NS	NS	NS	NS	NS	NS	**914**	NS	11 U	
Manganese	NE	NE	NE	NE	NS	NS	NS	**2450**	NS	NS	NS	NS	NS	NS	**626**	NS	**1340**	
Total Metals (ug/l)																		
Arsenic	**10**	NE	900	9000	NS	NS	NS	4 U	NS	NS	NS	NS	NS	NS	4 U	NS	4 U	
Iron	NE	NE	NE	NE	NS	NS	NS	**6880**	NS	NS	NS	NS	NS	NS	**1090**	NS	**56**	
Manganese	NE	NE	NE	NE	NS	NS	NS	**2910**	NS	NS	NS	NS	NS	NS	**667**	NS	**1320**	
SVOCs SIM (ug/l)																		
1,4-Dioxane	**0.3**	6000	50000	100000	NS	**20**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.20 U	

					Location ID:	AE104R-5	AE104R-6	AE104S	AE108R-1	AE108R-3	AE108R-5	EMW-10D	EMW-10R	EMW-11D	EMW-11R1	EMW-11R2	EMW-11R3	GZA-12
					Sample ID:	19A-AE104R5-091819-1	19A-AE104R6-091819-1	19A-AE104S-092019-1	19A-AE108R1-092419-1	19A-AE108R3-092419-1	19A-AE108R5-092419-1	19A-EMW10D-093019-1	19A-EMW10R-093019-1	19A-EMW11D-091919-1	19A-EMW11R1-091719-1	19A-EMW11R2-091719-1	19A-EMW11R3-091719-1	19A-GZA12-092619-1
					Sample Date:	9/18/2019	9/18/2019	9/20/2019	9/24/2019	9/24/2019	9/24/2019	9/30/2019	9/30/2019	9/19/2019	9/17/2019	9/17/2019	9/17/2019	9/26/2019
					Sample Type:	N	N	N	N	N	N	N	N	N	N	N	N	N
					Depth Interval:	156 - 162 ft	168 - 174 ft	15 - 20 ft	36.5 - 43.5 ft	84 - 89 ft	163-168 ft	19 - 29 ft	42 - 52 ft	22 - 32 ft	79 - 89 ft	104 - 114 ft	158 - 168 ft	9.5 - 24.5 ft
					Lab Name:	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX/PAES
VOCs (ug/l)																		
1,1,1,2-Tetrachloroethane	5	10	50000	100000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
1,1,1-Trichloroethane	**200**	4000	20000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000		**R**	**R**	0.50 U	0.50 U	0.50 U	0.50 U	**R**	**R**	0.50 U	**R**	**R**	**R**	**R**
1,1,2-Trichloroethane	5	900	50000	100000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
1,1-Dichloroethane	**70**	2000	20000	100000		**66**	**68**	1.0 U	**1.3**	1.0 U	**2.5**	1.0 U	**5.6**	1.0 U	**64**	**130**	**100**	1.0 U
1,1-Dichloroethylene	**7**	**80**	30000	100000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**18**	50 U	**25**	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	0.50 U	0.50 U	0.50 U	10 U	50 U	20 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	70 U	40 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	56 U	40 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE		**R**	**R**	**R**	**R**	1.0 U	1.0 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000		25 U	25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10 U	50 U	20 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000		25 U	25 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	10 U	50 U	20 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	60 U	40 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000		40 U	40 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	50 U	40 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000		25 U	25 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
1,4-Dioxane	**0.3**	6000	50000	100000		2000 U	2000 U	40 U	40 U	10 U	10 U	40 U	40 U	40 U	800 U	4000 U	1600 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
2-Butanone	4000	50000	50000	100000		**R**	**R**	**R**	**R**	5.0 U	5.0 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
2-Hexanone	NE	NE	NE	NE		**R**	**R**	5.0 U	5.0 U	5.0 U	5.0 U	**R**	**R**	5.0 U	**R**	**R**	**R**	**R**
2-Phenylbutane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000		**R**	**R**	5.0 U	5.0 U	5.0 U	5.0 U	**R**	**R**	5.0 U	**R**	**R**	**R**	**R**
Acetone	6300	50000	50000	100000		**R**	**R**	**R**	**R**	25 U	25 U	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000		25 U	25 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	10 U	50 U	20 U	0.70 U
Bromobenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	62 U	40 U	1.0 U
Bromochloromethane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	83 U	40 U	1.0 U
Bromodichloromethane	3	6	50000	100000		25 U	25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10 U	50 U	20 U	0.50 U
Bromoform	4	700	50000	100000		25 U	25 U	**R**	**R**	1.0 U	1.0 U	1.0 U	1.0 U	**R**	10 U	50 U	20 U	1.0 U
Bromomethane	10	7	800	80000		**R**	**R**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	**R**	1.0 U	10 UJ	**R**	**R**	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE		250 U	250 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	100 U	500 U	200 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
Chlorobenzene	100	200	1000	10000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Chloroethane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Chloroform	70	50	20000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	50 U	40 U	1.0 U
Chloromethane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
cis-1,2-Dichloroethene	**70**	**20**	50000	100000		**520**	**490**	1.0 U	**24**	**7.6**	**23**	**16**	**29**	**4.6**	**420**	**1500**	**840**	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE		25 U	25 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U	50 U	20 U	0.40 U
Cymene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Dibromochloromethane	2	20	50000	100000		25 U	25 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	10 U	50 U	20 U	0.50 U
Dibromomethane	NE	NE	NE	NE		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Diethyl Ether	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Ethylbenzene	700	20000	5000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000		25 U	25 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U	50 U	20 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	70 U	40 U	1.0 U
Methylene Chloride	5	2000	50000	100000		25 U	25 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	10 U	50 U	20 U	1.0 U
mp-xylene	10000	3000	5000	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Naphthalene	140	700	20000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
o-Xylene	10000	3000	5000	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Styrene	100	100	6000	60000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Tetrachloroethene	**5**	**50**	**30000**	100000		**2400**	**2400**	1.0 U	1.0 U	**35**	**24**	**99**	**8.0**	1.0 U	**2400**	**4200**	**3300**	1.0 U
Tetrahydrofuran	NE	NE	NE	NE		**R**	**R**	2.5 U	**3.1 J-**	2.5 U	2.5 U	**R**	**R**	2.5 U	**R**	**R**	**R**	**R**
Toluene	**1000**	50000	40000	100000		50 U	50 U	1.0 U	**1.0**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Total CVOCs	NE	NE	NE	NE		**7457**	**7614**	1.0 U	**30.2**	**65.6**	**103.5**	**145.1**	**82.6**	**8.3**	**8273**	**16970**	**9365**	1.0 U
Trans-1,2-Dichloroethene	**100**	**80**	50000	100000		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	80 U	40 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE		25 U	25 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	10 U	50 U	20 U	0.40 U
TRICHLOROETHENE	**5**	**5**	**5000**	50000		**4400**	**4600**	1.0 U	**4.9 J-**	**23**	**54**	**28**	**23**	**2.5**	**5300**	**11000**	**5100**	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U
Vinyl Chloride	**2**	**2**	50000	100000		**71**	**56**	1.0 U	1.0 U	1.0 U	1.0 U	**2.1**	**17**	**1.2**	**71**	**140**	20 U	1.0 U
Total Xylenes	10000	3000	5000	NE		50 U	50 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	20 U	100 U	40 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results Packages

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09538

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE04-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	2.0	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	1.1	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	4.5	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	2.4	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	8.9	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	09/15/19	HM	70 - 130 %
% Bromofluorobenzene	106		%	1	09/15/19	HM	70 - 130 %
% Dibromofluoromethane	99		%	1	09/15/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	102		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	56		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	56		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	52		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	86		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	132		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	114		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	93		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	120	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09538

Client ID: 19A-AE04-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	102		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	104		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09539

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE04-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	2.0	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	1.0	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	4.6	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	2.4	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	9.0	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	09/15/19	HM	70 - 130 %
% Bromofluorobenzene	102		%	1	09/15/19	HM	70 - 130 %
% Dibromofluoromethane	106		%	1	09/15/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	101		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	0.12	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	53		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	51		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	50		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	83		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	132		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	116		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	99		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	120	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09539

Client ID: 19A-AE04-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	1.5	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.7	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	94		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	99		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09540

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE03-091219-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.058	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	0.057	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	10.9	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	1.43	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	10.3	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	1.49	0.001	mg/L	1	09/17/19	CPP	SW6010D
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/15/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/15/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/15/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/15/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C
Isopropylbenzene	4.6	1.0	ug/L	1	09/15/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/15/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Naphthalene	9.4	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Butylbenzene	6.0	1.0	ug/L	1	09/15/19	HM	SW8260C
n-Propylbenzene	12	1.0	ug/L	1	09/15/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
sec-Butylbenzene	7.7	1.0	ug/L	1	09/15/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
tert-Butylbenzene	6.3	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/15/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/15/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/15/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	103		%	1	09/15/19	HM	70 - 130 %	
% Bromofluorobenzene	108		%	1	09/15/19	HM	70 - 130 %	
% Dibromofluoromethane	102		%	1	09/15/19	HM	70 - 130 %	
% Toluene-d8	103		%	1	09/15/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/15/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/15/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	3.3	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	5.1	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	64		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	92		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	50		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	62		%	1	09/18/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	96		%	1	09/17/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	98		%	1	09/17/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	09/17/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	580	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	340	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	240	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	7.9	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.4	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	101		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	104		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/12/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09541

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE03-091219-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.056	0.004	mg/L	1	09/17/19	CPP	SW6010D
Arsenic (Dissolved)	0.058	0.004	mg/L	1	09/14/19	CPP	SW6010D
Iron (Dissolved)	10.8	0.011	mg/L	1	09/14/19	CPP	SW6010D
Manganese (Dissolved)	1.43	0.001	mg/L	1	09/14/19	CPP	SW6010D
Iron	10.4	0.050	mg/L	1	09/19/19	TH	SW6010D
Manganese	1.47	0.001	mg/L	1	09/17/19	CPP	SW6010D
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/13/19	AG	SW3005A
Total Metals Digestion	Completed				09/16/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/16/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/16/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/16/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/16/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C
Isopropylbenzene	4.6	1.0	ug/L	1	09/16/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/16/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Naphthalene	9.5	1.0	ug/L	1	09/16/19	HM	SW8260C
n-Butylbenzene	5.8	1.0	ug/L	1	09/16/19	HM	SW8260C
n-Propylbenzene	12	1.0	ug/L	1	09/16/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
sec-Butylbenzene	7.6	1.0	ug/L	1	09/16/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
tert-Butylbenzene	6.2	1.0	ug/L	1	09/16/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/16/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/16/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/16/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/16/19	HM	70 - 130 %	
% Bromofluorobenzene	110		%	1	09/16/19	HM	70 - 130 %	
% Dibromofluoromethane	102		%	1	09/16/19	HM	70 - 130 %	
% Toluene-d8	102		%	1	09/16/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/16/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/16/19	HM	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	3.2	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	5.0	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	61		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	87		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	47		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/18/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	77		%	1	09/18/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/17/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/17/19	AW	40 - 140 %
% o-terphenyl (aromatic)	75		%	1	09/17/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	540	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	300	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	240	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	8.3	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.3	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	99		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	102		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	11:10
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09544

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA102S-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/16/19	JS/D	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/13/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/13/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/17/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/18/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/18/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/18/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
cis-1,2-Dichloroethene	2.7	1.0	ug/L	1	09/18/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/18/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/18/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Tetrachloroethene	2.0	1.0	ug/L	1	09/18/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/18/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/18/19	MH	SW8260C
Trichloroethene	2.9	1.0	ug/L	1	09/18/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/18/19	MH	SW8260C
Vinyl chloride	1.3	1.0	ug/L	1	09/18/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/18/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	09/18/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	09/18/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	103		%	1	09/18/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/18/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/18/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/15/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/15/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	62		%	1	09/15/19	WB	40 - 140 %	
% Nitrobenzene-d5	66		%	1	09/15/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/15/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/17/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	105		%	1	09/17/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	136		%	1	09/17/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	116		%	1	09/17/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	103		%	1	09/17/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09544

Client ID: 19A-GZA102S-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/17/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
o-Xylene	1.2	1.0	ug/L	1	09/17/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	94		%	1	09/17/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	1	09/17/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:	Dylan Potter	09/13/19	12:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/13/19	16:29
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE09538
Phoenix ID: CE09546

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-IP1R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1,1-Trichloroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1,2-Trichloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloroethane	130	40	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloroethene	34	20	ug/L	40	09/18/19	MH	SW8260C
1,1-Dichloropropene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dibromoethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichloroethane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,2-Dichloropropane	ND	20	ug/L	40	09/18/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,3-Dichloropropane	ND	40	ug/L	40	09/18/19	MH	SW8260C
1,4-Dichlorobenzene	ND	20	ug/L	40	09/18/19	MH	SW8260C
2,2-Dichloropropane	ND	40	ug/L	40	09/18/19	MH	SW8260C
2-Chlorotoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C
2-Hexanone	ND	80	ug/L	40	09/18/19	MH	SW8260C
4-Chlorotoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C
4-Methyl-2-pentanone	ND	200	ug/L	40	09/18/19	MH	SW8260C
Acetone	ND	1000	ug/L	40	09/18/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE09546

Client ID: 19A-IP1R2-091319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Benzene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Bromochloromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Bromodichloromethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromoform	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Bromomethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Carbon Disulfide	ND	200	ug/L	40	09/18/19	MH	SW8260C	
Carbon tetrachloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Chlorobenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloroform	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Chloromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
cis-1,2-Dichloroethene	120	40	ug/L	40	09/18/19	MH	SW8260C	
cis-1,3-Dichloropropene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dibromochloromethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dibromomethane	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Dichlorodifluoromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Ethylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Hexachlorobutadiene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Isopropylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
m&p-Xylene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Methyl ethyl ketone	ND	80	ug/L	40	09/18/19	MH	SW8260C	
Methyl t-butyl ether (MTBE)	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Methylene chloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Naphthalene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
n-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
n-Propylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
o-Xylene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
p-Isopropyltoluene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
sec-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Styrene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
tert-Butylbenzene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Tetrachloroethene	3400	400	ug/L	400	09/14/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	100	ug/L	40	09/18/19	MH	SW8260C	
Toluene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	40	ug/L	40	09/18/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	20	ug/L	40	09/18/19	MH	SW8260C	
Trichloroethene	7300	400	ug/L	400	09/14/19	MH	SW8260C	
Trichlorofluoromethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	40	ug/L	40	09/18/19	MH	SW8260C	
Vinyl chloride	ND	20	ug/L	40	09/18/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (40x)	93		%	40	09/18/19	MH	70 - 130 %	
% Bromofluorobenzene (40x)	96		%	40	09/18/19	MH	70 - 130 %	
% Dibromofluoromethane (40x)	93		%	40	09/18/19	MH	70 - 130 %	
% Toluene-d8 (40x)	140		%	40	09/18/19	MH	70 - 130 %	3
% 1,2-dichlorobenzene-d4 (400x)	103		%	400	09/14/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	99		%	400	09/14/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	98		%	400	09/14/19	MH	70 - 130 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/14/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	1600	ug/l	40	09/18/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	40	ug/L	40	09/18/19	MH	SW8260C (OXY)	

3 = This parameter exceeds laboratory specified limits.
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated surrogate recovery was observed for volatiles due to matrix interference.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11173

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R1-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloroethane	64	20	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloroethene	18	10	ug/L	20	09/23/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/23/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/23/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/23/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/23/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/23/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/23/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R1-091719-1

Phoenix I.D.: CE11173

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/23/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/23/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/23/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/23/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,2-Dichloroethene	420	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/23/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/23/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/23/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/23/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/23/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/23/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/23/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/23/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/23/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/23/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/23/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/23/19	MH	SW8260C
Trichloroethene	5300	400	ug/L	400	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/23/19	MH	SW8260C
Vinyl chloride	71	20	ug/L	20	09/23/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	99		%	20	09/23/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	09/23/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/24/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	96		%	400	09/24/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	104		%	400	09/24/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	101		%	400	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/23/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/23/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	11:45
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11174

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R2-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.914	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.626	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	1.09	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.667	0.001	mg/L	1	09/21/19	CPP	SW6010D
Chloride	225	15.0	mg/L	5	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/18/19 20:04	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/18/19 02:06	BS/GD	E300.0
Sulfate	36.8	3.0	mg/L	1	09/18/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloroethane	130	100	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11174

Client ID: 19A-EMW11R2-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/24/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/24/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/24/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/24/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/24/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/24/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/24/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	1500	100	ug/L	100	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/24/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/24/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/24/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/24/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	100	ug/L	100	09/24/19	MH	SW8260C	
Tetrachloroethene	4200	400	ug/L	400	09/23/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/24/19	MH	SW8260C	
Toluene	ND	100	ug/L	100	09/24/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/24/19	MH	SW8260C	
Trichloroethene	11000	400	ug/L	400	09/23/19	MH	SW8260C	
Trichlorofluoromethane	ND	100	ug/L	100	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	100	ug/L	100	09/24/19	MH	SW8260C	
Vinyl chloride	140	100	ug/L	100	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (100x)	99		%	100	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene (100x)	99		%	100	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane (100x)	104		%	100	09/24/19	MH	70 - 130 %	
% Toluene-d8 (100x)	97		%	100	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	97		%	400	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	106		%	400	09/23/19	MH	70 - 130 %	
% Toluene-d8 (400x)	99		%	400	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/24/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	65		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	66		%	1	09/18/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	65		%	1	09/18/19	WB	40 - 140 %

MA EPH Aliphatic/Aromatic Ranges

C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	91		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	76		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	87		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	87		%	1	09/21/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	200	ug/L	2	09/23/19	PS	MA VPH 5/2004
Benzene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
MTBE	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
Naphthalene	ND	10	ug/L	2	09/23/19	PS	MA VPH 5/2004
Toluene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	4.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
o-Xylene	ND	2.0	ug/L	2	09/23/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	97		%	2	09/23/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	2	09/23/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

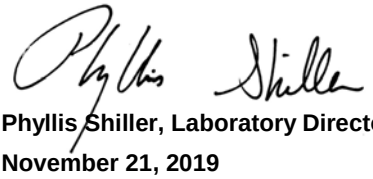
MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

VPH Analysis Comment:
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11175

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW11R3-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloroethane	100	40	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloroethene	25	20	ug/L	40	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	20	ug/L	40	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	40	ug/L	40	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	40	ug/L	40	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	40	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	200	ug/L	40	09/24/19	MH	SW8260C
Acetone	ND	1000	ug/L	40	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11175
Client ID: 19A-EMW11R3-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Bromochloromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Bromodichloromethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromoform	ND	20	ug/L	40	09/24/19	MH	SW8260C
Bromomethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Carbon Disulfide	ND	200	ug/L	40	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
Chlorobenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloroform	ND	40	ug/L	40	09/24/19	MH	SW8260C
Chloromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	840	40	ug/L	40	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dibromochloromethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	40	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Ethylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Isopropylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
m&p-Xylene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	80	ug/L	40	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	40	ug/L	40	09/24/19	MH	SW8260C
Methylene chloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
Naphthalene	ND	40	ug/L	40	09/24/19	MH	SW8260C
n-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
n-Propylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
o-Xylene	ND	40	ug/L	40	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Styrene	ND	40	ug/L	40	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	40	ug/L	40	09/24/19	MH	SW8260C
Tetrachloroethene	3300	400	ug/L	400	09/23/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	100	ug/L	40	09/24/19	MH	SW8260C
Toluene	ND	40	ug/L	40	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	40	ug/L	40	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	20	ug/L	40	09/24/19	MH	SW8260C
Trichloroethene	5100	400	ug/L	400	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	40	ug/L	40	09/24/19	MH	SW8260C
Vinyl chloride	ND	20	ug/L	40	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (40x)	98		%	40	09/24/19	MH	70 - 130 %
% Bromofluorobenzene (40x)	98		%	40	09/24/19	MH	70 - 130 %
% Dibromofluoromethane (40x)	107		%	40	09/24/19	MH	70 - 130 %
% Toluene-d8 (40x)	98		%	40	09/24/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	93		%	400	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	96		%	400	09/23/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	1600	ug/l	40	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	40	ug/L	40	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13429

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105S-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.182	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.168	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	28.5	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.80	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	28.8	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.83	0.001	mg/L	1	09/24/19	TH	SW6010D
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13429

Client ID: 19A-GZA105S-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/25/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/25/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
tert-Butylbenzene	2.9	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/25/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene	112		%	1	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane	109		%	1	09/25/19	MH	70 - 130 %	
% Toluene-d8	99		%	1	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	72		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	76		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	62		%	1	09/23/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	60		%	1	09/23/19	AW	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 2-Bromonaphthalene (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	67		%	1	09/24/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	240	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	150	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	1.8	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	118		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	116		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	12:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13430

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethane	3.6	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloroethene	2.8	1.0	ug/L	1	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13430

Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/25/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/25/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	130	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/25/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrachloroethene	24	1.0	ug/L	1	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/25/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	1.5	1.0	ug/L	1	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/25/19	MH	SW8260C
Trichloroethene	55	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/25/19	MH	SW8260C
Vinyl chloride	23	1.0	ug/L	1	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/25/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/25/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	117		%	1	09/25/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	95		%	20	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	94		%	20	09/25/19	MH	70 - 130 %	
% Toluene-d8 (20x)	92		%	20	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	73		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	76		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	79		%	1	09/23/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	1.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	87		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13430
Client ID: 19A-GZA105D-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	91		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	86		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	89		%	1	09/21/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	1.4	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	122		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	117		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13431

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-GZA105R-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloroethane	93	70	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/25/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/25/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/25/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/25/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/25/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	210	100	ug/L	100	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/25/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/25/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/25/19	MH	SW8260C
Tetrachloroethene	5100	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/25/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/25/19	MH	SW8260C
Trichloroethene	6700	400	ug/L	400	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/25/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	96		%	100	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	100		%	100	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	127		%	100	09/25/19	MH	70 - 130 %
% Toluene-d8 (100x)	113		%	100	09/25/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	91		%	400	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/25/19	MH	SW8260C (OXY)	

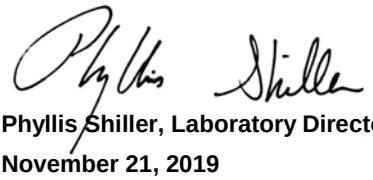
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13432

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.648	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	2.48	0.021	mg/L	20	09/26/19	CPP	SW6010D
Iron	0.786	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	2.21	0.010	mg/L	10	09/25/19	TH	SW6010D
Chloride	667	30.0	mg/L	10	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/19/19 23:52	B/E/G	E300.0
Nitrate as Nitrogen	2.99	0.05	mg/L	1	09/19/19 20:48	B/E/G	E300.0
Sulfate	29.8	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	1.1	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethane	28	20	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13432

Client ID: 19A-AE103R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/25/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/25/19	MH	SW8260C
Benzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	360	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Tetrachloroethene	870	400	ug/L	400	09/25/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/25/19	MH	SW8260C	
Toluene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/25/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C	
Trichloroethene	1400	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C	
Vinyl chloride	23	20	ug/L	20	09/25/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	100		%	20	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	96		%	20	09/25/19	MH	70 - 130 %	
% Toluene-d8 (20x)	115		%	20	09/25/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	96		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	90		%	400	09/25/19	MH	70 - 130 %	
% Toluene-d8 (400x)	93		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	74		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	80		%	1	09/23/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	82		%	1	09/23/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	8.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	77		%	1	09/24/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	09/21/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	85		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	76		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	82		%	1	09/21/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	107		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/23/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

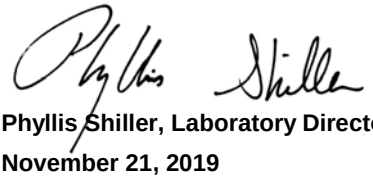
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. Of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13433

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethane	77	20	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethene	20	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/26/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13433

Client ID: 19A-AE103R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Benzene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Bromochloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Bromodichloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromoform	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Bromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Carbon Disulfide	ND	100	ug/L	20	09/26/19	MH	SW8260C	
Carbon tetrachloride	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Chlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloroform	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Chloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
cis-1,2-Dichloroethene	330	20	ug/L	20	09/26/19	MH	SW8260C	
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dibromochloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dibromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Dichlorodifluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Ethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Hexachlorobutadiene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Isopropylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
m&p-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Methyl ethyl ketone	ND	40	ug/L	20	09/26/19	MH	SW8260C	
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Methylene chloride	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Naphthalene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
n-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
n-Propylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
o-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
p-Isopropyltoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
sec-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Styrene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
tert-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Tetrachloroethene	1700	400	ug/L	400	09/25/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/26/19	MH	SW8260C	
Toluene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/26/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C	
Trichloroethene	3200	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C	
Vinyl chloride	100	20	ug/L	20	09/26/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (20x)	93		%	20	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	99		%	20	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/26/19	MH	70 - 130 %	
% Toluene-d8 (20x)	135		%	20	09/26/19	MH	70 - 130 %	3
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	100		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	101		%	400	09/25/19	MH	70 - 130 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	96		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	

3 = This parameter exceeds laboratory specified limits.
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.
Elevated surrogate recovery was observed for volatiles due to matrix interference.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13434

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethane	140	100	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/26/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13434

Client ID: 19A-AE103R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/26/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/26/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	700	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/26/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Tetrachloroethene	4100	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/26/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Trichloroethene	7400	400	ug/L	400	09/25/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Vinyl chloride	100	100	ug/L	100	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	96		%	100	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	99		%	100	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/26/19	MH	70 - 130 %
% Toluene-d8 (100x)	117		%	100	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	96		%	400	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	105		%	400	09/25/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	100		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	43	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	83		%	1	09/24/19	KCA	30 - 130 %	
% 1,4-dioxane-d8 (5x)	96		%	5	09/25/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13435

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.005	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	0.430	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	0.813	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.458	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.822	0.001	mg/L	1	09/24/19	TH	SW6010D
Chloride	233	15.0	mg/L	5	09/20/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/20/19 00:02	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 20:58	B/E/G	E300.0
Sulfate	35.8	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/20/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethane	120	100	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C

Ver 3

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R5-091819-1

Phoenix I.D.: CE13435

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
2-Hexanone	ND	200	ug/L	100	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/26/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/26/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/26/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/26/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/26/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	1100	100	ug/L	100	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/26/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/26/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/26/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/26/19	MH	SW8260C
Tetrachloroethene	5500	400	ug/L	400	09/25/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/26/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/26/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/26/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/26/19	MH	SW8260C	
Trichloroethene	9200	400	ug/L	400	09/25/19	MH	SW8260C	
Trichlorofluoromethane	ND	100	ug/L	100	09/26/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	100	ug/L	100	09/26/19	MH	SW8260C	
Vinyl chloride	190	100	ug/L	100	09/26/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (100x)	95		%	100	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (100x)	99		%	100	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (100x)	100		%	100	09/26/19	MH	70 - 130 %	
% Toluene-d8 (100x)	118		%	100	09/26/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	101		%	400	09/25/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	98		%	400	09/25/19	MH	70 - 130 %	
% Toluene-d8 (400x)	102		%	400	09/25/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	36	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	79		%	1	09/24/19	KCA	30 - 130 %	
% 1,4-dioxane-d8 (5x)	89		%	5	09/25/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13436

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103R7-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethane	66	20	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloroethene	17	10	ug/L	20	09/25/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/25/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
2-Hexanone	ND	40	ug/L	20	09/25/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/25/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/25/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/25/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/25/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/25/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,2-Dichloroethene	390	20	ug/L	20	09/25/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/25/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/25/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/25/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/25/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/25/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/25/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/25/19	MH	SW8260C
Tetrachloroethene	2100	200	ug/L	200	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/25/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/25/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/25/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/25/19	MH	SW8260C
Trichloroethene	4000	200	ug/L	200	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/25/19	MH	SW8260C
Vinyl chloride	42	20	ug/L	20	09/25/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/25/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/25/19	MH	70 - 130 %
% Toluene-d8 (20x)	130		%	20	09/25/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	97		%	200	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	99		%	200	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	101		%	200	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	102		%	200	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/25/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/25/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13446

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	26	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13446

Client ID: 19A-AE104R1-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrachloroethene	130	20	ug/L	20	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Trichloroethene	540	20	ug/L	20	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Vinyl chloride	29	5.0	ug/L	5	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	96		%	5	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	102		%	5	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	98		%	5	10/01/19	MH	70 - 130 %
% Toluene-d8 (5x)	123		%	5	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	103		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	9.0	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	74		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

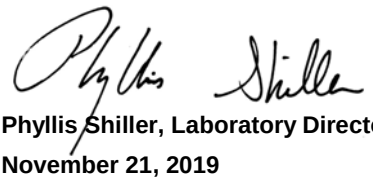
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13447

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethane	49	20	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloroethene	12	10	ug/L	20	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/26/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13447

Client ID: 19A-AE104R3-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/26/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/26/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/26/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	230	20	ug/L	20	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/26/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/26/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/26/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/26/19	MH	SW8260C
Tetrachloroethene	1800	200	ug/L	200	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/26/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/26/19	MH	SW8260C
Trichloroethene	3500	200	ug/L	200	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/26/19	MH	SW8260C
Vinyl chloride	16	10	ug/L	20	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	104		%	20	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	109		%	20	09/26/19	MH	70 - 130 %
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	96		%	200	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	96		%	200	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	97		%	200	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	98		%	200	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	14	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	94		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:45
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13448

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/19/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/20/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	75	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13448

Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	490	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2100	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4200	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	49	25	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	101		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	104		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	108		%	50	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (50x)	99		%	50	09/26/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	100		%	400	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	103		%	400	09/26/19	MH	70 - 130 %	
% Toluene-d8 (400x)	98		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/23/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/23/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	75		%	1	09/23/19	WB	40 - 140 %	
% Nitrobenzene-d5	82		%	1	09/23/19	WB	40 - 140 %	
% Terphenyl-d14	72		%	1	09/23/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	19	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/23/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13448
Client ID: 19A-AE104R4-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	82		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	92		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	73		%	1	09/24/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	2200	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	2200	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Toluene	3.4	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/26/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	102		%	1	09/26/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

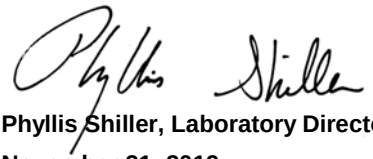
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13449

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	66	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13449

Client ID: 19A-AE104R5-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	520	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4400	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	71	50	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	99		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	102		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	102		%	50	09/26/19	MH	70 - 130 %
% Toluene-d8 (50x)	99		%	50	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	97		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	101		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	100		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/18/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13450

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethane	68	50	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,3-Trichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/26/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/26/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	50	09/26/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/26/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/26/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13450

Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/26/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/26/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/26/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,2-Dichloroethene	490	50	ug/L	50	09/26/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dibromomethane	ND	25	ug/L	50	09/26/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	50	09/26/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/26/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/26/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/26/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/26/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/26/19	MH	SW8260C
Tetrachloroethene	2400	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/26/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/26/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/26/19	MH	SW8260C
Trichloroethene	4600	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Trichlorotrifluoroethane	ND	50	ug/L	50	09/26/19	MH	SW8260C
Vinyl chloride	56	50	ug/L	50	09/26/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (50x)	103		%	50	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (50x)	101		%	50	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (50x)	104		%	50	09/26/19	MH	70 - 130 %
% Toluene-d8 (50x)	96		%	50	09/26/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	105		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	97		%	400	09/26/19	MH	70 - 130 %

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13450
Client ID: 19A-AE104R6-091819-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	94		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/26/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/26/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	20	1.0	ug/l	5	09/25/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/24/19	KCA	30 - 130 %	
% 1,4-dioxane-d8 (5x)	90		%	5	09/25/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

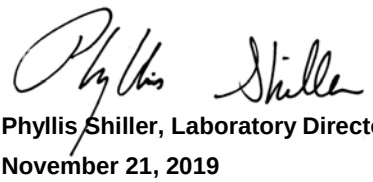
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13456

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103S-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.162	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.138	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	9.08	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.56	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	9.36	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.56	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103S-091919-1

Phoenix I.D.: CE13456

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13456
Client ID: 19A-AE103S-091919-1

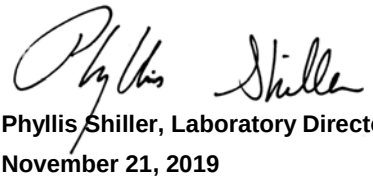
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	97		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	11:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13457

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/21/19	CPP	SW6010D
Manganese (Dissolved)	1.99	0.001	mg/L	1	09/21/19	CPP	SW6010D
Iron	0.165	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	1.90	0.010	mg/L	10	09/25/19	TH	SW6010D
Chloride	42.0	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/19/19 21:18	B/E/G	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/19/19 21:18	B/E/G	E300.0
Sulfate	7.6	3.0	mg/L	1	09/19/19	B/E/G	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	1.4	1.0	mg/L	1	09/24/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/19/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	1.6	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-AE103D-091919-1

Phoenix I.D.: CE13457

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	0.75	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	3.2	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	28	20	ug/L	20	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C	
Trichloroethene	53	20	ug/L	20	09/26/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	09/28/19	MH	70 - 130 %	
% Dibromofluoromethane	101		%	1	09/28/19	MH	70 - 130 %	
% Toluene-d8	111		%	1	09/28/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/26/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	101		%	20	09/26/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	105		%	20	09/26/19	MH	70 - 130 %	
% Toluene-d8 (20x)	97		%	20	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.82	0.20	ug/l	1	09/24/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	89		%	1	09/24/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/20/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	9:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/19/19	17:00
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE13428
Phoenix ID: CE13458

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19A-EMW11D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13458
Client ID: 19A-EMW11D-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	4.6	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	2.5	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	1.2	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	97		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	96		%	1	09/28/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7

Ver 3

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE13458
Client ID: 19A-EMW11D-091919-1

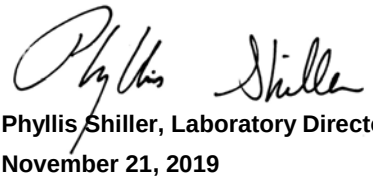
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	15:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14411

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC101-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/22/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	3.0	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	5.6	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	11	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	7.6	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	11	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	94		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	109		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	94		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	0.62	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	0.03	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	0.09	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	67		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	96		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	59		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	63		%	1	09/24/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	83		%	1	09/24/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	86		%	1	09/24/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	59		%	1	09/24/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	500	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/22/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14411
Client ID: 19A-TRC101-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	280	100	ug/L	1	09/22/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	220	100	ug/L	1	09/22/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/22/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/22/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	100		%	1	09/22/19	RM	70 - 130 %

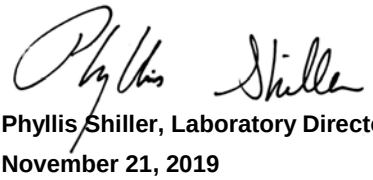
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/19/19	14:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14412

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC103-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC103-091919-1

Phoenix I.D.: CE14412

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	1.2	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	1.1	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	111		%	1	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	92		%	1	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	73		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	89		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	64		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	87		%	1	09/24/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	112		%	1	09/24/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	101		%	1	09/24/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	93		%	1	09/24/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14412
Client ID: 19A-TRC103-091919-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	107		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	106		%	1	09/23/19	RM	70 - 130 %

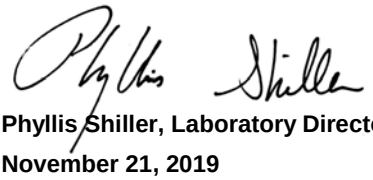
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14413

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104S-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	95		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	91		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE14413
Client ID: 19A-AE104S-092019-1

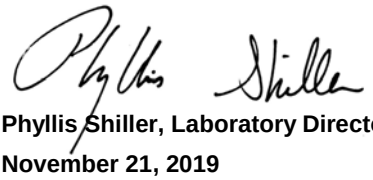
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:10
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14414

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104D-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/28/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/28/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE104D-092019-1

Phoenix I.D.: CE14414

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/28/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/28/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/28/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/28/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/28/19	MH	SW8260C
Trichloroethene	2.2	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/28/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	95		%	1	09/28/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/28/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/28/19	MH	70 - 130 %
% Toluene-d8	95		%	1	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	09/28/19	MH	SW8260C

7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/28/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	0.42	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	91		%	1	09/26/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	9:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14415

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC102-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.060	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.050	0.004	mg/L	1	09/24/19	TH	SW6010D
Iron (Dissolved)	22.5	0.011	mg/L	1	09/24/19	TH	SW6010D
Manganese (Dissolved)	3.18	0.011	mg/L	10	09/27/19	TH	SW6010D
Iron	23.7	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	3.26	0.010	mg/L	10	09/25/19	TH	SW6010D
EPH Extraction	Completed				09/23/19	JS/JS	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/20/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC102-092019-1

Phoenix I.D.: CE14415

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	6.1	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
Trichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	96		%	1	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene	95		%	1	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	09/27/19	MH	70 - 130 %	
% Toluene-d8	95		%	1	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				09/24/19			
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	0.21	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	57		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	71		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	52		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	200	ug/L	1	09/24/19	AW	MAEPH 5/2004	
QA/QC Surrogates								

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% 1-chlorooctadecane (aliphatic)	75		%	1	09/24/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	126		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	84		%	1	09/24/19	AW	40 - 140 %

MA Volatile Petroleum Hydrocarbons (VPH)

Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	1.1	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	2.4	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	97		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/20/19	13:25
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/20/19	15:46
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14410
Phoenix ID: CE14417

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-GZA6-092019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.011	0.004	mg/L	1	09/24/19	TH	SW6010D
Arsenic (Dissolved)	0.009	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	1.50	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.143	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	1.59	0.010	mg/L	1	09/24/19	TH	SW6010D
Manganese	0.147	0.001	mg/L	1	09/24/19	TH	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/23/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	9:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14953

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26S-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/25/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.011	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.440	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.057	0.010	mg/L	1	09/25/19	EK	SW6010D
Manganese	0.437	0.001	mg/L	1	09/25/19	EK	SW6010D
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/24/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26S-092319-1

Phoenix I.D.: CE14953

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	57	2.0	ug/L	2	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	29	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	2.3	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	23	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	2.2	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	97		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	97		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	106		%	1	10/01/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (2x)	102		%	2	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (2x)	90		%	2	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (2x)	94		%	2	09/30/19	MH	70 - 130 %	
% Toluene-d8 (2x)	112		%	2	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14954

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE24-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	5500	400	ug/L	400	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	104		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	101		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	100		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	92		%	400	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	101		%	400	09/28/19	MH	70 - 130 %

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14954
Client ID: 19A-AE24-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	1.4	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	94		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

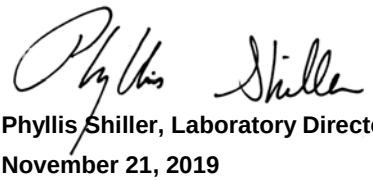
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	9:20
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14955

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.058	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.636	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.243	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.667	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	133	15.0	mg/L	5	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/23/19 23:07	BS/GD	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/23/19 23:07	BS/GD	E300.0
Sulfate	17.5	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	0.17	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/27/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloroethane	22	5.0	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloroethene	3.7	2.5	ug/L	5	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R1-092319-1

Phoenix I.D.: CE14955

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	09/30/19	MH	SW8260C
Acetone	ND	130	ug/L	5	09/30/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	09/30/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	09/30/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	260	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C	
Tetrachloroethene	270	20	ug/L	20	09/27/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/L	5	09/30/19	MH	SW8260C	
Toluene	ND	5.0	ug/L	5	09/30/19	MH	SW8260C	
trans-1,2-Dichloroethene	19	5.0	ug/L	5	09/30/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	09/30/19	MH	SW8260C	
Trichloroethene	500	20	ug/L	20	09/27/19	MH	SW8260C	
Trichlorofluoromethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	5.0	ug/L	5	09/30/19	MH	SW8260C	
Vinyl chloride	ND	2.5	ug/L	5	09/30/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (5x)	92		%	5	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	96		%	5	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	86		%	5	09/30/19	MH	70 - 130 %	
% Toluene-d8 (5x)	117		%	5	09/30/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	102		%	20	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	100		%	20	09/27/19	MH	70 - 130 %	
% Toluene-d8 (20x)	99		%	20	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	09/30/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	09/30/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	76		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	81		%	1	09/24/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	76		%	1	09/24/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	25	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8 (5x)	104		%	5	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/24/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	95		%	1	09/24/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	107		%	1	09/24/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	88		%	1	09/24/19	AW	40 - 140 %
% o-terphenyl (aromatic)	81		%	1	09/24/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	105		%	1	09/24/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/24/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14956

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R2-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloroethane	20	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloroethene	2.4	2.0	ug/L	2	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	10/01/19	MH	SW8260C
Acetone	ND	50	ug/L	2	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	10/01/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	130	5.0	ug/L	5	09/28/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Tetrachloroethene	9.3	2.0	ug/L	2	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	10/01/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	6.6	2.0	ug/L	2	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	10/01/19	MH	SW8260C
Trichloroethene	79	5.0	ug/L	5	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
Vinyl chloride	ND	2.0	ug/L	2	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	98		%	2	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	100		%	2	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	89		%	2	10/01/19	MH	70 - 130 %
% Toluene-d8 (2x)	107		%	2	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (5x)	100		%	5	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	93		%	5	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	100		%	5	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (5x)	99		%	5	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14957

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE26R5-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethane	38	20	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	510	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Tetrachloroethene	1000	100	ug/L	100	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/27/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	37	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Trichloroethene	1900	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	95		%	20	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/27/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	93		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/29/19	MH	70 - 130 %

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14957
Client ID: 19A-AE26R5-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (100x)	100		%	100	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	34	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8 (5x)	97		%	5	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

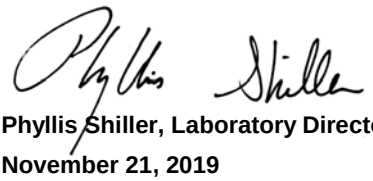
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	13:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14958

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	100	100	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	1900	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	3500	500	ug/L	500	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	250	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	10000	500	ug/L	500	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	380	100	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	96		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	105		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	100		%	500	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	92		%	500	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	99		%	500	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	98		%	500	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14959

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R2-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.823	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	1.87	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.892	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	1.92	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	422	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 04:03	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/23/19 23:17	BS/GD	E300.0
Sulfate	39.4	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	0.30	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/27/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	PS	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	160	100	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	50	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R2-092319-1

Phoenix I.D.: CE14959

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	840	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Tetrachloroethene	17000	1000	ug/L	1000	09/29/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C	
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C	
trans-1,2-Dichloroethene	140	100	ug/L	100	09/27/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C	
Trichloroethene	19000	1000	ug/L	1000	09/29/19	MH	SW8260C	
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C	
Vinyl chloride	99	50	ug/L	100	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (100x)	98		%	100	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (100x)	95		%	100	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (100x)	101		%	100	09/27/19	MH	70 - 130 %	
% Toluene-d8 (100x)	99		%	100	09/27/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (1000x)	101		%	1000	09/29/19	MH	70 - 130 %	
% Bromofluorobenzene (1000x)	90		%	1000	09/29/19	MH	70 - 130 %	
% Dibromofluoromethane (1000x)	96		%	1000	09/29/19	MH	70 - 130 %	
% Toluene-d8 (1000x)	96		%	1000	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	0.87	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	75		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	83		%	1	09/24/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	77		%	1	09/24/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	60	1.0	ug/l	5	10/01/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8 (5x)	92		%	5	10/01/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	41		%	1	09/26/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	67		%	1	09/26/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	72		%	1	09/26/19	AW	40 - 140 %
% o-terphenyl (aromatic)	52		%	1	09/26/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	PS	MA VPH 5/2004
Benzene	ND	5	ug/L	1	09/26/19	PS	MA VPH 5/2004
Ethyl Benzene	ND	5	ug/L	1	09/26/19	PS	MA VPH 5/2004
MTBE	ND	5	ug/L	1	09/26/19	PS	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	PS	MA VPH 5/2004
Toluene	ND	10	ug/L	1	09/26/19	PS	MA VPH 5/2004
m,p-Xylenes	ND	10	ug/L	1	09/26/19	PS	MA VPH 5/2004
o-Xylene	ND	5	ug/L	1	09/26/19	PS	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	09/26/19	PS	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/26/19	PS	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

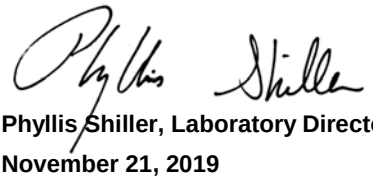
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14960

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/29/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/29/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/29/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	730	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/29/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Tetrachloroethene	3600	500	ug/L	500	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/29/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	120	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Trichloroethene	5100	500	ug/L	500	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	101		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	90		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	102		%	100	09/29/19	MH	70 - 130 %
% Toluene-d8 (100x)	99		%	100	09/29/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	92		%	500	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	93		%	500	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	88		%	500	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	96		%	500	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	46	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8 (5x)	96		%	5	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14961

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE28R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethane	72	70	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	56	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	60	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
2-Hexanone	ND	50	ug/L	100	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/29/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromobenzene	ND	62	ug/L	100	09/29/19	MH	SW8260C
Bromochloromethane	ND	83	ug/L	100	09/29/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/29/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	540	100	ug/L	100	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	100	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	200	ug/L	100	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/29/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/29/19	MH	SW8260C
Tetrachloroethene	7000	500	ug/L	500	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/29/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/29/19	MH	SW8260C
Trichloroethene	7300	500	ug/L	500	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/29/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	100		%	100	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	91		%	100	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	96		%	100	09/29/19	MH	70 - 130 %
% Toluene-d8 (100x)	100		%	100	09/29/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (500x)	94		%	500	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (500x)	97		%	500	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (500x)	95		%	500	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (500x)	97		%	500	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/29/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	11:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14952
Phoenix ID: CE14962

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE23R-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1,1-Trichloroethane	1200	1000	ug/L	1000	09/29/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1,2-Trichloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloroethane	800	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloroethene	580	500	ug/L	1000	09/29/19	MH	SW8260C
1,1-Dichloropropene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,3-Trichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dibromoethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichlorobenzene	ND	600	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichloroethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,2-Dichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3-Dichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,3-Dichloropropane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
1,4-Dichlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
2,2-Dichloropropane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
2-Chlorotoluene	ND	500	ug/L	1000	09/29/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	500	ug/L	1000	09/29/19	MH	SW8260C
4-Chlorotoluene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
4-Methyl-2-pentanone	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Acetone	ND	6300	ug/L	1000	09/29/19	MH	SW8260C
Benzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromochloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromodichloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromoform	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Bromomethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Carbon Disulfide	ND	810	ug/L	1000	09/29/19	MH	SW8260C
Carbon tetrachloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chlorobenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chloroethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Chloroform	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Chloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dibromochloromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dibromomethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Dichlorodifluoromethane	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Ethylbenzene	ND	700	ug/L	1000	09/29/19	MH	SW8260C
Hexachlorobutadiene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Isopropylbenzene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
m&p-Xylene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Methyl ethyl ketone	ND	2000	ug/L	1000	09/29/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Methylene chloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Naphthalene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
n-Butylbenzene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
n-Propylbenzene	ND	660	ug/L	1000	09/29/19	MH	SW8260C
o-Xylene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
p-Isopropyltoluene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
sec-Butylbenzene	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Styrene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
tert-Butylbenzene	ND	690	ug/L	1000	09/29/19	MH	SW8260C
Tetrachloroethene	100000	10000	ug/L	10000	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2500	ug/L	1000	09/29/19	MH	SW8260C
Toluene	4200	1000	ug/L	1000	09/29/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	500	ug/L	1000	09/29/19	MH	SW8260C
Trichloroethene	240000	10000	ug/L	10000	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1000	ug/L	1000	09/29/19	MH	SW8260C
Vinyl chloride	ND	500	ug/L	1000	09/29/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (1000x)	101		%	1000	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (1000x)	89		%	1000	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (1000x)	92		%	1000	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (1000x)	100		%	1000	09/29/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (10000x)	94		%	10000	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (10000x)	95		%	10000	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (10000x)	93		%	10000	09/30/19	MH	70 - 130 %	
% Toluene-d8 (10000x)	101		%	10000	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40000	ug/l	1000	09/29/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1000	ug/L	1000	09/29/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Naphthalene	1.1	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	70		%	1	09/26/19	WB	40 - 140 %	
% Nitrobenzene-d5	84		%	1	09/26/19	WB	40 - 140 %	
% Terphenyl-d14	65		%	1	09/26/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	15	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	64		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/25/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14962
Client ID: 19A-AE23R-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	85		%	1	09/25/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	89		%	1	09/25/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	100		%	1	09/25/19	AW	40 - 140 %
% o-terphenyl (aromatic)	83		%	1	09/25/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	4000	10000	ug/L	100	09/30/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	200	ug/L	1	09/26/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/30/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Toluene	4000	100	ug/L	100	09/30/19	RM	MA VPH 5/2004
m,p-Xylenes	33	2.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
o-Xylene	12	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	95		%	1	09/26/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	90		%	1	09/26/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

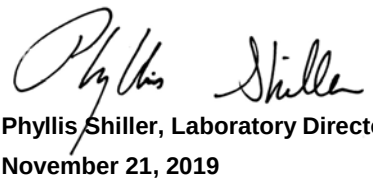
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	10:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16341

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	1.28	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	0.974	0.001	mg/L	1	09/28/19	CPP	SW6010D
Iron	1.21	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.886	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	424	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 20:18	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/25/19 01:21	BS/EG	E300.0
Sulfate	46.3	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/26/19	EG	SM5310B-11
EPH Extraction	Completed				09/26/19	SB/JS/D/AI	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/24/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/24/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	56	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	13	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16341

Client ID: 19A-AE29R6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	320	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Tetrachloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C	
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
trans-1,2-Dichloroethene	19	5.0	ug/L	5	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C	
Trichloroethene	85	5.0	ug/L	5	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C	
Vinyl chloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (5x)	100		%	5	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	95		%	5	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	100		%	5	10/01/19	MH	70 - 130 %	
% Toluene-d8 (5x)	96		%	5	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	500	ug/l	5	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	55		%	1	09/26/19	WB	40 - 140 %	
% Nitrobenzene-d5	47		%	1	09/26/19	WB	40 - 140 %	
% Terphenyl-d14	67		%	1	09/26/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	50	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1,4-dioxane-d8	87		%	1	09/26/19	KCA	30 - 130 %
% 1,4-dioxane-d8 (5x)	88		%	5	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	78		%	1	09/27/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	94		%	1	09/27/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	94		%	1	09/27/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	09/27/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	09/26/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	105		%	1	09/26/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon, Nitrite Analysis comment:
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

Nitrite Analysis comment:
Due to interference from a large amount of chloride in the sample, a dilution was required causing the reporting level to be elevated.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	11:50
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16342

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16342
Client ID: 19A-AE108R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	7.6	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	35	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	92		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	101		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	111		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Ver 3

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R3-092419-1

Phoenix I.D.: CE16342

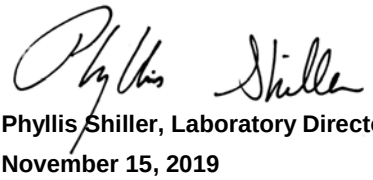
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	11:45
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16343

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	24	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	54	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	95		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	100		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	117		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R5-092419-1

Phoenix I.D.: CE16343

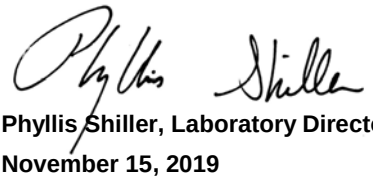
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16345

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R1-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16345
Client ID: 19A-AE29R1-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	MH	SW8260C
Trichloroethene	2.4	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/30/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/30/19	MH	70 - 130 %
% Dibromofluoromethane	106		%	1	09/30/19	MH	70 - 130 %
% Toluene-d8	97		%	1	09/30/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	100	ug/l	1	09/30/19	MH	SW8260C	7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE29R1-092419-1

Phoenix I.D.: CE16345

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16346

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR4-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloroethane	13	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/03/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/03/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/03/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/03/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/03/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16346
Client ID: 19A-AE102RR4-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/03/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/03/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/03/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
cis-1,2-Dichloroethene	83	5.0	ug/L	5	10/03/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/03/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Tetrachloroethene	340	20	ug/L	20	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/03/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
Trichloroethene	550	20	ug/L	20	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/03/19	MH	SW8260C
Vinyl chloride	ND	2.5	ug/L	5	10/03/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	95		%	5	10/03/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	96		%	5	10/03/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	95		%	5	10/03/19	MH	70 - 130 %
% Toluene-d8 (5x)	117		%	5	10/03/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	102		%	20	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	97		%	20	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/03/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/03/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/03/19			
1,4-dioxane								
1,4-dioxane	6.0	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	88		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16347

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR6-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	0.005	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	0.645	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	0.636	0.001	mg/L	1	09/28/19	CPP	SW6010D
Iron	0.594	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	0.595	0.001	mg/L	1	09/26/19	EK	SW6010D
Chloride	163	15.0	mg/L	5	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/25/19 01:32	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/25/19 01:32	BS/EG	E300.0
Sulfate	26.6	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/26/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/26/19	SB/JS/D/AI	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/24/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/24/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/26/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethane	80	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethene	23	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/01/19	MH	SW8260C
Benzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	240	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
tert-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Tetrachloroethene	3200	100	ug/L	100	09/28/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/01/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Trichloroethene	4300	100	ug/L	100	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	108		%	20	10/01/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	103		%	100	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	99		%	100	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	106		%	100	09/28/19	MH	70 - 130 %
% Toluene-d8 (100x)	97		%	100	09/28/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	2000	ug/l	20	10/01/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	09/26/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/26/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Fluorene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/26/19	WB	SW8270D (SIM)
Naphthalene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.47	ug/L	1	09/26/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	09/26/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	66		%	1	09/26/19	WB	40 - 140 %
% Nitrobenzene-d5	60		%	1	09/26/19	WB	40 - 140 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	71		%	1	09/26/19	WB	40 - 140 %
1,4-dioxane							
1,4-dioxane	26	1.0	ug/l	5	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	92		%	1	09/26/19	KCA	30 - 130 %
% 1,4-dioxane-d8 (5x)	84		%	5	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	10/01/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/27/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	45		%	1	10/01/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	90		%	1	09/27/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	91		%	1	09/27/19	AW	40 - 140 %
% o-terphenyl (aromatic)	70		%	1	09/27/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/26/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/26/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	111		%	1	09/26/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/26/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

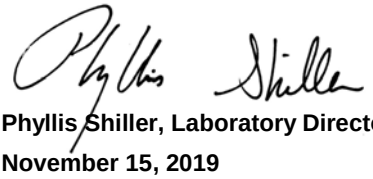
Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon
8260 Identified compounds were deleted from the C5-C8 Aliphatic Range.

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 15, 2019

Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16348

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R1-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/26/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	5.30	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	2.45	0.011	mg/L	10	10/01/19	CPP	SW6010D
Iron	6.88	0.010	mg/L	1	09/26/19	EK	SW6010D
Manganese	2.91	0.010	mg/L	10	09/26/19	EK	SW6010D
Chloride	1330	75.0	mg/L	25	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/25/19 01:42	BS/EG	E300.0
Nitrate as Nitrogen	0.06	0.05	mg/L	1	09/25/19 01:42	BS/EG	E300.0
Sulfate	11.2	3.0	mg/L	1	09/25/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Total Organic Carbon	4.6	1.0	mg/L	1	09/26/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/25/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	1.3	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE108R1-092419-1

Phoenix I.D.: CE16348

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	24	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	3.1	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	1.0	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	4.9	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	97		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	98		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	94		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/01/19			

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	13:55
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16349

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR2-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethane	11	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	3.5	ug/L	5	10/01/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/01/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	130	5.0	ug/L	5	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrachloroethene	130	5.0	ug/L	5	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/01/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/01/19	MH	SW8260C
Trichloroethene	400	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/01/19	MH	SW8260C
Vinyl chloride	5.8	5.0	ug/L	5	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (5x)	98		%	5	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (5x)	97		%	5	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (5x)	107		%	5	10/01/19	MH	70 - 130 %
% Toluene-d8 (5x)	98		%	5	10/01/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	500	ug/l	5	10/01/19	MH	SW8260C

7

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16349
Client ID: 19A-AE102RR2-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	5.0	ug/L	5	10/01/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	6.0	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/26/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S	

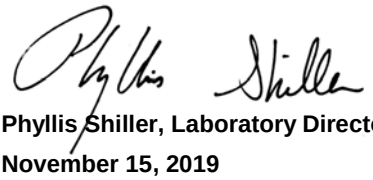
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 15, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	14:00
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/24/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE16341
Phoenix ID: CE16350

Project ID: LOCKHEED - WILMINGTON MA 60552044.13
Client ID: 19A-AE102RR5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethane	47	20	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloroethene	11	10	ug/L	20	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILMINGTON MA 60552044.13 Phoenix I.D.: CE16350

Client ID: 19A-AE102RR5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/01/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/01/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	180	20	ug/L	20	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/01/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/01/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/01/19	MH	SW8260C
Tetrachloroethene	1200	20	ug/L	20	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/01/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/01/19	MH	SW8260C
Trichloroethene	2100	100	ug/L	100	09/28/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/01/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/01/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	97		%	20	10/01/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	106		%	20	10/01/19	MH	70 - 130 %
% Toluene-d8 (20x)	98		%	20	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (100x)	102		%	100	09/28/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	98		%	100	09/28/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	108		%	100	09/28/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (100x)	96		%	100	09/28/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	20	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 15, 2019
Reviewed and Released by: Phyllis Shiller, Laboratory Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:35
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14947

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/24/19	SB/JS/VT	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/23/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/23/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/24/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14947

Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/27/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/27/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	16	1.0	ug/L	1	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/27/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Ethylbenzene	4.7	1.0	ug/L	1	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Isopropylbenzene	4.3	1.0	ug/L	1	09/27/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Naphthalene	2.0	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Butylbenzene	1.2	1.0	ug/L	1	09/27/19	MH	SW8260C
n-Propylbenzene	13	1.0	ug/L	1	09/27/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
sec-Butylbenzene	2.2	1.0	ug/L	1	09/27/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
tert-Butylbenzene	6.7	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrachloroethene	3.6	1.0	ug/L	1	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/27/19	MH	SW8260C
Toluene	1.4	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/27/19	MH	SW8260C
Trichloroethene	13	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/27/19	MH	SW8260C
Vinyl chloride	4.8	1.0	ug/L	1	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	09/27/19	MH	70 - 130 %
% Bromofluorobenzene	108		%	1	09/27/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	09/27/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	99		%	1	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/27/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.20	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Fluorene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Naphthalene	1.7	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.49	ug/L	1	09/24/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/24/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	77		%	1	09/24/19	WB	40 - 140 %	
% Nitrobenzene-d5	91		%	1	09/24/19	WB	40 - 140 %	
% Terphenyl-d14	73		%	1	09/24/19	WB	40 - 140 %	
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/26/19	AW	MAEPH 5/2004	
QA/QC Surrogates								
% 1-chlorooctadecane (aliphatic)	43		%	1	09/26/19	AW	40 - 140 %	
% 2-Bromonaphthalene (Fractionation)	68		%	1	09/26/19	AW	40 - 140 %	
% 2-Fluorobiphenyl (Fractionation)	73		%	1	09/26/19	AW	40 - 140 %	
% o-terphenyl (aromatic)	56		%	1	09/26/19	AW	40 - 140 %	
MA Volatile Petroleum Hydrocarbons (VPH)								
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	
Unadjusted C9-C12 Aliphatics (*1)	200	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004	

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14947

Client ID: 19A-AE100R1-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	100	100	ug/L	1	09/24/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Ethyl Benzene	4.4	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
Toluene	1.3	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/24/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	09/24/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	09/24/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

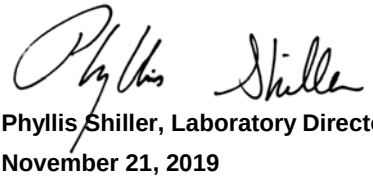
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director

November 21, 2019

Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14948

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	73	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	500	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14948

Client ID: 19A-AE100R3-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	61	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	500	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	5700	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	7300	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	97		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	102		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	99		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	95		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	98		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	101		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	97		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	13	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	93		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14949

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	70	ug/L	100	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
2-Hexanone	ND	500	ug/L	100	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	350	ug/L	100	09/27/19	MH	SW8260C
Acetone	ND	2500	ug/L	100	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14949

Client ID: 19A-AE100R4-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromochloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Bromodichloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromoform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Bromomethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Carbon Disulfide	ND	500	ug/L	100	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chlorobenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	100	09/27/19	MH	SW8260C
Chloromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	89	50	ug/L	100	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromochloromethane	ND	50	ug/L	100	09/27/19	MH	SW8260C
Dibromomethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Ethylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Isopropylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
m&p-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	500	ug/L	100	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	70	ug/L	100	09/27/19	MH	SW8260C
Methylene chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
Naphthalene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
n-Propylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
o-Xylene	ND	100	ug/L	100	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Styrene	ND	100	ug/L	100	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	100	ug/L	100	09/27/19	MH	SW8260C
Tetrachloroethene	4000	400	ug/L	400	09/26/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	250	ug/L	100	09/27/19	MH	SW8260C
Toluene	ND	100	ug/L	100	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	80	ug/L	100	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	50	ug/L	100	09/27/19	MH	SW8260C
Trichloroethene	5400	400	ug/L	400	09/26/19	MH	SW8260C
Trichlorofluoromethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	100	ug/L	100	09/27/19	MH	SW8260C
Vinyl chloride	ND	50	ug/L	100	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (100x)	108		%	100	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (100x)	100		%	100	09/27/19	MH	70 - 130 %
% Toluene-d8 (100x)	98		%	100	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	98		%	400	09/26/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	102		%	400	09/26/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	104		%	400	09/26/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/26/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	4000	ug/l	100	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	100	ug/L	100	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	13	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	96		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

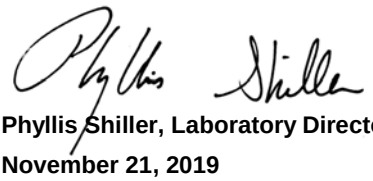
7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14950

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R5-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/25/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/25/19	TH	SW6010D
Iron (Dissolved)	0.076	0.011	mg/L	1	09/25/19	TH	SW6010D
Manganese (Dissolved)	0.675	0.001	mg/L	1	09/25/19	TH	SW6010D
Iron	0.076	0.010	mg/L	1	09/25/19	EK	SW6010D
Manganese	0.642	0.001	mg/L	1	09/25/19	EK	SW6010D
Chloride	368	30.0	mg/L	10	09/25/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/25/19 03:53	BS/EG	E300.0
Nitrate as Nitrogen	0.68	0.05	mg/L	1	09/23/19 22:56	BS/GD	E300.0
Sulfate	31.0	3.0	mg/L	1	09/23/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/25/19	GD	SM4500S-D-11
Dissolved Metals Preparation	Completed				09/23/19	AG	SW3005A
Total Metals Digestion	Completed				09/24/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	25	ug/L	50	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R5-092319-1

Phoenix I.D.: CE14950

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	25	ug/L	50	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	40	ug/L	50	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	25	ug/L	50	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	50	ug/L	50	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
2-Hexanone	ND	250	ug/L	50	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	250	ug/L	50	09/27/19	MH	SW8260C
Acetone	ND	1300	ug/L	50	09/27/19	MH	SW8260C
Benzene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Bromochloromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Bromodichloromethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromoform	ND	25	ug/L	50	09/27/19	MH	SW8260C
Bromomethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Carbon Disulfide	ND	250	ug/L	50	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	25	ug/L	50	09/27/19	MH	SW8260C
Chlorobenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloroform	ND	50	ug/L	50	09/27/19	MH	SW8260C
Chloromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	160	50	ug/L	50	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Dibromochloromethane	ND	25	ug/L	50	09/27/19	MH	SW8260C
Dibromomethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C
Ethylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	25	ug/L	50	09/27/19	MH	SW8260C
Isopropylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
m&p-Xylene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	250	ug/L	50	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	50	ug/L	50	09/27/19	MH	SW8260C
Methylene chloride	ND	25	ug/L	50	09/27/19	MH	SW8260C
Naphthalene	ND	50	ug/L	50	09/27/19	MH	SW8260C
n-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
n-Propylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
o-Xylene	ND	50	ug/L	50	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Styrene	ND	50	ug/L	50	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	50	ug/L	50	09/27/19	MH	SW8260C
Tetrachloroethene	1400	50	ug/L	50	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	130	ug/L	50	09/27/19	MH	SW8260C
Toluene	ND	50	ug/L	50	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	50	ug/L	50	09/27/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,3-Dichloropropene	ND	25	ug/L	50	09/27/19	MH	SW8260C	
Trichloroethene	2300	400	ug/L	400	09/27/19	MH	SW8260C	
Trichlorofluoromethane	ND	50	ug/L	50	09/27/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	50	ug/L	50	09/27/19	MH	SW8260C	
Vinyl chloride	ND	25	ug/L	50	09/27/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (50x)	99		%	50	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (50x)	101		%	50	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (50x)	113		%	50	09/27/19	MH	70 - 130 %	
% Toluene-d8 (50x)	98		%	50	09/27/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
% Bromofluorobenzene (400x)	99		%	400	09/27/19	MH	70 - 130 %	
% Dibromofluoromethane (400x)	107		%	400	09/27/19	MH	70 - 130 %	
% Toluene-d8 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	2000	ug/l	50	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	50	ug/L	50	09/27/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/23/19	12:50
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/23/19	15:52
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE14947
Phoenix ID: CE14951

Project ID: LOCKHEED- WILMINGTON MA 60552044.13
Client ID: 19A-AE100R6-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethane	32	20	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/27/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/27/19	MH	SW8260C

Project ID: LOCKHEED- WILMINGTON MA 60552044.13 Phoenix I.D.: CE14951

Client ID: 19A-AE100R6-092319-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/27/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/27/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/27/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,2-Dichloroethene	110	20	ug/L	20	09/27/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/27/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	09/27/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/27/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/27/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/27/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/27/19	MH	SW8260C
Tetrachloroethene	1200	400	ug/L	400	09/27/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/27/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/27/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/27/19	MH	SW8260C
Trichloroethene	1600	400	ug/L	400	09/27/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/27/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	09/27/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	103		%	20	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	104		%	20	09/27/19	MH	70 - 130 %
% Toluene-d8 (20x)	95		%	20	09/27/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	96		%	400	09/27/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	103		%	400	09/27/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	110		%	400	09/27/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	99		%	400	09/27/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/27/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/27/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	12	0.20	ug/l	1	09/26/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	90		%	1	09/26/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/25/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	14:20
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17363

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE29R3-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	6.3	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	1.7	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	36	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	21	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	104		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	89		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	101		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	113		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/24/19	15:10
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17364

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE29R5-092419-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	34	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	7.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	190	20	ug/L	20	09/29/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	5.8	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	41	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	91		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	96		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	114		%	1	09/30/19	HM	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/29/19	HM	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	HM	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	09/29/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	96		%	20	09/29/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:20
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17365

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102M-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.009	0.004	mg/L	1	10/01/19	CPP	SW6010D
Arsenic (Dissolved)	0.008	0.004	mg/L	1	10/01/19	CPP	SW6010D
Iron (Dissolved)	1.81	0.011	mg/L	1	09/28/19	CPP	SW6010D
Manganese (Dissolved)	10.8	0.011	mg/L	10	10/01/19	CPP	SW6010D
Iron	1.87	0.010	mg/L	1	09/28/19	CPP	SW6010D
Manganese	11.1	0.010	mg/L	10	10/01/19	CPP	SW6010D
Chloride	530	30.0	mg/L	10	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/26/19 20:27	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/26/19 02:29	BS/EG	E300.0
Sulfate	7.6	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/26/19	GD	SM4500S-D-11
Total Organic Carbon	1.6	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/25/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.4	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17365

Client ID: 19A-AE102M-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	43	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	2.8	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	8.8	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	1.2	1.0	ug/L	1	09/30/19	HM	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C	
Trichloroethene	23	1.0	ug/L	1	09/30/19	HM	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C	
Vinyl chloride	14	1.0	ug/L	1	09/30/19	HM	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	99		%	1	09/30/19	HM	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/30/19	HM	70 - 130 %	
% Dibromofluoromethane	95		%	1	09/30/19	HM	70 - 130 %	
% Toluene-d8	110		%	1	09/30/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.76	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	81		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17366

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102M-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Chloride	532	30.0	mg/L	10	09/26/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.040	0.040	mg/L	10	09/26/19 20:37	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/26/19 02:39	BS/EG	E300.0
Sulfate	7.5	3.0	mg/L	1	09/26/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/26/19	GD	SM4500S-D-11
Total Organic Carbon	1.6	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	2.5	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	45	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	3.0	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	10	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	24	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	15	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	101		%	1	09/30/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Bromofluorobenzene	96		%	1	09/30/19	HM	70 - 130 %	
% Dibromofluoromethane	99		%	1	09/30/19	HM	70 - 130 %	
% Toluene-d8	114		%	1	09/30/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	0.78	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	12:55
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17367

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE102D-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	6.0	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17367
Client ID: 19A-AE102D-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	4.6	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	1.9	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	2.7	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	93		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	106		%	1	09/30/19	HM	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C 7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	5.4	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	84		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17368

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethane	1.7	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/30/19	HM	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Acetone	ND	25	ug/L	1	09/30/19	HM	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17368

Client ID: 19A-AE101R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/30/19	HM	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Bromoform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloroform	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,2-Dichloroethene	30	1.0	ug/L	1	09/30/19	HM	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/30/19	HM	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/30/19	HM	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Styrene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
tert-Butylbenzene	1.1	1.0	ug/L	1	09/30/19	HM	SW8260C
Tetrachloroethene	160	20	ug/L	20	09/29/19	HM	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/30/19	HM	SW8260C
Toluene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/30/19	HM	SW8260C
Trichloroethene	50	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/30/19	HM	SW8260C
Vinyl chloride	6.4	1.0	ug/L	1	09/30/19	HM	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	09/30/19	HM	70 - 130 %
% Bromofluorobenzene	94		%	1	09/30/19	HM	70 - 130 %
% Dibromofluoromethane	98		%	1	09/30/19	HM	70 - 130 %
% Toluene-d8	115		%	1	09/30/19	HM	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/29/19	HM	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	HM	70 - 130 %
% Dibromofluoromethane (20x)	100		%	20	09/29/19	HM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/29/19	HM	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	10	ug/l	1	09/30/19	HM	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/30/19	HM	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	9:30
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17369

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R1-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1,1-Trichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,1,2-Trichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloroethene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,1-Dichloropropene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dibromoethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichloroethane	ND	1.2	ug/L	2	10/02/19	MH	SW8260C
1,2-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,3-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
1,4-Dichlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2,2-Dichloropropane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2-Chlorotoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
2-Hexanone	ND	10	ug/L	2	10/02/19	MH	SW8260C
4-Chlorotoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
4-Methyl-2-pentanone	ND	10	ug/L	2	10/02/19	MH	SW8260C
Acetone	ND	50	ug/L	2	10/02/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17369

Client ID: 19A-AE101R1-092519-2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	1.4	ug/L	2	10/02/19	MH	SW8260C
Bromobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromochloromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromodichloromethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Bromoform	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Bromomethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Carbon Disulfide	ND	10	ug/L	2	10/02/19	MH	SW8260C
Carbon tetrachloride	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chlorobenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloroform	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Chloromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
cis-1,2-Dichloroethene	27	2.0	ug/L	2	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Dibromochloromethane	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Dibromomethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Dichlorodifluoromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Ethylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Hexachlorobutadiene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Isopropylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
m&p-Xylene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Methyl ethyl ketone	ND	10	ug/L	2	10/02/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Methylene chloride	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Naphthalene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
n-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
n-Propylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
o-Xylene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
p-Isopropyltoluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
sec-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Styrene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
tert-Butylbenzene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Tetrachloroethene	170	20	ug/L	20	09/29/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	5.0	ug/L	2	10/02/19	MH	SW8260C
Toluene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	1.0	ug/L	2	10/02/19	MH	SW8260C
Trichloroethene	39	2.0	ug/L	2	10/02/19	MH	SW8260C
Trichlorofluoromethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Trichlorotrifluoroethane	ND	2.0	ug/L	2	10/02/19	MH	SW8260C
Vinyl chloride	5.5	2.0	ug/L	2	10/02/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (2x)	103		%	2	10/02/19	MH	70 - 130 %
% Bromofluorobenzene (2x)	101		%	2	10/02/19	MH	70 - 130 %
% Dibromofluoromethane (2x)	99		%	2	10/02/19	MH	70 - 130 %
% Toluene-d8 (2x)	98		%	2	10/02/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	90		%	20	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	97		%	20	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	80	ug/l	2	10/02/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	2.0	ug/L	2	10/02/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	10:05
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17370

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R2-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	5.8	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17370

Client ID: 19A-AE101R2-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	34	20	ug/L	20	09/29/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	19	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	44	20	ug/L	20	09/29/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	5.8	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	98		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	92		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	101		%	1	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/29/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	93		%	20	09/29/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	93		%	20	09/29/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	09/29/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	5.2	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	87		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	10:55
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/25/19	16:05
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE17362
Phoenix ID: CE17371

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	4.0	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17371

Client ID: 19A-AE101R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	6.9	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	18	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	4.9	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	102		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	97		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C

7

Ver 2

Project ID: LOCKHEAD-WILMINGTON MA 60552044.13 Phoenix I.D.: CE17371
Client ID: 19A-AE101R3-092519-1

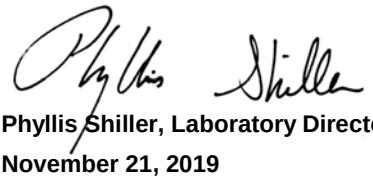
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Client MS/MSD	Completed				10/01/19		
1,4-dioxane							
1,4-dioxane	3.5	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	87		%	1	09/27/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:40
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18818

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE101R5-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethane	51	20	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethene	14	10	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,3-Trichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	09/30/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	09/30/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	09/30/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
2-Hexanone	ND	100	ug/L	20	09/30/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	09/30/19	MH	SW8260C
Acetone	ND	500	ug/L	20	09/30/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	09/30/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	09/30/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	09/30/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	09/30/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
cis-1,2-Dichloroethene	1200	200	ug/L	200	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	09/30/19	MH	SW8260C
Dibromomethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Methyl ethyl ketone	ND	100	ug/L	20	09/30/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	09/30/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	09/30/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	09/30/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	09/30/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Styrene	ND	20	ug/L	20	09/30/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	09/30/19	MH	SW8260C
Tetrachloroethene	730	200	ug/L	200	10/02/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	09/30/19	MH	SW8260C
Toluene	ND	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	09/30/19	MH	SW8260C
Trichloroethene	2800	200	ug/L	200	10/02/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	09/30/19	MH	SW8260C
Vinyl chloride	14	10	ug/L	20	09/30/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	97		%	20	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	96		%	20	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	98		%	20	09/30/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	09/30/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	101		%	200	10/02/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	101		%	200	10/02/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	100		%	200	10/02/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	97		%	200	10/02/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	09/30/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	09/30/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	16	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	79		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:35
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18823

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TRC201R-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	77	20	ug/L	20	09/30/19	MH	SW8260C
1,1-Dichloroethene	20	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-TRC201R-092519-1

Phoenix I.D.: CE18823

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	170	20	ug/L	20	09/30/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	28	20	ug/L	20	09/30/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	50	20	ug/L	20	09/30/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	2.1	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	101		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	102		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	102		%	20	09/30/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	09/30/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	105		%	20	09/30/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	55	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	9:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18825

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA12-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	10/02/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/27/19	CPP	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/27/19	CPP	SW6010D
Manganese (Dissolved)	1.34	0.001	mg/L	1	09/27/19	CPP	SW6010D
Iron	0.056	0.010	mg/L	1	10/02/19	EK	SW6010D
Manganese	1.32	0.001	mg/L	1	10/02/19	EK	SW6010D
Chloride	1140	75.0	mg/L	25	09/28/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/28/19 01:58	BS/EG	E300.0
Nitrate as Nitrogen	9.29	0.25	mg/L	5	09/28/19 01:58	BS/EG	E300.0
Sulfate	36.8	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Total Organic Carbon	1.4	1.0	mg/L	1	09/28/19	EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA12-092619-1

Phoenix I.D.: CE18825

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C	
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	104		%	1	10/01/19	MH	70 - 130 %	
% Bromofluorobenzene	99		%	1	10/01/19	MH	70 - 130 %	
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %	
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	09/27/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	85		%	1	09/27/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/26/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/26/19	11:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18827

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA101R-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	10/03/19	EK	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	17.2	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	8.20	0.011	mg/L	10	10/02/19	TH	SW6010D
Iron	19.6	0.010	mg/L	1	10/03/19	EK	SW6010D
Manganese	8.02	0.010	mg/L	10	10/04/19	EK	SW6010D
Chloride	1370	75.0	mg/L	25	09/28/19	BS/EG	E300.0
Nitrite as Nitrogen	< 0.100	0.100	mg/L	25	09/28/19 02:18	BS/EG	E300.0
Nitrate as Nitrogen	< 0.05	0.05	mg/L	1	09/27/19 09:21	BS/EG	E300.0
Sulfate	52.8	3.0	mg/L	1	09/27/19	BS/EG	E300.0
Sulfide	< 0.05	0.05	mg/L	1	10/01/19	GD	SM4500S-D-11
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1,1-Trichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
1,1,2-Trichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,1-Dichloropropene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,3-Trichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dibromoethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA101R-092619-1

Phoenix I.D.: CE18827

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dichloroethane	ND	3.0	ug/L	5	10/02/19	MH	SW8260C
1,2-Dichloropropane	ND	3.0	ug/L	5	10/02/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,3-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,3-Dichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
1,4-Dichlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2,2-Dichloropropane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2-Chlorotoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
2-Hexanone	ND	25	ug/L	5	10/02/19	MH	SW8260C
4-Chlorotoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
4-Methyl-2-pentanone	ND	25	ug/L	5	10/02/19	MH	SW8260C
Acetone	ND	130	ug/L	5	10/02/19	MH	SW8260C
Benzene	ND	3.5	ug/L	5	10/02/19	MH	SW8260C
Bromobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Bromochloromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Bromodichloromethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Bromoform	ND	4.0	ug/L	5	10/02/19	MH	SW8260C
Bromomethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Carbon Disulfide	ND	25	ug/L	5	10/02/19	MH	SW8260C
Carbon tetrachloride	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Chlorobenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloroform	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Chloromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Dibromochloromethane	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Dibromomethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Dichlorodifluoromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Ethylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Hexachlorobutadiene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C
Isopropylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
m&p-Xylene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Methyl ethyl ketone	ND	25	ug/L	5	10/02/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Methylene chloride	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Naphthalene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
n-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
n-Propylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
o-Xylene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
p-Isopropyltoluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
sec-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Styrene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
tert-Butylbenzene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
Tetrachloroethene	300	20	ug/L	20	09/30/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	13	ug/L	5	10/02/19	MH	SW8260C
Toluene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	5.0	ug/L	5	10/02/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,3-Dichloropropene	ND	2.5	ug/L	5	10/02/19	MH	SW8260C	
Trichloroethene	120	5.0	ug/L	5	10/02/19	MH	SW8260C	
Trichlorofluoromethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	5.0	ug/L	5	10/02/19	MH	SW8260C	
Vinyl chloride	ND	2.5	ug/L	5	10/02/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4 (5x)	99		%	5	10/02/19	MH	70 - 130 %	
% Bromofluorobenzene (5x)	101		%	5	10/02/19	MH	70 - 130 %	
% Dibromofluoromethane (5x)	101		%	5	10/02/19	MH	70 - 130 %	
% Toluene-d8 (5x)	100		%	5	10/02/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/30/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	99		%	20	09/30/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	101		%	20	09/30/19	MH	70 - 130 %	
% Toluene-d8 (20x)	98		%	20	09/30/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	200	ug/l	5	10/02/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	5.0	ug/L	5	10/02/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/21/19	14:05
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18831

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-GZA10-092619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	0.130	0.004	mg/L	1	10/03/19	EK	SW6010D
Arsenic (Dissolved)	0.138	0.004	mg/L	1	09/27/19	TH	SW6010D
Iron (Dissolved)	6.82	0.011	mg/L	1	09/27/19	TH	SW6010D
Manganese (Dissolved)	1.17	0.001	mg/L	1	09/27/19	TH	SW6010D
Iron	7.00	0.010	mg/L	1	10/03/19	EK	SW6010D
Manganese	1.13	0.001	mg/L	1	10/03/19	EK	SW6010D
Dissolved Metals Preparation	Completed				09/26/19	AG	SW3005A
Total Metals Digestion	Completed				09/27/19	AG	

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:40
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23304

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101R6-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloroethane	42	20	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloroethene	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/04/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/04/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/04/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	10/04/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/04/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/04/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/04/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/04/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/04/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/04/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
cis-1,2-Dichloroethene	1500	200	ug/L	200	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	10/04/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	10/04/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/04/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/04/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/04/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/04/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/04/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/04/19	MH	SW8260C
Tetrachloroethene	17	10	ug/L	20	10/04/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/04/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/04/19	MH	SW8260C
trans-1,2-Dichloroethene	25	20	ug/L	20	10/04/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/04/19	MH	SW8260C
Trichloroethene	1300	200	ug/L	200	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/04/19	MH	SW8260C
Vinyl chloride	250	20	ug/L	20	10/04/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	103		%	20	10/04/19	MH	70 - 130 %
% Toluene-d8 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (200x)	102		%	200	10/07/19	MH	70 - 130 %
% Bromofluorobenzene (200x)	102		%	200	10/07/19	MH	70 - 130 %
% Dibromofluoromethane (200x)	104		%	200	10/07/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (200x)	99		%	200	10/07/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	10/04/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/04/19	MH	SW8260C (OXY)	
1,4-dioxane								
1,4-dioxane	11	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	96		%	1	10/03/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	10:15
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23305

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23305

Client ID: 19A-AE101D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	1.5	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	32	20	ug/L	20	10/04/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	1.2	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	3.8	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	1.6	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/07/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	99		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	102		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	96		%	20	10/04/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	100		%	20	10/04/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)	
Client MS/MSD	Completed				10/07/19			
1,4-dioxane								
1,4-dioxane	ND	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	90		%	1	10/03/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S		

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	10:55
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23306

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE101S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	19	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	1.3	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	102		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C

7

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23306
Client ID: 19A-AE101S-093019-1

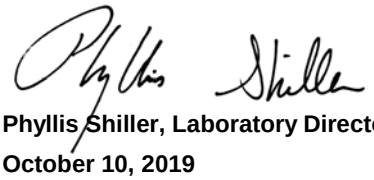
Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
1,4-dioxane							
1,4-dioxane	ND	0.20	ug/l	1	10/03/19	KCA	SW8270DSIM
QA/QC Surrogates							
% 1,4-dioxane-d8	90		%	1	10/03/19	KCA	30 - 130 %
Extraction for 1,4-Dioxane	Completed				10/02/19	S/S	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	9:45
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23307

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethane	5.6	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/07/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/07/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23307

Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/07/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,2-Dichloroethene	29	1.0	ug/L	1	10/07/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/07/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/07/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrachloroethene	8.0	1.0	ug/L	1	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/07/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/07/19	MH	SW8260C
Trichloroethene	23	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/07/19	MH	SW8260C
Vinyl chloride	17	1.0	ug/L	1	10/07/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/07/19	MH	70 - 130 %
% Bromofluorobenzene	103		%	1	10/07/19	MH	70 - 130 %
% Dibromofluoromethane	96		%	1	10/07/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/07/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/07/19	MH	SW8260C	7

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23307
Client ID: 19A-EMW10R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates							
Diethyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/07/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	11:00
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23308

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-EMW10D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/08/19	MH	SW8260C

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23308

Client ID: 19A-EMW10D-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/08/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,2-Dichloroethene	16	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrachloroethene	99	20	ug/L	20	10/04/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/08/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Trichloroethene	28	20	ug/L	20	10/04/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Vinyl chloride	2.1	1.0	ug/L	1	10/08/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	97		%	1	10/08/19	MH	70 - 130 %
% Bromofluorobenzene	108		%	1	10/08/19	MH	70 - 130 %
% Dibromofluoromethane	101		%	1	10/08/19	MH	70 - 130 %
% Toluene-d8	97		%	1	10/08/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/04/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	99		%	20	10/04/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	99		%	20	10/04/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	10/04/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	10/08/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

October 10, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	12:30
Location Code:	AECOM-WILMINGTN	Received by:	CP	09/30/19	16:16
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE23303
Phoenix ID: CE23311

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-TRC401R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1,1-Trichloroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1,2-Trichloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloroethane	92	20	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloroethene	20	10	ug/L	20	10/05/19	MH	SW8260C
1,1-Dichloropropene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2,3-Trichloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dibromoethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichloroethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,2-Dichloropropane	ND	10	ug/L	20	10/05/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,3-Dichlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,3-Dichloropropane	ND	20	ug/L	20	10/05/19	MH	SW8260C
1,4-Dichlorobenzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
2,2-Dichloropropane	ND	20	ug/L	20	10/05/19	MH	SW8260C
2-Chlorotoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
2-Hexanone	ND	38	ug/L	20	10/05/19	MH	SW8260C
4-Chlorotoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
4-Methyl-2-pentanone	ND	100	ug/L	20	10/05/19	MH	SW8260C
Acetone	ND	500	ug/L	20	10/05/19	MH	SW8260C

Ver 1

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE23311

Client ID: 19A-TRC401R-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Bromochloromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Bromodichloromethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromoform	ND	10	ug/L	20	10/05/19	MH	SW8260C
Bromomethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Carbon Disulfide	ND	100	ug/L	20	10/05/19	MH	SW8260C
Carbon tetrachloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
Chlorobenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloroform	ND	20	ug/L	20	10/05/19	MH	SW8260C
Chloromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
cis-1,2-Dichloroethene	100	20	ug/L	20	10/05/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dibromochloromethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dibromomethane	ND	10	ug/L	20	10/05/19	MH	SW8260C
Dichlorodifluoromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Ethylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Hexachlorobutadiene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Isopropylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
m&p-Xylene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Methyl ethyl ketone	ND	40	ug/L	20	10/05/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	20	ug/L	20	10/05/19	MH	SW8260C
Methylene chloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
Naphthalene	ND	20	ug/L	20	10/05/19	MH	SW8260C
n-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
n-Propylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
o-Xylene	ND	20	ug/L	20	10/05/19	MH	SW8260C
p-Isopropyltoluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
sec-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Styrene	ND	20	ug/L	20	10/05/19	MH	SW8260C
tert-Butylbenzene	ND	20	ug/L	20	10/05/19	MH	SW8260C
Tetrachloroethene	2600	400	ug/L	400	10/07/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	50	ug/L	20	10/05/19	MH	SW8260C
Toluene	ND	20	ug/L	20	10/05/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	20	ug/L	20	10/05/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	10	ug/L	20	10/05/19	MH	SW8260C
Trichloroethene	5200	400	ug/L	400	10/07/19	MH	SW8260C
Trichlorofluoromethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Trichlorotrifluoroethane	ND	20	ug/L	20	10/05/19	MH	SW8260C
Vinyl chloride	ND	10	ug/L	20	10/05/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	10/05/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	100		%	20	10/05/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	95		%	20	10/05/19	MH	70 - 130 %
% Toluene-d8 (20x)	99		%	20	10/05/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (400x)	100		%	400	10/07/19	MH	70 - 130 %
% Bromofluorobenzene (400x)	103		%	400	10/07/19	MH	70 - 130 %
% Dibromofluoromethane (400x)	94		%	400	10/07/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (400x)	100		%	400	10/07/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	800	ug/l	20	10/05/19	MH	SW8260C	7
Oxygenates								
Diethyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	20	ug/L	20	10/05/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

Volatile Comment:
Elevated reporting limits for volatiles due to the presence of target and/or non-target compounds.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
October 10, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/30/19	14:10
Location Code:	AECOM-WILMINGTN	Received by:	B	10/01/19	18:04
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE24659
Phoenix ID: CE24660

Project ID: LOCKHEED WILMINGTON MA 60552044.13
Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				10/04/19	/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				10/01/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				10/02/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				10/03/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2,4-Trimethylbenzene	1.4	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/08/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE24660

Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/08/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	10/08/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/08/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/08/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/08/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/08/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/08/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/08/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/08/19	MH	70 - 130 %
% Dibromofluoromethane	91		%	1	10/08/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Toluene-d8	100		%	1	10/08/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	10/08/19	MH	SW8260C 7
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/08/19	MH	SW8260C (OXY)
Client MS/MSD	Completed				10/08/19		
Semivolatiles by SIM, PAH							
2-Methylnaphthalene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Acenaphthene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Acenaphthylene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Anthracene	ND	0.09	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benz(a)anthracene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(a)pyrene	ND	0.19	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(b)fluoranthene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(ghi)perylene	ND	0.02	ug/L	1	10/03/19	WB	SW8270D (SIM)
Benzo(k)fluoranthene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Chrysene	ND	0.05	ug/L	1	10/03/19	WB	SW8270D (SIM)
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	10/03/19	WB	SW8270D (SIM)
Fluoranthene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Fluorene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Indeno(1,2,3-cd)pyrene	ND	0.10	ug/L	1	10/03/19	WB	SW8270D (SIM)
Naphthalene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Phenanthrene	ND	0.49	ug/L	1	10/03/19	WB	SW8270D (SIM)
Pyrene	ND	0.07	ug/L	1	10/03/19	WB	SW8270D (SIM)
QA/QC Surrogates							
% 2-Fluorobiphenyl	75		%	1	10/03/19	WB	40 - 140 %
% Nitrobenzene-d5	84		%	1	10/03/19	WB	40 - 140 %
% Terphenyl-d14	72		%	1	10/03/19	WB	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	200	ug/L	1	10/07/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	79		%	1	10/07/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	79		%	1	10/07/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	84		%	1	10/07/19	AW	40 - 140 %
% o-terphenyl (aromatic)	72		%	1	10/07/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	270	100	ug/L	1	10/03/19	RM	MA VPH 5/2004

Project ID: LOCKHEED WILMINGTON MA 60552044.13 Phoenix I.D.: CE24660
Client ID: 19-PZ2S-093019-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	160	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	100	100	ug/L	1	10/03/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
o-Xylene	2.0	1.0	ug/L	1	10/03/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	108		%	1	10/03/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	107		%	1	10/03/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude conc.s of any surrogate(s) and/or Int. std.s eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbon

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Ver 2

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820004** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-EMW11R2-091719-1** Date Collected: 9/17/2019 11:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**630**	ug/l	0.50	0.094	1	9/26/2019 13:04	MM	n
Ethane	**7.6**	ug/l	0.10	0.011	1	9/26/2019 13:04	MM	n
Ethene	**35**	ug/l	0.10	0.0080	1	9/26/2019 13:04	MM	n
Propane	**0.073J**	ug/l	0.10	0.0080	1	9/26/2019 13:04	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 13:04	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820007** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103R5-091819-1** Date Collected: 9/18/2019 14:05

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**150**	ug/l	0.50	0.094	1	9/26/2019 13:46	MM	n
Ethane	**1.6**	ug/l	0.10	0.011	1	9/26/2019 13:46	MM	n
Ethene	**120**	ug/l	0.10	0.0080	1	9/26/2019 13:46	MM	n
Propane	**0.13**	ug/l	0.10	0.0080	1	9/26/2019 13:46	MM	n
Acetylene	**0.057J**	ug/l	0.50	0.037	1	9/26/2019 13:46	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820008** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103R1-091819-1** Date Collected: 9/18/2019 13:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.094	1	9/26/2019 14:03	MM	n
Ethane	**0.98**	ug/l	0.10	0.011	1	9/26/2019 14:03	MM	n
Ethene	**12**	ug/l	0.10	0.0080	1	9/26/2019 14:03	MM	n
Propane	**0.15**	ug/l	0.10	0.0080	1	9/26/2019 14:03	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:03	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820010** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE103D-091919-1** Date Collected: 9/19/2019 11:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**25**	ug/l	0.50	0.094	1	9/26/2019 14:30	MM	n
Ethane	**0.54**	ug/l	0.10	0.011	1	9/26/2019 14:30	MM	n
Ethene	**0.044J**	ug/l	0.10	0.0080	1	9/26/2019 14:30	MM	n
Propane	**0.16**	ug/l	0.10	0.0080	1	9/26/2019 14:30	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 14:30	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820016** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-EMW11R2-091719-1** Date Collected: 9/17/2019 12:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:43	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820017** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103R1-091819-1** Date Collected: 9/18/2019 15:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:56	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820018** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103R5-091819-1** Date Collected: 9/18/2019 15:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.7**	nM	1.0	0.75	1	9/28/2019 09:08	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820020** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE103D-091919-1** Date Collected: 9/19/2019 12:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.1**	nM	1.0	0.75	1	9/28/2019 10:05	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670001** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE28R2-092319-1** Date Collected: 9/23/2019 10:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.046	1	10/3/2019 11:58	BW	M3,n,M5
Ethane	**7.7**	ug/l	0.10	0.0050	1	10/3/2019 11:58	BW	n
Ethene	**11**	ug/l	0.10	0.0040	1	10/3/2019 11:58	BW	n
Propane	**0.74**	ug/l	0.10	0.011	1	10/3/2019 11:58	BW	n
Acetylene	**0.90**	ug/l	0.50	0.019	1	10/3/2019 11:58	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670002** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE26R1-092319-1** Date Collected: 9/23/2019 09:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**190**	ug/l	0.50	0.046	1	10/3/2019 12:10	BW	M3,n,M5
Ethane	**1.0**	ug/l	0.10	0.0050	1	10/3/2019 12:10	BW	n
Ethene	**1.3**	ug/l	0.10	0.0040	1	10/3/2019 12:10	BW	n
Propane	**0.11**	ug/l	0.10	0.011	1	10/3/2019 12:10	BW	n
Acetylene	**0.25J**	ug/l	0.50	0.019	1	10/3/2019 12:10	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670003** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE100R5-092319-1** Date Collected: 9/23/2019 12:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**99**	ug/l	0.50	0.046	1	10/3/2019 12:22	BW	M3,n,M5
Ethane	**2.4**	ug/l	0.10	0.0050	1	10/3/2019 12:22	BW	n
Ethene	**5.4**	ug/l	0.10	0.0040	1	10/3/2019 12:22	BW	n
Propane	**0.19**	ug/l	0.10	0.011	1	10/3/2019 12:22	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 12:22	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670004** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2200**	ug/l	0.50	0.046	1	10/3/2019 12:35	BW	M3,n,M5
Ethane	**0.32**	ug/l	0.10	0.0050	1	10/3/2019 12:35	BW	n
Ethene	**0.48**	ug/l	0.10	0.0040	1	10/3/2019 12:35	BW	n
Propane	**0.19**	ug/l	0.10	0.011	1	10/3/2019 12:35	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 12:35	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670005** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1 MS** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2300**	ug/l	0.50	0.046	1	10/3/2019 12:47	BW	M3,n,M5
Ethane	**36**	ug/l	0.10	0.0050	1	10/3/2019 12:47	BW	n
Ethene	**35**	ug/l	0.10	0.0040	1	10/3/2019 12:47	BW	n
Propane	**54**	ug/l	0.10	0.011	1	10/3/2019 12:47	BW	n
Acetylene	**35**	ug/l	0.50	0.019	1	10/3/2019 12:47	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670006** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE108R1-092419-1 MSD** Date Collected: 9/24/2019 13:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**2200**	ug/l	0.50	0.046	1	10/3/2019 13:00	BW	M3,n,M5
Ethane	**36**	ug/l	0.10	0.0050	1	10/3/2019 13:00	BW	n
Ethene	**36**	ug/l	0.10	0.0040	1	10/3/2019 13:00	BW	n
Propane	**54**	ug/l	0.10	0.011	1	10/3/2019 13:00	BW	n
Acetylene	**36**	ug/l	0.50	0.019	1	10/3/2019 13:00	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670007** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE29R6-092419-1** Date Collected: 9/24/2019 10:00

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**1100**	ug/l	0.50	0.046	1	10/3/2019 13:13	BW	M3,n,M5
Ethane	**0.26**	ug/l	0.10	0.0050	1	10/3/2019 13:13	BW	n
Ethene	**0.90**	ug/l	0.10	0.0040	1	10/3/2019 13:13	BW	n
Propane	**0.14**	ug/l	0.10	0.011	1	10/3/2019 13:13	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/3/2019 13:13	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670008** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102RR6-092419-1** Date Collected: 9/24/2019 13:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**55**	ug/l	0.50	0.046	1	10/4/2019 11:46	BW	n
Ethane	**0.81**	ug/l	0.10	0.0050	1	10/4/2019 11:46	BW	n
Ethene	**7.5**	ug/l	0.10	0.0040	1	10/4/2019 11:46	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 11:46	BW	n
Acetylene	**0.073J**	ug/l	0.50	0.019	1	10/4/2019 11:46	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670009** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102M-092519-1** Date Collected: 9/25/2019 09:20

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**260**	ug/l	0.50	0.046	1	10/4/2019 12:00	BW	n
Ethane	**6.3**	ug/l	0.10	0.0050	1	10/4/2019 12:00	BW	n
Ethene	**1.4**	ug/l	0.10	0.0040	1	10/4/2019 12:00	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 12:00	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:00	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670010** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-AE102M-092519-2** Date Collected: 9/25/2019 09:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**260**	ug/l	0.50	0.046	1	10/4/2019 12:14	BW	n
Ethane	**6.3**	ug/l	0.10	0.0050	1	10/4/2019 12:14	BW	n
Ethene	**1.4**	ug/l	0.10	0.0040	1	10/4/2019 12:14	BW	n
Propane	**0.052J**	ug/l	0.10	0.011	1	10/4/2019 12:14	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:14	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670011** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-GZA101R-092619-1** Date Collected: 9/26/2019 11:30

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**11**	ug/l	0.50	0.046	1	10/4/2019 12:28	BW	n
Ethane	**0.59**	ug/l	0.10	0.0050	1	10/4/2019 12:28	BW	n
Ethene	**0.027J**	ug/l	0.10	0.0040	1	10/4/2019 12:28	BW	n
Propane	**0.17**	ug/l	0.10	0.011	1	10/4/2019 12:28	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:28	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670012** Date Received: 9/27/2019 13:52 Matrix: Water

Sample ID: **19A-GZA12-092619-1** Date Collected: 9/26/2019 09:25

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**0.30J**	ug/l	0.50	0.046	1	10/4/2019 12:41	BW	n
Ethane	**0.10 U**	ug/l	0.10	0.0050	1	10/4/2019 12:41	BW	n
Ethene	**0.10 U**	ug/l	0.10	0.0040	1	10/4/2019 12:41	BW	n
Propane	**0.10 U**	ug/l	0.10	0.011	1	10/4/2019 12:41	BW	n
Acetylene	**0.50 U**	ug/l	0.50	0.019	1	10/4/2019 12:41	BW	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670014** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE28R2-092319-1** Date Collected: 9/23/2019 11:50

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**220**	nM	20	15	20	10/5/2019 09:40	TD	d,n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670015** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE26R1-092319-1** Date Collected: 9/23/2019 10:57

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**20**	nM	1.0	0.75	1	10/5/2019 06:56	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670016** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE100R5-092319-1** Date Collected: 9/23/2019 14:40

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.4**	nM	1.0	0.75	1	10/5/2019 07:13	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670017** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE108R1-092419-1** Date Collected: 9/24/2019 14:55

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.6**	nM	1.0	0.75	1	10/5/2019 07:26	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670018** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE29R6-092419-1** Date Collected: 9/24/2019 11:47

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**180**	nM	8.0	6.0	8	10/5/2019 09:55	TD	d,n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670019** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE102M-092519-1** Date Collected: 9/25/2019 09:58

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.3**	nM	1.0	0.75	1	10/5/2019 08:00	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670020** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-GZA101R-092619-1** Date Collected: 9/26/2019 11:56

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**22**	nM	1.0	0.75	1	10/5/2019 08:12	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670021** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-GZA12-092619-1** Date Collected: 9/26/2019 09:56

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.8**	nM	1.0	0.75	1	10/5/2019 08:26	TD	n

CERTIFICATE OF ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31567 LMC - WILMINGTON 60552044.13

Lab ID: **315670023** Date Received: 9/27/2019 13:52 Matrix: Bubble Strip

Sample ID: **19A-AE102RR6-092419-1** Date Collected: 9/24/2019 15:23

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**3.7**	nM	1.0	0.75	1	10/5/2019 08:51	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

AECOM
250 Apollo Drive
Chelmsford, MA 01824

978-905-2100 tel
978-905-2101 fax

January 3, 2020

Mr. Ruben Byerley
YRC Freight
10990 Roe Avenue
Overland Park, KS 66211-1213

Subject: September 2019 Groundwater Sampling Analytical Results
YRC Freight Property at 95 Concord Street – N. Reading, MA

Dear Mr. Byerley,

In September 2019, AECOM under contract to Lockheed Martin Corporation (LMC) collected groundwater samples from nine monitoring wells (AE-106S, AE-106D, AE-106-R1-R3-R5 and AE-111-R1-R3-R5-R7) located on your property at 95 Concord Street in N. Reading, MA.

This site is a Tier 1A Site (Permit No. 83052) as regulated by the Massachusetts Department of Environmental Protection (MassDEP). Massachusetts environmental regulations require notification to a property owner when environmental samples are collected at a property on behalf of someone other than the property owner. In addition, the property owner must receive a copy of the analytical results following the laboratory analysis of the environmental samples. In accordance with the Massachusetts Contingency Plan, 310 CMR 1403 (10), enclosed is a copy of the analytical results from the September 2019 groundwater sampling, as well as a copy of the required Bureau of Waste Site Cleanup (BWSC) Form 123, and a map of the sampling locations on your property. We have included summary tables of the September 2019 groundwater analytical results, and have included a comparison to the applicable Massachusetts groundwater criteria.

Should you be interested in more information, additional public involvement opportunities are available under 310 CMR 40.1403(9). If you have any questions or comments regarding the results, please contact me at 978-905-2351 or scott.olson@aecom.com.

Yours sincerely,

Scott Olson
Project Manager

cc: Paul Calligan, Lockheed Martin Corp.

Attachments

ATTACHMENT A

BWSC-123 Notification Form

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

BWSC 123

This Notice is Related to Release Tracking Number

03 | 0518

A. The address of the disposal site related to this Notice and Release Tracking Number (provided above):

1. Street Address: 50 Fordham Road

City/Town: Wilmington, MA Zip Code: 01887

B. This notice is being provided to the following party:

1. Name: Ruben Byerly

2. Street Address: 10990 Roe Avenue

City/Town: Overland Park, KS Zip Code: 66211-1213

C. This notice is being given to inform its recipient (the party listed in Section B):

☐ 1. That environmental sampling will be/has been conducted at property owned by the recipient of this notice.

☑ 2. Of the results of environmental sampling conducted at property owned by the recipient of this notice.

☑ 3. Check to indicate if the analytical results are attached. (If item 2. above is checked, the analytical results from the environmental sampling must be attached to this notice.)

D. Location of the property where the environmental sampling will be/has been conducted:

1. Street Address: 95 Concord Street

City/Town: North Reading, MA Zip Code: 01864

2. MCP phase of work during which the sampling will be/has been conducted:

☐ Immediate Response Action
☐ Release Abatement Measure
☐ Utility-related Abatement Measure
☐ Phase I Initial Site Investigation
☐ Phase II Comprehensive Site Assessment
☐ Phase III Feasibility Evaluation
☐ Phase IV Remedy Implementation Plan
☐ Phase V/Remedy Operation Status
☐ Post-Class C Operation, Maintenance and Monitoring
☑ Other Post-Temporary Solution OMM (specify)

3. Description of property where sampling will be/has been conducted:

☐ residential ☑ commerical ☑ industrial ☐ school/playground ☐ Other _____ (specify)

4. Description of the sampling locations and types (e.g., soil, groundwater) to the extent known at the time of this notice.

AE-106S, AE-106D, AE-106R1-R3-R5, and AE-111R1-R3-R5-R7

E. Contact information related to the party providing this notice:

Contact Name: Scott Olson

Street Address: AECOM - 250 Apollo Drive

City/Town: Chelmsford, MA Zip Code: 01824

Telephone: (978) 846-5238 Email: scott.olson@aecom.com

NOTICE OF ENVIRONMENTAL SAMPLING

As required by 310 CMR 40.1403(10) of the Massachusetts Contingency Plan

MASSACHUSETTS REGULATIONS THAT REQUIRE THIS NOTICE

This notice is being provided pursuant to the Massachusetts Contingency Plan and the notification requirement at 310 CMR 40.1403(10). The Massachusetts Contingency Plan is a state regulation that specifies requirements for parties who are taking actions to address releases of chemicals (oil or hazardous material) to the environment.

THE PERSON(S) PROVIDING THIS NOTICE

This notice has been sent to you by the party who is addressing a release of oil or hazardous material to the environment at the location listed in **Section A** on the reverse side of this form. (The regulations refer to the area where the oil or hazardous material is present as the "disposal site".)

PURPOSE OF THIS NOTICE

When environmental samples are taken as part of an investigation under the Massachusetts Contingency Plan at a property on behalf of someone other than the owner of the property, the regulations require that the property owner (listed in **Section B** on the reverse side of this form) be given notice of the environmental sampling. The regulations also require that the property owner subsequently receive the analytical results following the analysis of the environmental samples.

Section C on the reverse side of this form indicates the circumstance under which you are receiving this notice at this time. If you are receiving this notice to inform you of the analytical results following the analysis of the environmental samples, you should also have received, as an attachment, a copy of analytical results. These results should indicate the number and type(s) of samples (e.g., soil, groundwater) analyzed, any chemicals identified, and the measured concentrations of those chemicals.

Section D on the reverse side of this form identifies the property where the environmental sampling will be/has been conducted, provides a description of the sampling locations within the property, and indicates the phase of work under the Massachusetts Contingency Plan regulatory process during which the samples will be/were collected.

FOR MORE INFORMATION

Information about the general process for addressing releases of oil or hazardous material under the Massachusetts Contingency Plan and related public involvement opportunities may be found at http://www.mass.gov/dep/cleanup/oview.htm. For more information regarding this notice, you may contact the party listed in **Section E** on the reverse side of this form. Information about the disposal site identified in Section A is also available in files at the Massachusetts Department of Environmental Protection. See http://mass.gov/dep/about/region/schedule.htm if you would like to make an appointment to see these files. Please reference the **Release Tracking Number** listed in the upper right hand corner on the reverse side of this form when making file review appointments.

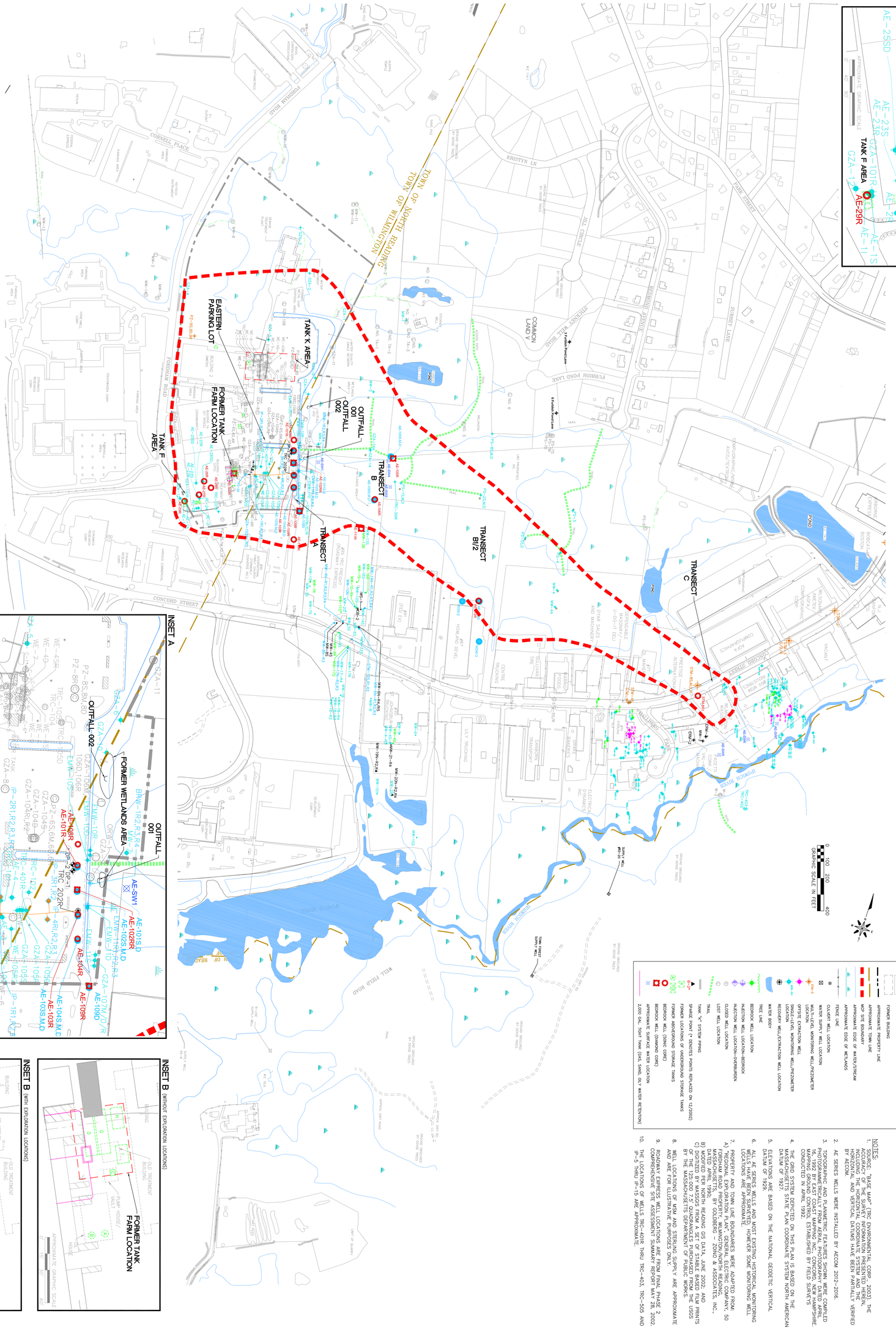
ATTACHMENT B

Groundwater Sampling Location Map

and Analytical Results Summary Tables

Filename: P:\JOBS\REM_ENG\PROJECT FILES\LOCKHEED MARTIN\WILMINGTON 2017-2022\900-CAD-GIS\910 CAD\09_GW MEMO 2018\FIG 1_MONITORING WELL LOCATIONS.DWG Last saved by: BARRYK Last Plotted: 2018-10-16

Project Management Initials: Designer: K.P.B. Checked: S.O. Approved: A.T. ARCH C 18" x 24"
K.P.B. S.O. A.T.



NOTES:

1. SOURCE: "BASE MAP" (TRC ENVIRONMENTAL CORP., 2003). THE ACCURACY OF THE SURVEY INFORMATION PRESENTED HEREIN, INCLUDING THE HORIZONTAL AND VERTICAL DATUMS HAVE BEEN PARTIALLY VERIFIED BY AECOM.
2. AE SERIES WELLS WERE INSTALLED BY AECOM 2012-2016.
3. TOPOGRAPHIC AND PLANIMETRIC FEATURES SHOWN WERE COMPILED PHOTOGRAMMETRICALLY FROM AERIAL PHOTOGRAPHY DATED APRIL 1991 BY MASSACHUSETTS GEODETIC, INC. FOLLOWED BY FIELD SURVEYS CONDUCTED IN APRIL 1992.
4. THE GRID SYSTEM DEPICTED ON THIS PLAN IS BASED ON THE MASSACHUSETTS STATE PLAN COORDINATE SYSTEM NORTH AMERICAN DATUM OF 1927.
5. ELEVATIONS ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929.
6. WELLS AE-1S, AE-1D, AE-1R, AE-2S, AE-2D, AE-2R, AE-3S, AE-3D, AE-3R, AE-4S, AE-4D, AE-4R, AE-5S, AE-5D, AE-5R, AE-6S, AE-6D, AE-6R, AE-7S, AE-7D, AE-7R, AE-8S, AE-8D, AE-8R, AE-9S, AE-9D, AE-9R, AE-10S, AE-10D, AE-10R, AE-11S, AE-11D, AE-11R, AE-12S, AE-12D, AE-12R, AE-13S, AE-13D, AE-13R, AE-14S, AE-14D, AE-14R, AE-15S, AE-15D, AE-15R, AE-16S, AE-16D, AE-16R, AE-17S, AE-17D, AE-17R, AE-18S, AE-18D, AE-18R, AE-19S, AE-19D, AE-19R, AE-20S, AE-20D, AE-20R, AE-21S, AE-21D, AE-21R, AE-22S, AE-22D, AE-22R, AE-23S, AE-23D, AE-23R, AE-24S, AE-24D, AE-24R, AE-25S, AE-25D, AE-25R, AE-26S, AE-26D, AE-26R, AE-27S, AE-27D, AE-27R, AE-28S, AE-28D, AE-28R, AE-29S, AE-29D, AE-29R, AE-100S, AE-100D, AE-100R, AE-101S, AE-101D, AE-101R, AE-102S, AE-102D, AE-102R, AE-103S, AE-103D, AE-103R, AE-104S, AE-104D, AE-104R, AE-105S, AE-105D, AE-105R, AE-106S, AE-106D, AE-106R, AE-107S, AE-107D, AE-107R, AE-108S, AE-108D, AE-108R, AE-109S, AE-109D, AE-109R, AE-SW1, AE-SW2, AE-SW3, AE-SW4, AE-SW5, AE-SW6, AE-SW7, AE-SW8, AE-SW9, AE-SW10, AE-SW11, AE-SW12, AE-SW13, AE-SW14, AE-SW15, AE-SW16, AE-SW17, AE-SW18, AE-SW19, AE-SW20, AE-SW21, AE-SW22, AE-SW23, AE-SW24, AE-SW25, AE-SW26, AE-SW27, AE-SW28, AE-SW29, AE-SW30, AE-SW31, AE-SW32, AE-SW33, AE-SW34, AE-SW35, AE-SW36, AE-SW37, AE-SW38, AE-SW39, AE-SW40, AE-SW41, AE-SW42, AE-SW43, AE-SW44, AE-SW45, AE-SW46, AE-SW47, AE-SW48, AE-SW49, AE-SW50, AE-SW51, AE-SW52, AE-SW53, AE-SW54, AE-SW55, AE-SW56, AE-SW57, AE-SW58, AE-SW59, AE-SW60, AE-SW61, AE-SW62, AE-SW63, AE-SW64, AE-SW65, AE-SW66, AE-SW67, AE-SW68, AE-SW69, AE-SW70, AE-SW71, AE-SW72, AE-SW73, AE-SW74, AE-SW75, AE-SW76, AE-SW77, AE-SW78, AE-SW79, AE-SW80, AE-SW81, AE-SW82, AE-SW83, AE-SW84, AE-SW85, AE-SW86, AE-SW87, AE-SW88, AE-SW89, AE-SW90, AE-SW91, AE-SW92, AE-SW93, AE-SW94, AE-SW95, AE-SW96, AE-SW97, AE-SW98, AE-SW99, AE-SW100, AE-SW101, AE-SW102, AE-SW103, AE-SW104, AE-SW105, AE-SW106, AE-SW107, AE-SW108, AE-SW109, AE-SW110, AE-SW111, AE-SW112, AE-SW113, AE-SW114, AE-SW115, AE-SW116, AE-SW117, AE-SW118, AE-SW119, AE-SW120, AE-SW121, AE-SW122, AE-SW123, AE-SW124, AE-SW125, AE-SW126, AE-SW127, AE-SW128, AE-SW129, AE-SW130, AE-SW131, AE-SW132, AE-SW133, AE-SW134, AE-SW135, AE-SW136, AE-SW137, AE-SW138, AE-SW139, AE-SW140, AE-SW141, AE-SW142, AE-SW143, AE-SW144, AE-SW145, AE-SW146, AE-SW147, AE-SW148, AE-SW149, AE-SW150, AE-SW151, AE-SW152, AE-SW153, AE-SW154, AE-SW155, AE-SW156, AE-SW157, AE-SW158, AE-SW159, AE-SW160, AE-SW161, AE-SW162, AE-SW163, AE-SW164, AE-SW165, AE-SW166, AE-SW167, AE-SW168, AE-SW169, AE-SW170, AE-SW171, AE-SW172, AE-SW173, AE-SW174, AE-SW175, AE-SW176, AE-SW177, AE-SW178, AE-SW179, AE-SW180, AE-SW181, AE-SW182, AE-SW183, AE-SW184, AE-SW185, AE-SW186, AE-SW187, AE-SW188, AE-SW189, AE-SW190, AE-SW191, AE-SW192, AE-SW193, AE-SW194, AE-SW195, AE-SW196, AE-SW197, AE-SW198, AE-SW199, AE-SW200, AE-SW201, AE-SW202, AE-SW203, AE-SW204, AE-SW205, AE-SW206, AE-SW207, AE-SW208, AE-SW209, AE-SW210, AE-SW211, AE-SW212, AE-SW213, AE-SW214, AE-SW215, AE-SW216, AE-SW217, AE-SW218, AE-SW219, AE-SW220, AE-SW221, AE-SW222, AE-SW223, AE-SW224, AE-SW225, AE-SW226, AE-SW227, AE-SW228, AE-SW229, AE-SW230, AE-SW231, AE-SW232, AE-SW233, AE-SW234, AE-SW235, AE-SW236, AE-SW237, AE-SW238, AE-SW239, AE-SW240, AE-SW241, AE-SW242, AE-SW243, AE-SW244, AE-SW245, AE-SW246, AE-SW247, AE-SW248, AE-SW249, AE-SW250, AE-SW251, AE-SW252, AE-SW253, AE-SW254, AE-SW255, AE-SW256, AE-SW257, AE-SW258, AE-SW259, AE-SW260, AE-SW261, AE-SW262, AE-SW263, AE-SW264, AE-SW265, AE-SW266, AE-SW267, AE-SW268, AE-SW269, AE-SW270, AE-SW271, AE-SW272, AE-SW273, AE-SW274, AE-SW275, AE-SW276, AE-SW277, AE-SW278, AE-SW279, AE-SW280, AE-SW281, AE-SW282, AE-SW283, AE-SW284, AE-SW285, AE-SW286, AE-SW287, AE-SW288, AE-SW289, AE-SW290, AE-SW291, AE-SW292, AE-SW293, AE-SW294, AE-SW295, AE-SW296, AE-SW297, AE-SW298, AE-SW299, AE-SW300, AE-SW301, AE-SW302, AE-SW303, AE-SW304, AE-SW305, AE-SW306, AE-SW307, AE-SW308, AE-SW309, AE-SW310, AE-SW311, AE-SW312, AE-SW313, AE-SW314, AE-SW315, AE-SW316, AE-SW317, AE-SW318, AE-SW319, AE-SW320, AE-SW321, AE-SW322, AE-SW323, AE-SW324, AE-SW325, AE-SW326, AE-SW327, AE-SW328, AE-SW329, AE-SW330, AE-SW331, AE-SW332, AE-SW333, AE-SW334, AE-SW335, AE-SW336, AE-SW337, AE-SW338, AE-SW339, AE-SW340, AE-SW341, AE-SW342, AE-SW343, AE-SW344, AE-SW345, AE-SW346, AE-SW347, AE-SW348, AE-SW349, AE-SW350, AE-SW351, AE-SW352, AE-SW353, AE-SW354, AE-SW355, AE-SW356, AE-SW357, AE-SW358, AE-SW359, AE-SW360, AE-SW361, AE-SW362, AE-SW363, AE-SW364, AE-SW365, AE-SW366, AE-SW367, AE-SW368, AE-SW369, AE-SW370, AE-SW371, AE-SW372, AE-SW373, AE-SW374, AE-SW375, AE-SW376, AE-SW377, AE-SW378, AE-SW379, AE-SW380, AE-SW381, AE-SW382, AE-SW383, AE-SW384, AE-SW385, AE-SW386, AE-SW387, AE-SW388, AE-SW389, AE-SW390, AE-SW391, AE-SW392, AE-SW393, AE-SW394, AE-SW395, AE-SW396, AE-SW397, AE-SW398, AE-SW399, AE-SW400, AE-SW401, AE-SW402, AE-SW403, AE-SW404, AE-SW405, AE-SW406, AE-SW407, AE-SW408, AE-SW409, AE-SW410, AE-SW411, AE-SW412, AE-SW413, AE-SW414, AE-SW415, AE-SW416, AE-SW417, AE-SW418, AE-SW419, AE-SW420, AE-SW421, AE-SW422, AE-SW423, AE-SW424, AE-SW425, AE-SW426, AE-SW427, AE-SW428, AE-SW429, AE-SW430, AE-SW431, AE-SW432, AE-SW433, AE-SW434, AE-SW435, AE-SW436, AE-SW437, AE-SW438, AE-SW439, AE-SW440, AE-SW441, AE-SW442, AE-SW443, AE-SW444, AE-SW445, AE-SW446, AE-SW447, AE-SW448, AE-SW449, AE-SW450, AE-SW451, AE-SW452, AE-SW453, AE-SW454, AE-SW455, AE-SW456, AE-SW457, AE-SW458, AE-SW459, AE-SW460, AE-SW461, AE-SW462, AE-SW463, AE-SW464, AE-SW465, AE-SW466, AE-SW467, AE-SW468, AE-SW469, AE-SW470, AE-SW471, AE-SW472, AE-SW473, AE-SW474, AE-SW475, AE-SW476, AE-SW477, AE-SW478, AE-SW479, AE-SW480, AE-SW481, AE-SW482, AE-SW483, AE-SW484, AE-SW485, AE-SW486, AE-SW487, AE-SW488, AE-SW489, AE-SW490, AE-SW491, AE-SW492, AE-SW493, AE-SW494, AE-SW495, AE-SW496, AE-SW497, AE-SW498, AE-SW499, AE-SW500, AE-SW501, AE-SW502, AE-SW503, AE-SW504, AE-SW505, AE-SW506, AE-SW507, AE-SW508, AE-SW509, AE-SW510, AE-SW511, AE-SW512, AE-SW513, AE-SW514, AE-SW515, AE-SW516, AE-SW517, AE-SW518, AE-SW519, AE-SW520, AE-SW521, AE-SW522, AE-SW523, AE-SW524, AE-SW525, AE-SW526, AE-SW527, AE-SW528, AE-SW529, AE-SW530, AE-SW531, AE-SW532, AE-SW533, AE-SW534, AE-SW535, AE-SW536, AE-SW537, AE-SW538, AE-SW539, AE-SW540, AE-SW541, AE-SW542, AE-SW543, AE-SW544, AE-SW545, AE-SW546, AE-SW547, AE-SW548, AE-SW549, AE-SW550, AE-SW551, AE-SW552, AE-SW553, AE-SW554, AE-SW555, AE-SW556, AE-SW557, AE-SW558, AE-SW559, AE-SW560, AE-SW561, AE-SW562, AE-SW563, AE-SW564, AE-SW565, AE-SW566, AE-SW567, AE-SW568, AE-SW569, AE-SW570, AE-SW571, AE-SW572, AE-SW573, AE-SW574, AE-SW575, AE-SW576, AE-SW577, AE-SW578, AE-SW579, AE-SW580, AE-SW581, AE-SW582, AE-SW583, AE-SW584, AE-SW585, AE-SW586, AE-SW587, AE-SW588, AE-SW589, AE-SW590, AE-SW591, AE-SW592, AE-SW593, AE-SW594, AE-SW595, AE-SW596, AE-SW597, AE-SW598, AE-SW599, AE-SW600, AE-SW601, AE-SW602, AE-SW603, AE-SW604, AE-SW605, AE-SW606, AE-SW607, AE-SW608, AE-SW609, AE-SW610, AE-SW611, AE-SW612, AE-SW613, AE-SW614, AE-SW615, AE-SW616, AE-SW617, AE-SW618, AE-SW619, AE-SW620, AE-SW621, AE-SW622, AE-SW623, AE-SW624, AE-SW625, AE-SW626, AE-SW627, AE-SW628, AE-SW629, AE-SW630, AE-SW631, AE-SW632, AE-SW633, AE-SW634, AE-SW635, AE-SW636, AE-SW637, AE-SW638, AE-SW639, AE-SW640, AE-SW641, AE-SW642, AE-SW643, AE-SW644, AE-SW645, AE-SW646, AE-SW647, AE-SW648, AE-SW649, AE-SW650, AE-SW651, AE-SW652, AE-SW653, AE-SW654, AE-SW655, AE-SW656, AE-SW657, AE-SW658, AE-SW659, AE-SW660, AE-SW661, AE-SW662, AE-SW663, AE-SW664, AE-SW665, AE-SW666, AE-SW667, AE-SW668, AE-SW669, AE-SW670, AE-SW671, AE-SW672, AE-SW673, AE-SW674, AE-SW675, AE-SW676, AE-SW677, AE-SW678, AE-SW679, AE-SW680, AE-SW681, AE-SW682, AE-SW683, AE-SW684, AE-SW685, AE-SW686, AE-SW687, AE-SW688, AE-SW689, AE-SW690, AE-SW691, AE-SW692, AE-SW693, AE-SW694, AE-SW695, AE-SW696, AE-SW697, AE-SW698, AE-SW699, AE-SW700, AE-SW701, AE-SW702, AE-SW703, AE-SW704, AE-SW705, AE-SW706, AE-SW707, AE-SW708, AE-SW709, AE-SW710, AE-SW711, AE-SW712, AE-SW713, AE-SW714, AE-SW715, AE-SW716, AE-SW717, AE-SW718, AE-SW719, AE-SW720, AE-SW721, AE-SW722, AE-SW723, AE-SW724, AE-SW725, AE-SW726, AE-SW727, AE-SW728, AE-SW729, AE-SW730, AE-SW731, AE-SW732, AE-SW733, AE-SW734, AE-SW735, AE-SW736, AE-SW737, AE-SW738, AE-SW739, AE-SW740, AE-SW741, AE-SW742, AE-SW743, AE-SW744, AE-SW745, AE-SW746, AE-SW747, AE-SW748, AE-SW749, AE-SW750, AE-SW751, AE-SW752, AE-SW753, AE-SW754, AE-SW755, AE-SW756, AE-SW757, AE-SW758, AE-SW759, AE-SW760, AE-SW761, AE-SW762, AE-SW763, AE-SW764, AE-SW765, AE-SW766, AE-SW767, AE-SW768, AE-SW769, AE-SW770, AE-SW771, AE-SW772, AE-SW773, AE-SW774, AE-SW775, AE-SW776, AE-SW777, AE-SW778, AE-SW779, AE-SW780, AE-SW781, AE-SW782, AE-SW783, AE-SW784, AE-SW785, AE-SW786, AE-SW787, AE-SW788, AE-SW789, AE-SW790, AE-SW791, AE-SW792, AE-SW793, AE-SW794, AE-SW795, AE-SW796, AE-SW797, AE-SW798, AE-SW799, AE-SW800, AE-SW801, AE-SW802, AE-SW803, AE-SW804, AE-SW805, AE-SW806, AE-SW807, AE-SW808, AE-SW809, AE-SW810, AE-SW811, AE-SW812, AE-SW813, AE-SW814, AE-SW815, AE-SW816, AE-SW817, AE-SW818, AE-SW819, AE-SW820, AE-SW821, AE-SW822, AE-SW823, AE-SW824, AE-SW825, AE-SW826, AE-SW827, AE-SW828, AE-SW829, AE-SW830, AE-SW831, AE-SW832, AE-SW833, AE-SW834, AE-SW835, AE-SW836, AE-SW837, AE-SW838, AE-SW839, AE-SW840, AE-SW841, AE-SW842, AE-SW843, AE-SW844, AE-SW845, AE-SW846, AE-SW847, AE-SW848, AE-SW849, AE-SW850, AE-SW851, AE-SW852, AE-SW853, AE-SW854, AE-SW855, AE-SW856, AE-SW857, AE-SW858, AE-SW859, AE-SW860, AE-SW861, AE-SW862, AE-SW863, AE-SW864, AE-SW865, AE-SW866, AE-SW867, AE-SW868, AE-SW869, AE-SW870, AE-SW871, AE-SW872, AE-SW873, AE-SW874, AE-SW875, AE-SW876, AE-SW877, AE-SW878, AE-SW879, AE-SW880, AE-SW881, AE-SW882, AE-SW883, AE-SW884, AE-SW885, AE-SW886, AE-SW887, AE-SW888, AE-SW889, AE-SW890, AE-SW891, AE-SW892, AE-SW893, AE-SW894, AE-SW895, AE-SW896, AE-SW897, AE-SW898, AE-SW899, AE-SW900, AE-SW901, AE-SW902, AE-SW903, AE-SW904, AE-SW905, AE-SW906, AE-SW907, AE-SW908, AE-SW909, AE-SW910, AE-SW911, AE-SW912, AE-SW913, AE-SW914, AE-SW915, AE-SW916, AE-SW917, AE-SW918, AE-SW919, AE-SW920, AE-SW921, AE-SW922, AE-SW923, AE-SW924, AE-SW925, AE-SW926, AE-SW927, AE-SW928, AE-SW929, AE-SW930, AE-SW931, AE-SW932, AE-SW933, AE-SW934, AE-SW935, AE-SW936, AE-SW937, AE-SW938, AE-SW939, AE-SW940, AE-SW941, AE-SW942, AE-SW943, AE-SW944, AE-SW945, AE-SW946, AE-SW947, AE-SW948, AE-SW949, AE-SW950, AE-SW951, AE-SW952, AE-SW953, AE-SW954, AE-SW955, AE-SW956, AE-SW957, AE-SW958, AE-SW959, AE-SW960, AE-SW961, AE-SW962, AE-SW963, AE-SW964, AE-SW965, AE-SW966, AE-SW967, AE-SW968, AE-SW969, AE-SW970, AE-SW971, AE-SW972, AE-SW973, AE-SW974, AE-SW975, AE-SW976, AE-SW977, AE-SW978, AE-SW979, AE-SW980, AE-SW981, AE-SW982, AE-SW983, AE-SW984, AE-SW985, AE-SW986, AE-SW987, AE-SW988, AE-SW989, AE-SW990, AE-SW991, AE-SW992, AE-SW993, AE-SW994, AE-SW995, AE-SW996, AE-SW997, AE-SW998, AE-SW999, AE-SW1000

7. PROPERTY AND TOWN LINE BOUNDARIES WERE ADAPTED FROM: A) "REGIONAL EXPLORATION PLANT, GENERAL ELECTRIC COMPANY, 50 FORDHAM ROAD, WILMINGTON, MASSACHUSETTS" BY GOLDBERG, ZOINO & ASSOCIATES, INC., DATED APRIL 1990; B) PLOTTED BY AECOM IN MARCH 2002; AND C) DIGITIZED BY MASSGIS FROM A SET OF STABLE BASED FILM PRINTS OF THE 1:25,000 7.5' QUADRANGLES PURCHASED FROM THE USGS BY THE MASSACHUSETTS DEPARTMENT OF PUBLIC WORKS.
8. WELL LOCATIONS OF MSM AND STERLING SUPPLY ARE APPROXIMATE AND ARE FOR ILLUSTRATIVE PURPOSES ONLY.
9. ROADWAY EXPRESS WELL LOCATIONS ARE FROM FINAL PHASE 2 COMPREHENSIVE SITE ASSESSMENT SUMMARY REPORT MAY 28, 2002.
10. THE LOCATIONS OF WELLS TRC-401R THRU TRC-403, TRC-505 AND IP-5 THRU IP-15 ARE APPROXIMATE.

Former GE Facility - 50 Fordham Rd, Wilmington, MA
Lockheed Martin Corporation

MONITORING WELL LOCATIONS

AECOM

60552044 Date: 2018-10-18

FIGURE: 1

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	AE106D	AE106R-1	AE106R-3	AE106R-5	AE106S	AE111R-1	AE111R-3	AE111R-5	AE111R-6
				Sample ID:	19A-AE106D-091719-1	19A-AE106R1-091619-1	19A-AE106R3-091619-1	19A-AE106R5-091619-1	19A-AE106S-091619-1	19A-AE111R1-092519-1	19A-AE111R3-092519-1	19A-AE111R5-092519-1	19A-AE111R6-092519-1
				Sample Date:	9/17/2019	9/16/2019	9/16/2019	9/16/2019	9/16/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N
				Depth Interval:	34 - 39 ft	47 - 52 ft	84 - 88 ft	164 - 169 ft	12 - 17 ft	44 - 54 ft	95 - 103 ft	155 - 165 ft	168 - 173 ft
				Lab Name:	PHOENIX/PAES	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
Analyte	**GW-1**	**GW-2**	**GW-3**	**UCL**									
Conventional Parameters (ug/l)													
Chloride	NE	NE	NE	NE	**688000**	NS	**112000**	NS	NS	NS	NS	NS	NS
Nitrate	NE	NE	NE	NE	**3380**	NS	**130**	NS	NS	NS	NS	NS	NS
Nitrite as N	NE	NE	NE	NE	20 U	NS	4 U	NS	NS	NS	NS	NS	NS
Sulfate	NE	NE	NE	NE	**28400**	NS	**11900**	NS	NS	NS	NS	NS	NS
Sulfide	NE	NE	NE	NE	50 U	NS	50 U	NS	NS	NS	NS	NS	NS
Total Organic Carbon	NE	NE	NE	NE	**1200**	NS	1000 U	NS	NS	NS	NS	NS	NS
Dissolved Gases (ug/l)													
Acetylene	NE	NE	NE	NE	0.50 U	NS	0.50 U	NS	NS	NS	NS	NS	NS
Ethane	NE	NE	NE	NE	**0.078 J**	NS	**0.16**	NS	NS	NS	NS	NS	NS
Ethene	NE	NE	NE	NE	**0.016 J**	NS	**2.7**	NS	NS	NS	NS	NS	NS
Hydrogen	NE	NE	NE	NE	**1.6**	NS	**2.2**	NS	NS	NS	NS	NS	NS
Methane	NE	NE	NE	NE	**3.1**	NS	**560**	NS	NS	NS	NS	NS	NS
Propane	NE	NE	NE	NE	**0.045 J**	NS	**0.048 J**	NS	NS	NS	NS	NS	NS
EPH (ug/l)													
2-Methylnaphthalene	10	2000	20000	100000	NS	NS	0.47 U	0.47 U	NS	NS	NS	NS	NS
Acenaphthene	20	NE	10000	100000	NS	NS	0.47 U	0.47 U	NS	NS	NS	NS	NS
Acenaphthylene	30	10000	40	100000	NS	NS	0.09 UJ	0.09 UJ	NS	NS	NS	NS	NS
Anthracene	60	NE	30	600	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
Benzo(a)Anthracene	1	NE	1000	10000	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
Benzo(a)Pyrene	0.2	NE	500	5000	NS	NS	0.19 U	0.19 U	NS	NS	NS	NS	NS
Benzo(b)Fluoranthene	1	NE	400	4000	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
Benzo(g,h,i)Perylene	50	NE	20	500	NS	NS	0.02 U	0.02 U	NS	NS	NS	NS	NS
Benzo(k)Fluoranthene	1	NE	100	1000	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
C11-C22 Aromatic Hydrocarbons	200	50000	5000	100000	NS	NS	190 U	190 U	NS	NS	NS	NS	NS
C19-C36 Aliphatic Hydrocarbons	14000	NE	50000	100000	NS	NS	190 U	190 U	NS	NS	NS	NS	NS
C9-C18 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	190 U	190 U	NS	NS	NS	NS	NS
Chrysene	2	NE	70	700	NS	NS	0.05 U	0.05 U	NS	NS	NS	NS	NS
Dibenzo(a,h)Anthracene	0.5	NE	40	400	NS	NS	0.02 U	0.02 U	NS	NS	NS	NS	NS
Fluoranthene	90	NE	200	2000	NS	NS	0.47 U	0.47 U	NS	NS	NS	NS	NS
Fluorene	30	NE	40	400	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
Indeno(1,2,3-cd)Pyrene	0.5	NE	100	1000	NS	NS	0.09 U	0.09 U	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	0.47 U	0.47 U	NS	NS	NS	NS	NS
Phenanthrene	40	NE	10000	100000	NS	NS	0.47 U	0.47 U	NS	NS	NS	NS	NS
Pyrene	60	NE	20	600	NS	NS	0.07 U	0.07 U	NS	NS	NS	NS	NS
VPH (ug/l)													
Benzene	5	1000	10000	100000	NS	NS	1.0 U	1.0 U	NS	NS	NS	NS	NS
C5-C8 Aliphatic Hydrocarbons	300	3000	50000	100000	NS	NS	100 U	100 U	NS	NS	NS	NS	NS
C9-C10 Aromatic Hydrocarbons	200	4000	50000	100000	NS	NS	100 U	100 U	NS	NS	NS	NS	NS
C9-C12 Aliphatic Hydrocarbons	700	5000	50000	100000	NS	NS	100 U	100 U	NS	NS	NS	NS	NS
Ethylbenzene	700	20000	5000	100000	NS	NS	1.0 U	1.0 U	NS	NS	NS	NS	NS
Methyl Tert-Butyl Ether	70	50000	50000	100000	NS	NS	1.0 U	1.0 U	NS	NS	NS	NS	NS
mp-xylene	10000	3000	5000	NE	NS	NS	2.0 U	2.0 U	NS	NS	NS	NS	NS
Naphthalene	140	700	20000	100000	NS	NS	5.0 U	5.0 U	NS	NS	NS	NS	NS
o-Xylene	10000	3000	5000	NE	NS	NS	1.0 U	1.0 U	NS	NS	NS	NS	NS
Toluene	1000	50000	40000	100000	NS	NS	1.0 U	1.0 U	NS	NS	NS	NS	NS
Unadjusted C5-C8 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	100 U	100 U	NS	NS	NS	NS	NS
Unadjusted C9-C12 Aliphatic Hydrocarbons	NE	NE	NE	NE	NS	NS	100 U	100 U	NS	NS	NS	NS	NS
Total Petroleum	NE	NE	NE	NE	1 U	1 U	1 U	1 U	1 U	1 U	**8.6**	**3.4**	**1.5**
Total Xylenes	10000	3000	5000	NE	NS	NS	2.0 U	2.0 U	NS	NS	NS	NS	NS
MAEPH (ug/l)													
Calculated EPH	NE	NE	NE	NE	NS	NS	190 U	190 U	NS	NS	NS	NS	NS
Unadjusted C11-C22 Aromatic Hydrocarbons	NE	NE	NE	NE	NS	NS	190 U	190 U	NS	NS	NS	NS	NS
Vinyl Chloride Reductase (VCR)	NE	NE	NE	NE	NS	NS	NS	NS	NS	NS	NS	NS	NS
Dissolved Metals (ug/l)													
Arsenic	10	NE	900	9000	4 U	NS	4 U	NS	NS	NS	NS	NS	NS
Iron	NE	NE	NE	NE	11 U	NS	**81**	NS	NS	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	**3290**	NS	**139**	NS	NS	NS	NS	NS	NS
Total Metals (ug/l)													
Arsenic	10	NE	900	9000	4 U	NS	4 U	NS	NS	NS	NS	NS	NS
Iron	NE	NE	NE	NE	**66**	NS	**91**	NS	NS	NS	NS	NS	NS
Manganese	NE	NE	NE	NE	**3320**	NS	**147**	NS	NS	NS	NS	NS	NS
SVOCs SIM (ug/l)													
1,4-Dioxane	0.3	6000	50000	100000	NS	NS	NS	**0.27**	NS	NS	NS	NS	NS

Summary of Groundwater Analytical Results - September 2019
Former GE Facility, Wilmington, MA

				Location ID:	AE106D	AE106R-1	AE106R-3	AE106R-5	AE106S	AE111R-1	AE111R-3	AE111R-5	AE111R-6
				Sample ID:	19A-AE106D-091719-1	19A-AE106R1-091619-1	19A-AE106R3-091619-1	19A-AE106R5-091619-1	19A-AE106S-091619-1	19A-AE111R1-092519-1	19A-AE111R3-092519-1	19A-AE111R5-092519-1	19A-AE111R6-092519-1
				Sample Date:	9/17/2019	9/16/2019	9/16/2019	9/16/2019	9/16/2019	9/25/2019	9/25/2019	9/25/2019	9/25/2019
				Sample Type:	N	N	N	N	N	N	N	N	N
				Depth Interval:	34 - 39 ft	47 - 52 ft	84 - 88 ft	164 - 169 ft	12 - 17 ft	44 - 54 ft	95 - 103 ft	155 - 165 ft	168 - 173 ft
				Lab Name:	PHOENIX/PAES	PHOENIX	PHOENIX/PAES	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX	PHOENIX
VOCs (ug/l)													
1,1,1,2-Tetrachloroethane	5	10	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,1-Trichloroethane	200	4000	20000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1,2,2-Tetrachloroethane	2	9	50000	100000	0.50 U	**R**	**R**	**R**	0.50 U	**R**	**R**	**R**	**R**
1,1,2-Trichloroethane	5	900	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethane	70	2000	20000	100000	1.0 U	**1.3**	**1.4**	**1.4**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloroethylene	7	80	30000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,1-Dichloropropene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichlorobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,3-Trichloropropane	NE	NE	NE	NE	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trichlorobenzene	70	200	50000	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2,4-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dibromo-3-Chloropropane (DBCP)	NE	NE	NE	NE	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
1,2-Dibromoethane	0.02	2	50000	100000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
1,2-Dichlorobenzene	600	8000	2000	80000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,2-Dichloroethane	5	5	20000	100000	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
1,2-Dichloropropane	5	3	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3,5-Trimethylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichlorobenzene	100	6000	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,3-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dichlorobenzene	5	60	8000	80000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
1,4-Dioxane	0.3	6000	50000	100000	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U	40 U
2,2-Dichloropropane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Butanone	4000	50000	50000	100000	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
2-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
2-Hexanone	NE	NE	NE	NE	5.0 U	**R**	**R**	**R**	5.0 U	**R**	**R**	**R**	**R**
2-Phenylbutane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Chlorotoluene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
4-Methyl-2-Pentanone	350	50000	50000	100000	5.0 U	**R**	**R**	**R**	5.0 U	**R**	**R**	**R**	**R**
Acetone	6300	50000	50000	100000	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**	**R**
Benzene	5	1000	10000	100000	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U	0.70 U
Bromobenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromochloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Bromodichloromethane	3	6	50000	100000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Bromoform	4	700	50000	100000	**R**	1.0 U	1.0 U	1.0 U	**R**	1.0 U	1.0 U	1.0 U	1.0 U
Bromomethane	10	7	800	8000	1.0 U	**R**	**R**	**R**	1.0 U	1.0 UJ	1.0 UJ	1.0 UJ	1.0 UJ
Carbon Disulfide	NE	NE	NE	NE	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U	5.0 U
Carbon Tetrachloride	5	2	5000	50000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chlorobenzene	100	200	1000	10000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroethane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloroform	70	50	20000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Chloromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,2-Dichloroethene	70	**20**	50000	100000	1.0 U	**28**	**33**	**15**	**8.5**	1.0 U	1.0 U	1.0 U	1.0 U
cis-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Cymene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dibromochloromethane	2	20	50000	100000	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U	0.50 U
Dibromomethane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Dichlorodifluoromethane (CFC-12)	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diethyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Diisopropyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethyl Tertiary-Butyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Ethylbenzene	700	20000	5000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Freon TF (Chlorinated fluorocarbon)	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Hexachloro-1,3-Butadiene	0.6	50	3000	30000	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
Isopropylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Methyl Tert-Butyl Ether	70	50000	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	**3.5**	1.0 U	1.0 U	1.0 U	1.0 U
Methylene Chloride	5	2000	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 UJ	1.0 U	1.0 U	1.0 U	1.0 U
mp-xylene	10000	3000	5000	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Naphthalene	140	700	20000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
N-Propylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
o-Xylene	10000	3000	5000	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Styrene	100	100	6000	60000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tert-Butylbenzene	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tertiary-Amyl Methyl Ether	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Tetrachloroethene	**5**	50	30000	100000	**3.6**	**2.9**	**2.3**	**1.6**	**12**	1.0 U	1.0 U	1.0 U	1.0 U
Tetrahydrofuran	NE	NE	NE	NE	2.5 U	**R**	**R**	**R**	2.5 U	**R**	**R**	**R**	**R**
Toluene	1000	50000	40000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	**8.6**	**3.4**	**1.5**
Total CVOCs	NE	NE	NE	NE	**9.4**	**36.8**	**43.1**	**54**	**37.5**	1.0 U	1.0 U	1.0 U	1.0 U
Trans-1,2-Dichloroethene	100	80	50000	100000	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Trans-1,3-Dichloropropene	NE	NE	NE	NE	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U	0.40 U
TRICHLOROETHENE	**5**	**5**	5000	50000	**5.8**	**4.6**	**4.8**	**36**	**17**	1.0 U	1.0 U	1.0 U	1.0 U
Trichlorofluoromethane	NE	NE	NE	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Vinyl Chloride	2	2	50000	100000	1.0 U	1.0 U	**1.6**	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U
Total Xylenes	10000	3000	5000	NE	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U

Notes:

1) **Bolded results represent detections**
2) Yellow highlighted results exceed GW standard(s)
3) U = Non-detect at laboratory detection limit
4) UJ = Non-detect at laboratory detection limit. Detection limit is estimated.
5) J = Estimated Value (J- biased low and J+ biased high)
6) NE = Not Established
7) Sample Type N = normal sample; FD = field duplicate
8) R = Rejected based on data validation results
9) GW standards listed for mp-xylenes and o-xylenes are for Total Xylenes

ATTACHMENT C

Groundwater Laboratory Analytical Results Packages

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/13/19	12:20
Location Code:	AECOM-WILMINGTN	Received by:	B	09/16/19	16:26
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE10295
Phoenix ID: CE10310

Project ID: LOCKHEED WILMINGTON MA 605520044.13
Client ID: 19A-AE106S-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/20/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/20/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/20/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,2-Dichloroethene	8.5	1.0	ug/L	1	09/20/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/20/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/20/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	3.5	1.0	ug/L	1	09/20/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrachloroethene	12	1.0	ug/L	1	09/20/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/20/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/20/19	MH	SW8260C
Trichloroethene	17	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/20/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/20/19	MH	70 - 130 %
% Bromofluorobenzene	96		%	1	09/20/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/20/19	MH	70 - 130 %
% Toluene-d8	102		%	1	09/20/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	09/20/19	HM	SW8260C 7
QA/QC Surrogates							

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% 1,2-dichlorobenzene-d4	99		%	1	09/20/19	HM	70 - 130 %	7
% Bromofluorobenzene	96		%	1	09/20/19	HM	70 - 130 %	7
% Dibromofluoromethane	103		%	1	09/20/19	HM	70 - 130 %	7
% Toluene-d8	102		%	1	09/20/19	HM	70 - 130 %	7

Oxygenates& Dioxane

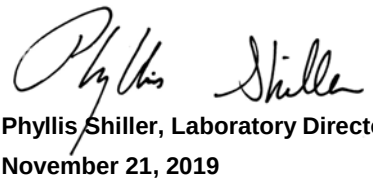
Diethyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	09/20/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	14:50
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11170

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R1-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.3	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11170

Client ID: 19A-AE106R1-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	28	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	2.9	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	4.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	94		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	09/24/19	MH	70 - 130 %
% Toluene-d8	98		%	1	09/24/19	MH	70 - 130 %
% 1,2-dichlorobenzene-d4 (20x)	98		%	20	09/23/19	MH	70 - 130 %
% Bromofluorobenzene (20x)	95		%	20	09/23/19	MH	70 - 130 %
% Dibromofluoromethane (20x)	107		%	20	09/23/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8 (20x)	99		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	15:15
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11171

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R3-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	0.081	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	0.139	0.001	mg/L	1	09/19/19	TH	SW6010D
Iron	0.091	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	0.147	0.001	mg/L	1	09/21/19	CPP	SW6010D
Chloride	112	6.0	mg/L	2	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.004	0.004	mg/L	1	09/17/19 22:56	BS/GD	E300.0
Nitrate as Nitrogen	0.13	0.05	mg/L	1	09/17/19 22:56	BS/GD	E300.0
Sulfate	11.9	3.0	mg/L	1	09/17/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	< 1.0	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
MA Petroleum Hydrocarbon (VPH)	Completed				09/19/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R3-091619-1

Phoenix I.D.: CE11171

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	33	20	ug/L	20	09/23/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Tetrachloroethene	2.3	1.0	ug/L	1	09/24/19	MH	SW8260C	
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C	
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C	
Trichloroethene	4.8	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Vinyl chloride	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	100		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	108		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	100		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	100		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	101		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	76		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	75		%	1	09/18/19	WB	40 - 140 %	

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
% Terphenyl-d14	48		%	1	09/18/19	WB	40 - 140 %
MA EPH Aliphatic/Aromatic Ranges							
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
Total TPH 1,2*	ND	190	ug/L	1	09/23/19	AW	MAEPH 5/2004
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	80		%	1	09/23/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	91		%	1	09/23/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	93		%	1	09/23/19	AW	40 - 140 %
% o-terphenyl (aromatic)	75		%	1	09/23/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/19/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/19/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	109		%	1	09/19/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	111		%	1	09/19/19	RM	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference

7 = This parameter is not certified by MA for this matrix.

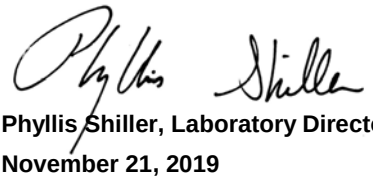
RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.



Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/16/19	15:00
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11172

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106R5-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
EPH Extraction	Completed				09/20/19	JS/D/AK	SW3510C
MA Petroleum Hydrocarbon (EPH)	Completed				09/17/19		MADEP EPH-04
Semi-Volatile Extraction	Completed				09/17/19	P/AK	SW3520C
MA Petroleum Hydrocarbon (VPH)	Completed				09/23/19	RM	MADEP VPH04
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	1.4	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	15	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	1.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Trichloroethene	36	20	ug/L	20	09/23/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	96		%	1	09/24/19	MH	70 - 130 %
% Bromofluorobenzene	99		%	1	09/24/19	MH	70 - 130 %
% Dibromofluoromethane	103		%	1	09/24/19	MH	70 - 130 %

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
% Toluene-d8	99		%	1	09/24/19	MH	70 - 130 %	
% 1,2-dichlorobenzene-d4 (20x)	101		%	20	09/23/19	MH	70 - 130 %	
% Bromofluorobenzene (20x)	94		%	20	09/23/19	MH	70 - 130 %	
% Dibromofluoromethane (20x)	98		%	20	09/23/19	MH	70 - 130 %	
% Toluene-d8 (20x)	100		%	20	09/23/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Semivolatiles by SIM, PAH								
2-Methylnaphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Acenaphthylene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benz(a)anthracene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(a)pyrene	ND	0.19	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(b)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(ghi)perylene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Benzo(k)fluoranthene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Chrysene	ND	0.05	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Dibenz(a,h)anthracene	ND	0.02	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluoranthene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Fluorene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Indeno(1,2,3-cd)pyrene	ND	0.09	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Naphthalene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Phenanthrene	ND	0.47	ug/L	1	09/18/19	WB	SW8270D (SIM)	
Pyrene	ND	0.07	ug/L	1	09/18/19	WB	SW8270D (SIM)	
QA/QC Surrogates								
% 2-Fluorobiphenyl	66		%	1	09/18/19	WB	40 - 140 %	
% Nitrobenzene-d5	67		%	1	09/18/19	WB	40 - 140 %	
% Terphenyl-d14	71		%	1	09/18/19	WB	40 - 140 %	
1,4-dioxane								
1,4-dioxane	0.27	0.20	ug/l	1	09/20/19	KCA	SW8270DSIM	
QA/QC Surrogates								
% 1,4-dioxane-d8	89		%	1	09/20/19	KCA	30 - 130 %	
Extraction for 1,4-Dioxane	Completed				09/19/19	S/S		
MA EPH Aliphatic/Aromatic Ranges								
C11-C22 Aromatic Hydrocarbons 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C11-C22 Aromatic Hydrocarbons Unadj	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C19-C36 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
C9-C18 Aliphatic Hydrocarbons 1*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	
Total TPH 1,2*	ND	190	ug/L	1	09/21/19	AW	MAEPH 5/2004	

Project ID: LOCKHEED-WILMINGTON MA 60552044.13 Phoenix I.D.: CE11172
Client ID: 19A-AE106R5-091619-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
QA/QC Surrogates							
% 1-chlorooctadecane (aliphatic)	97		%	1	09/21/19	AW	40 - 140 %
% 2-Bromonaphthalene (Fractionation)	101		%	1	09/21/19	AW	40 - 140 %
% 2-Fluorobiphenyl (Fractionation)	102		%	1	09/21/19	AW	40 - 140 %
% o-terphenyl (aromatic)	94		%	1	09/21/19	AW	40 - 140 %
MA Volatile Petroleum Hydrocarbons (VPH)							
Unadjusted C5-C8 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Unadjusted C9-C12 Aliphatics (*1)	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C5-C8 Aliphatic Hydrocarbons *1,2	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C12 Aliphatic Hydrocarbons *1,3	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
C9-C10 Aromatic Hydrocarbons *1	ND	100	ug/L	1	09/23/19	RM	MA VPH 5/2004
Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Ethyl Benzene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
MTBE	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Naphthalene	ND	5.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
Toluene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
m,p-Xylenes	ND	2.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
o-Xylene	ND	1.0	ug/L	1	09/23/19	RM	MA VPH 5/2004
QA/QC Surrogates							
% 2,5-Dibromotoluene (FID)	96		%	1	09/23/19	RM	70 - 130 %
% 2,5-Dibromotoluene (PID)	96		%	1	09/23/19	RM	70 - 130 %

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

MAEPH:
1* Hydrocarbon range data exclude concentrations of any surrogate(s) and/or internal standards eluting in that range.
2* C11-C12 Aromatic Hydrocarbons exclude the concentration of Target PAH analytes eluting in that range.

VPH:
*1 Range data exclude concentrations of any surrogate(s) and/or Internal stds eluting in that range.
*2 C5-C8 and C9-C12 Aliphatic exclude the conc. of Target Analytes in that range.
*3 C9-C12 Aliphatic also exclude C9-C10 Aromatic Hydrocarbons.

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/17/19	10:10
Location Code:	AECOM-WILMINGTN	Received by:	SW	09/17/19	17:06
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE11169
Phoenix ID: CE11179

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106D-091719-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Arsenic	< 0.004	0.004	mg/L	1	09/21/19	CPP	SW6010D
Arsenic (Dissolved)	< 0.004	0.004	mg/L	1	09/19/19	TH	SW6010D
Iron (Dissolved)	< 0.011	0.011	mg/L	1	09/19/19	TH	SW6010D
Manganese (Dissolved)	3.29	0.011	mg/L	10	09/20/19	EK	SW6010D
Iron	0.066	0.010	mg/L	1	09/21/19	CPP	SW6010D
Manganese	3.32	0.010	mg/L	10	09/24/19	TH	SW6010D
Chloride	688	30.0	mg/L	10	09/18/19	BS/GD	E300.0
Nitrite as Nitrogen	< 0.020	0.020	mg/L	5	09/18/19 20:24	BS/GD	E300.0
Nitrate as Nitrogen	3.38	0.25	mg/L	5	09/18/19 20:24	BS/GD	E300.0
Sulfate	28.4	3.0	mg/L	1	09/18/19	BS/GD	E300.0
Sulfide	< 0.05	0.05	mg/L	1	09/20/19	GD	SM4500S-D-11
Total Organic Carbon	1.2	1.0	mg/L	1	09/19/19	RR/EG	SM5310B-11
Dissolved Metals Preparation	Completed				09/18/19	AG	SW3005A
Total Metals Digestion	Completed				09/19/19	AG	
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,3-Trichloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C

Project ID: LOCKHEED-WILMINGTON MA 60552044.13
Client ID: 19A-AE106D-091719-1

Phoenix I.D.: CE11179

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
1,2-Dibromoethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	09/24/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Acetone	ND	25	ug/L	1	09/24/19	MH	SW8260C
Benzene	ND	0.70	ug/L	1	09/24/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	09/24/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	09/24/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrachloroethene	3.6	1.0	ug/L	1	09/24/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	09/24/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference	
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	09/24/19	MH	SW8260C	
Trichloroethene	5.8	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorofluoromethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Trichlorotrifluoroethane	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
Vinyl chloride	ND	1.0	ug/L	1	09/24/19	MH	SW8260C	
QA/QC Surrogates								
% 1,2-dichlorobenzene-d4	96		%	1	09/24/19	MH	70 - 130 %	
% Bromofluorobenzene	96		%	1	09/24/19	MH	70 - 130 %	
% Dibromofluoromethane	96		%	1	09/24/19	MH	70 - 130 %	
% Toluene-d8	96		%	1	09/24/19	MH	70 - 130 %	
1,4-dioxane								
1,4-dioxane	ND	40	ug/l	1	09/24/19	MH	SW8260C	7
Oxygenates& Dioxane								
Diethyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Di-isopropyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
Ethyl tert-butyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	
tert-amyl methyl ether	ND	1.0	ug/L	1	09/24/19	MH	SW8260C (OXY)	

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:15
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18819

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R1-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	103		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	104		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	99		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	100		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:20
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18820

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R3-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	8.6	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	100		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	100		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	98		%	1	10/01/19	MH	70 - 130 %
1,4-dioxane							
1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C

7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:25
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18821

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R5-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	3.4	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	99		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	105		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	101		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Environmental Laboratories, Inc.
587 East Middle Turnpike, P.O.Box 370, Manchester, CT 06045
Tel. (860) 645-1102 Fax (860) 645-0823

Analysis Report

November 21, 2019

FOR: Attn: Mr Scott Olson
AECOM
250 Apollo Drive
Chelmsford, MA 01824

Sample Information		Custody Information		Date	Time
Matrix:	GROUND WATER	Collected by:		09/25/19	14:30
Location Code:	AECOM-WILMINGTN	Received by:	LB	09/26/19	18:10
Rush Request:	Standard	Analyzed by:	see "By" below		
P.O.#:	117370				

Laboratory Data

SDG ID: GCE18817
Phoenix ID: CE18822

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R6-092519-1

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Volatiles							
1,1,1,2-Tetrachloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,1-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1,2,2-Tetrachloroethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,1,2-Trichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,1-Dichloropropene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,3-Trichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2,4-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromo-3-chloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dibromoethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloroethane	ND	0.60	ug/L	1	10/01/19	MH	SW8260C
1,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3,5-Trimethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,3-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
1,4-Dichlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2,2-Dichloropropane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
2-Hexanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
4-Chlorotoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
4-Methyl-2-pentanone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Acetone	ND	25	ug/L	1	10/01/19	MH	SW8260C

Project ID: LOCKHEED - WILLMINGTON MA 60552044.13
Client ID: 19A-AE111R6-092519-1

Phoenix I.D.: CE18822

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Benzene	ND	0.70	ug/L	1	10/01/19	MH	SW8260C
Bromobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromochloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromodichloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Bromoform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Bromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Carbon Disulfide	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Carbon tetrachloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chlorobenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloroform	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Chloromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
cis-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Dibromochloromethane	ND	0.50	ug/L	1	10/01/19	MH	SW8260C
Dibromomethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Dichlorodifluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Ethylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Hexachlorobutadiene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Isopropylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
m&p-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methyl ethyl ketone	ND	5.0	ug/L	1	10/01/19	MH	SW8260C
Methyl t-butyl ether (MTBE)	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Methylene chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Naphthalene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
n-Propylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
o-Xylene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
p-Isopropyltoluene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
sec-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Styrene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
tert-Butylbenzene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrachloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Tetrahydrofuran (THF)	ND	2.5	ug/L	1	10/01/19	MH	SW8260C
Toluene	1.5	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,2-Dichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
trans-1,3-Dichloropropene	ND	0.40	ug/L	1	10/01/19	MH	SW8260C
Trichloroethene	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorofluoromethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Trichlorotrifluoroethane	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
Vinyl chloride	ND	1.0	ug/L	1	10/01/19	MH	SW8260C
QA/QC Surrogates							
% 1,2-dichlorobenzene-d4	98		%	1	10/01/19	MH	70 - 130 %
% Bromofluorobenzene	100		%	1	10/01/19	MH	70 - 130 %
% Dibromofluoromethane	97		%	1	10/01/19	MH	70 - 130 %
% Toluene-d8	99		%	1	10/01/19	MH	70 - 130 %

1,4-dioxane

1,4-dioxane	ND	40	ug/l	1	10/01/19	MH	SW8260C	7

Ver 2

Parameter	Result	RL/ PQL	Units	Dilution	Date/Time	By	Reference
Oxygenates& Dioxane							
Diethyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Di-isopropyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
Ethyl tert-butyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)
tert-amyl methyl ether	ND	1.0	ug/L	1	10/01/19	MH	SW8260C (OXY)

7 = This parameter is not certified by MA for this matrix.

RL/PQL=Reporting/Practical Quantitation Level ND=Not Detected BRL=Below Reporting Level
QA/QC Surrogates: Surrogates are compounds (preceeded with a %) added by the lab to determine analysis efficiency. Surrogate results(%) listed in the report are not "detected" compounds.

Comments:

If you are the client above and have any questions concerning this testing, please do not hesitate to contact Phoenix Client Services at ext.200.
The contents of this report cannot be discussed with anyone other than the client listed above without their written consent.

Phyllis Shiller, Laboratory Director
November 21, 2019
Reviewed and Released by: Greg Lawrence, Assistant Lab Director

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820002** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE106R3-091619-1** Date Collected: 9/16/2019 15:15

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**560**	ug/l	0.50	0.094	1	9/26/2019 12:27	MM	n
Ethane	**0.16**	ug/l	0.10	0.011	1	9/26/2019 12:27	MM	n
Ethene	**2.7**	ug/l	0.10	0.0080	1	9/26/2019 12:27	MM	n
Propane	**0.048J**	ug/l	0.10	0.0080	1	9/26/2019 12:27	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 12:27	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820006** Date Received: 9/20/2019 11:30 Matrix: Water

Sample ID: **19A-AE106D-091719-1** Date Collected: 9/17/2019 10:10

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Methane	**3.1**	ug/l	0.50	0.094	1	9/26/2019 13:33	MM	n
Ethane	**0.078J**	ug/l	0.10	0.011	1	9/26/2019 13:33	MM	n
Ethene	**0.016J**	ug/l	0.10	0.0080	1	9/26/2019 13:33	MM	n
Propane	**0.045J**	ug/l	0.10	0.0080	1	9/26/2019 13:33	MM	n
Acetylene	**0.50 U**	ug/l	0.50	0.037	1	9/26/2019 13:33	MM	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820011** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE106R3-091619-1** Date Collected: 9/16/2019 17:38

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**2.2**	nM	1.0	0.75	1	9/28/2019 07:36	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.

Pace Analytical Energy Services LLC
220 William Pitt Way
Pittsburgh, PA 15238
Phone: (412) 826-5245
Fax: (412) 826-3433

ANALYTICAL RESULTS

Workorder: 31482 LMC WILMINGTON / 60552044.13

Lab ID: **314820015** Date Received: 9/20/2019 11:30 Matrix: Bubble Strip

Sample ID: **19A-AE106D-091719-1** Date Collected: 9/17/2019 10:45

Parameters	Results	Units	PQL	MDL	DF	Analyzed	By	Qualifiers
RISK - PAES								
Analysis Desc: AM20GAX		Analytical Method: AM20GAX						
Hydrogen	**1.6**	nM	1.0	0.75	1	9/28/2019 08:31	TD	n

CERTIFICATE OF ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Energy Services LLC.