Wood Environment & Infrastructure Solutions, Inc.
271 Mill Road, 3rd Floor
Chelmsford, MA 01824
USA
T: 978-692-9090

www.woodplc.com

January 3, 2022

Mr. Joseph T. Martella II, Senior Engineer
Rhode Island Department of Environmental Management
Office of Land Revitalization and Sustainable Materials Management
Site Remediation Program
235 Promenade Street
Providence, Rhode Island 02908

RE: Parcel C Groundwater Sampling – August 16, 2021
Former Gorham Manufacturing Facility
333 Adelaide Avenue, Providence, Rhode Island
Wood Project No. 3652210306

Dear Mr. Martella:

This letter summarizes the August 16, 2021 collection and analysis of a groundwater sample from monitoring well MW-D within Parcel C at the Former Gorham Manufacturing Site in Providence, Rhode Island (Figure 1). This activity was performed to supplement historic periodic groundwater testing done between July 2015 and September 2017. The groundwater sampling was conducted in accordance with the Remedial Action Work Plan (RAWP) dated March 11, 2015 and the corresponding Rhode Island Department of Environmental Management (RIDEM) July 9, 2015 Order of Approval (Order of Approval).

Background

Extensive groundwater investigations were previously conducted throughout the upland portions of the Former Gorham Manufacturing Site property, including Parcel C, and within the Mashapaug Inner and Outer Coves. The groundwater investigations identified low levels of volatile organic compounds (VOCs) in groundwater immediately upgradient of and along the southern shore of the Inner Cove (Parcels C and C-1).

Based on 2006-2010 groundwater data, tetrachloroethylene and trichloroethylene (PCE/TCE) were present at low levels in groundwater from the northwestern corner of Parcel C. Groundwater and Inner Cove sediment data collected during the same period (2006-2010) demonstrated that a clear trend of decreasing contaminant concentrations within the groundwater had occurred over time.

RIDEM's Order of Approval required Textron to monitor Parcel C/C-1 groundwater following completion of the remedial action in December 2015, by sampling six wells (MW-235S, MW-236S, MW-237S, MW-D, MW-241, and MW-FS) until data from three consecutive sampling rounds demonstrate that Parcel C groundwater is compliant with RIDEM's GB Groundwater Objectives with no increasing concentrations of VOCs, and that Parcel C-1 groundwater is compliant with the Massachusetts Department of Environmental Protection (MassDEP) GW-3 Standards with no increasing concentrations of VOCs. The April 2016 sampling event confirmed that both MW-FS and MW-237S met the required criteria of three consecutive decreasing rounds of groundwater data and data below the MassDEP GW-3 Standards. These two wells

were eliminated from the groundwater monitoring program (April 2016 groundwater monitoring report). Three more wells were eliminated from monitoring following the July 2016 sampling round, including MW-235S, MW-236S, and MW-241, in accordance with the Order of Approval. Since September 2016, only MW-D has been sampled; it has been sampled ten times (September and December 2016, March and September 2017, and April and October 2019, March and September 2020, March and August 2021).

At the time of the Parcel C Closure Report submittal in May 2017, TCE and 1,1-dichloroethene (1,1-DCE) were the only analytes present above their respective GB Groundwater Objectives in MW-D. In 2016 and 2017, TCE had been detected at concentrations ranging from 0.5 milligrams per liter (mg/L) to 3.32 mg/l; most results were above its GB Groundwater Objective of 0.54 mg/L. Concentrations of 1,1-DCE ranged from 0.002 mg/L to 0.0149 mg/l; some of these results exceeded the GB Groundwater Criteria of 0.007 mg/L. Concentration trends for both analytes were generally decreasing during 2017.

On April 11, 2019, Wood sampled the one remaining groundwater monitoring well, MW-D (Figure 2). Sample collection included a duplicate groundwater sample from MW-D. The results were presented in a letter report dated May 9, 2019. All April 2019 VOC results, including those for 1,1-DCE and TCE, were below the GB Groundwater Objectives, continuing the decreasing trend observed in 2017.

On October 17, 2019, Wood again sampled monitoring well MW-D, including a duplicate sample. VOC results for 1,1-DCE and TCE increased to slightly above their respective RI GB standard, but remained below their MassDEP GW-3 standard. The results for the two compounds continued to show a gradual long-term downward trend since 2016.

In 2020, the one remaining groundwater monitoring well was sampled twice. APTIM sampled on March 6, including a duplicate sample, and Wood sampled the well on September 2. VOC results for 1,1-DCE and TCE continued to have a gradual downward trend. Results for 1,1-DCE were below both the GB Groundwater Objective and the MassDEP GW-3 Standard while TCE results were still above its GB Groundwater Objective but remained below its MassDEP GW-3 standard.

In 2021 the remaining groundwater monitoring well was once again sampled twice. Both sampling events were completed by APTIM. The first sampling event occurred on March 8, 2021 and indicated a continued downward trend in 1,1-DCE and TCE. 1,1-DCE results remained below applicable standards while TCE results remained above the GB Groundwater Objective while remaining below the MassDEP GW-3 Standard. The second sampling event is summarized below.

August 2021 Activities

On August 16, 2021, APTIM, of Canton, Massachusetts sampled the one remaining groundwater monitoring well, MW-D (Figure 2), using the U.S. Environmental Protection Agency (USEPA) low-flow methodology. The one sample was submitted under chain-of-custody control to an off-site laboratory for VOC analysis by USEPA Method 8260B. Stabilization parameters for this groundwater sampling event are included in **Appendix A**.

Groundwater Sampling Results

Table 1 summarizes the historic VOC concentrations detected in MW-D including the August 2021 groundwater sampling event. VOC concentrations detected in Parcel C (including MW-D) are compared to the GB Groundwater Objectives, as well as the MassDEP GW-3 Standards. The analytical laboratory report for the August 2021 groundwater sampling event is included in **Appendix B**.

As shown in **Table 1**, results from the August 2021 sampling round show that only TCE and cis-1,2-dichloroethene were detected. The TCE concentration was above its GB Groundwater Objective but remained below its MassDEP GW-3 standard. During this sampling round cis-1,2-dichloroethene remained well below applicable standards. The concentration of TCE was higher in this sampling round than in the previous 3 sampling periods. Historically, 1,1-DCE is the other compound detected in MW-D. This compound was not detected in the August 2021 sample consistent with the downward trend from past events.

Groundwater Monitoring Approach

Based on the extensive groundwater data collected, VOC concentrations within the northwestern area of Parcel C have been reduced. In 2016 and 2017, only MW-D continued to exhibit exceedances of GB Groundwater Objectives, specifically for TCE and 1,1-DCE. Concentrations of 1,1-DCE had reduced to below their respective criteria by April 2019, likely as a result of continued biodegradation and natural attenuation in the groundwater. Subsequent to concentrations rebounding slightly above the criteria in October 2019, they have either stayed steady or decreased in the last four sampling rounds (March 2020, September 2020, March 2021, and August 2021). TCE concentrations have been trending downward since the September, 2016 sampling event although this recent sampling event was indicative of a slight increase in concentrations. The results continued to show an overall downward trend in all analytes since 2016.

The Parcel C/C-1 area is currently being used by the City of Providence School Department as a soccer field. No buildings are planned in the area of MW-D which is located within the woods. The final Environmental Land Use Restrictions (ELUR) and Soil Management Plan (SMP) has been signed by the City of Providence and filed in the Providence Land Evidence Records. A copy of this signed ELUR and SMP was submitted to RIDEM for their records. The ELUR includes the provision preventing the use of the groundwater for potable and non-potable use, and that no subsurface structures can be constructed over the groundwater without prior approval from RIDEM. This provision addresses the potential future vapor intrusion issue associated with the RIDEM GB Groundwater Objective.

Textron proposes to continue monitoring the groundwater quality at MW-D on a semi-annual basis, pending continued compliance with RIDEM's GB Groundwater Objectives. The next scheduled sampling event is for February 2022. A report will be prepared and submitted to the RIDEM in April 2022, to update the status of this one monitoring well and it will include a recommendation concerning the continuation of the semi-annual monitoring of this well.

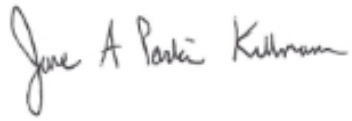
Please contact Greg Simpson, Textron, (401-457-2635) or Greg Avenia, Wood, (401-648-9243) if we can provide additional information or answer any questions concerning these groundwater monitoring data and planned future sampling of MW-D.

Sincerely,

Wood Environment & Infrastructure Solutions, Inc.

Brian Thornton
Technical Professional II - Geology

Gregory Avenia, PE, CFM
Project Manager



Jane Parkin Kullmann, PhD, CPH
Senior Risk Assessor

Enclosures: Table 1 – Summary of Parcel C/C-1 Groundwater Results 1989 – 2021
Figure 1 – Site Location Map
Figure 2 – Parcel C/C-1 Site Map
Appendix A – Stabilization Parameters August 2021 Sampling Event
Appendix B – Laboratory Report August 2021 Sampling Event

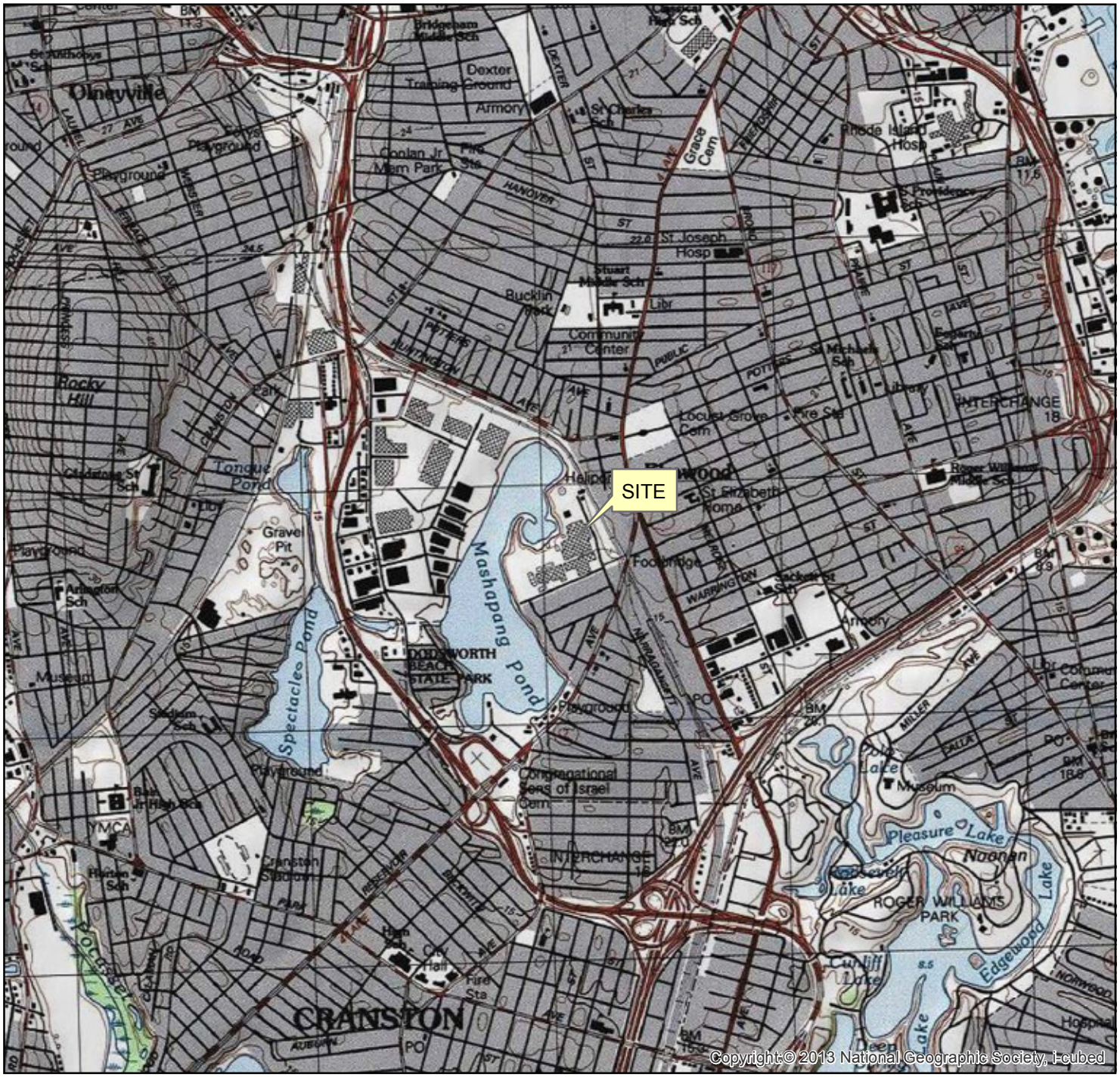
cc: Robert Azar, Deputy Director - Providence Planning & Development (Electronic)
G. Simpson, Textron, Inc. (Electronic)
C. Spooner, Textron, Inc. (Electronic)
Knight Memorial Library Repository
Wood Project File

Tables

Table 1
MW-D/B-4
Groundwater Results 1989 - 2021
Former Gorham Manufacturing Site

| | Location: | | |

Figures



Location of Site

SITE LOCATION MAP

Former Gorham
Manufacturing Site

333 Adelaide Avenue
Providence, Rhode Island

Notes & Sources

0 1,000 2,000
Feet

N

wood.
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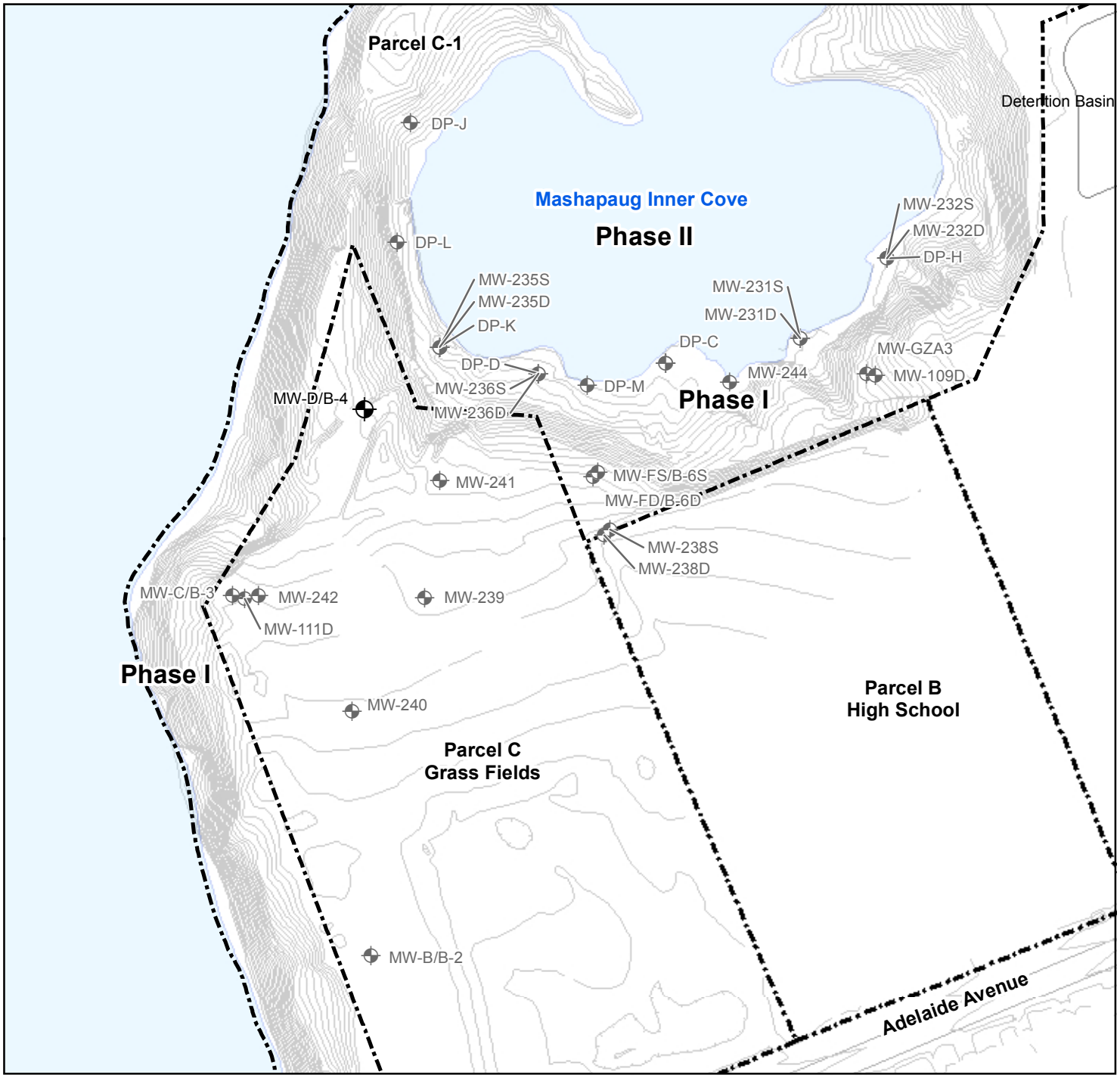
Chelmsford, MA 01824
(978) 692-9090

FIGURE
1

H:\Textron-Gorham\Providence_RI\Task7\MXD\Fig1_SiteLocus.mxd May 08, 2019 DWN: emily.gardiner CHKD: AKN



PARCEL C: MW-D

Former Gorham Manufacturing Site

333 Adelaide Avenue
Providence, Rhode Island

Legend

- Existing Monitoring Well
- Abandoned Monitoring Well
- Approximate Site Boundary
- Mashapaug Pond
- Elevation Contour

Location of Site

Notes & Sources

0 140 Feet

N

wood.
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271 Mill Road
Chelmsford, MA 01824
(978) 692-9090

FIGURE
2

H:\Textron-Gorham\Providence_RI\Task7\MXD\Fig1_ParcelC_MW-D.mxd May 08, 2019 DWN: emily.gardiner CHKD: HWC

Appendix A

Field Data Record August 2021 Sampling Event

Appendix A - Stabilization Parameters for MW-D, August 2021 Sampling Event	
Date	8/16/2021
pH	5.83
Temp (°C)	12.42
Conductivity (µS/cm)	485
DO (mg/L)	2.54
ORP (mV)	64.3
Turbidity (NTU)	0.6
Depth to Water (ft)	21.05
Depth to Bottom (ft)	33.77

Prepared by: BPT 12/11/2021

Checked by: JPK 1/4/2022

Appendix B

Laboratory Report, August 2021 Sampling Event

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

August 18, 2021

Catherine Joe Mainville
APTIM - MA
150 Royall Street
Canton, MA 02021

Project Location: 333 Adelaide Ave., Providence, RI
Client Job Number:
Project Number: 631010697
Laboratory Work Order Number: 21H0767

Enclosed are results of analyses for samples received by the laboratory on August 16, 2021. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Scott C. Basal
Project Manager

Table of Contents

39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

APTIM - MA
150 Royall Street
Canton, MA 02021
ATTN: Catherine Joe Mainville

REPORT DATE: 8/18/2021

PURCHASE ORDER NUMBER: 216859

PROJECT NUMBER: 631010697

ANALYTICAL SUMMARY

WORK ORDER NUMBER: 21H0767

The results of analyses performed on the following samples submitted to CON-TEST, a Pace Analytical Laboratory, are found in this report.

PROJECT LOCATION: 333 Adelaide Ave., Providence, RI

FIELD SAMPLE #	LAB ID:	MATRIX	SAMPLE DESCRIPTION	TEST	SUB LAB
MW-D	21H0767-01	Ground Water		SW-846 8260C-D	

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CASE NARRATIVE SUMMARY

All reported results are within defined laboratory quality control objectives unless listed below or otherwise qualified in this report.

SW-846 8260C-D

Qualifications:

RL-11

Elevated reporting limit due to high concentration of target compounds.

Analyte & Samples(s) Qualified:

21H0767-01[MW-D]

V-05

Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.

Analyte & Samples(s) Qualified:

Chloromethane
21H0767-01[MW-D], B288365-BLK1, B288365-BS1, B288365-BSD1, S062492-CCV1

Dichlorodifluoromethane (Freon 12
21H0767-01[MW-D], B288365-BLK1, B288365-BS1, B288365-BSD1, S062492-CCV1

V-20

Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.

Analyte & Samples(s) Qualified:

Bromochloromethane
B288365-BS1, B288365-BSD1, S062492-CCV1

V-34

Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

Analyte & Samples(s) Qualified:

Bromomethane
21H0767-01[MW-D], B288365-BLK1, B288365-BS1, B288365-BSD1, S062492-CCV1

Chloromethane
21H0767-01[MW-D], B288365-BLK1, B288365-BS1, B288365-BSD1, S062492-CCV1

The results of analyses reported only relate to samples submitted to Con-Test, a Pace Analytical Laboratory, for testing.
I certify that the analyses listed above, unless specifically listed as subcontracted, if any, were performed under my direction according to the approved methodologies listed in this document, and that based upon my inquiry of those individuals immediately responsible for obtaining the information, the material contained in this report is, to the best of my knowledge and belief, accurate and complete.

Lisa A. Worthington
Technical Representative

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39 Spruce Street * East Longmeadow, MA 01028 * FAX 413/525-6405 * TEL. 413/525-2332

Project Location: 333 Adelaide Ave., Providence, R Sample Description: Work Order: 21H0767

Date Received: 8/16/2021

Field Sample #: MW-D Sampled: 8/16/2021 09:00

Sample ID: 21H0767-01

Sample Matrix: Ground Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Acetone	ND	1200	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Acrylonitrile	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
tert-Amyl Methyl Ether (TAME)	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Benzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Bromobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Bromochloromethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Bromodichloromethane	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Bromoform	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Bromomethane	ND	120	µg/L	25	V-34	SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
2-Butanone (MEK)	ND	500	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
tert-Butyl Alcohol (TBA)	ND	500	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
n-Butylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
sec-Butylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
tert-Butylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
tert-Butyl Ethyl Ether (TBEE)	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Carbon Disulfide	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Carbon Tetrachloride	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Chlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Chlorodibromomethane	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Chloroethane	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Chloroform	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Chloromethane	ND	50	µg/L	25	V-05, V-34	SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
2-Chlorotoluene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
4-Chlorotoluene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2-Dibromo-3-chloropropane (DBCP)	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2-Dibromoethane (EDB)	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Dibromomethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2-Dichlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,3-Dichlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,4-Dichlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
trans-1,4-Dichloro-2-butene	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Dichlorodifluoromethane (Freon 12)	ND	50	µg/L	25	V-05	SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1-Dichloroethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2-Dichloroethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1-Dichloroethylene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
cis-1,2-Dichloroethylene	72	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
trans-1,2-Dichloroethylene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2-Dichloropropane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,3-Dichloropropane	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
2,2-Dichloropropane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1-Dichloropropene	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
cis-1,3-Dichloropropene	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
trans-1,3-Dichloropropene	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Diethyl Ether	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD

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Project Location: 333 Adelaide Ave., Providence, R Sample Description: Work Order: 21H0767

Date Received: 8/16/2021

Field Sample #: MW-D Sampled: 8/16/2021 09:00

Sample ID: 21H0767-01

Sample Matrix: Ground Water

Sample Flags: RL-11

Volatile Organic Compounds by GC/MS

Analyte	Results	RL	Units	Dilution	Flag/Qual	Method	Date Prepared	Date/Time Analyzed	Analyst
Diisopropyl Ether (DIPE)	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,4-Dioxane	ND	1200	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Ethylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Hexachlorobutadiene	ND	15	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
2-Hexanone (MBK)	ND	250	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Isopropylbenzene (Cumene)	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
p-Isopropyltoluene (p-Cymene)	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Methyl Acetate	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Methyl tert-Butyl Ether (MTBE)	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Methyl Cyclohexane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Methylene Chloride	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
4-Methyl-2-pentanone (MIBK)	ND	250	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Naphthalene	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
n-Propylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Styrene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1,1,2-Tetrachloroethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1,2,2-Tetrachloroethane	ND	12	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Tetrachloroethylene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Tetrahydrofuran	ND	250	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Toluene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2,3-Trichlorobenzene	ND	120	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2,4-Trichlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,3,5-Trichlorobenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1,1-Trichloroethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1,2-Trichloroethane	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Trichloroethylene	2000	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Trichlorofluoromethane (Freon 11)	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2,3-Trichloropropane	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,2,4-Trimethylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
1,3,5-Trimethylbenzene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Vinyl Chloride	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
m+p Xylene	ND	50	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
o-Xylene	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD
Xylenes (total)	ND	25	µg/L	25		SW-846 8260C-D	8/17/21	8/17/21 13:07	LBD

Surrogates	% Recovery	Recovery Limits	Flag/Qual	
1,2-Dichloroethane-d4	77.4	70-130		8/17/21 13:07
Toluene-d8	94.6	70-130		8/17/21 13:07
4-Bromofluorobenzene	99.4	70-130		8/17/21 13:07

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Sample Extraction Data

Prep Method: SW-846 5030B **Analytical Method: SW-846 8260C-D**

Lab Number [Field ID]	Batch	Initial [mL]	Final [mL]	Date
21H0767-01 [MW-D]	B288365	0.2	5.00	08/17/21

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288365 - SW-846 5030B										
Blank (B288365-BLK1)				Prepared & Analyzed: 08/17/21						
Acetone	ND	50	µg/L							
Acrylonitrile	ND	5.0	µg/L							
tert-Amyl Methyl Ether (TAME)	ND	0.50	µg/L							
Benzene	ND	1.0	µg/L							
Bromobenzene	ND	1.0	µg/L							
Bromochloromethane	ND	1.0	µg/L							
Bromodichloromethane	ND	0.50	µg/L							
Bromoform	ND	1.0	µg/L							
Bromomethane	ND	2.0	µg/L							V-34
2-Butanone (MEK)	ND	20	µg/L							
tert-Butyl Alcohol (TBA)	ND	20	µg/L							
n-Butylbenzene	ND	1.0	µg/L							
sec-Butylbenzene	ND	1.0	µg/L							
tert-Butylbenzene	ND	1.0	µg/L							
tert-Butyl Ethyl Ether (TBEE)	ND	0.50	µg/L							
Carbon Disulfide	ND	5.0	µg/L							
Carbon Tetrachloride	ND	5.0	µg/L							
Chlorobenzene	ND	1.0	µg/L							
Chlorodibromomethane	ND	0.50	µg/L							
Chloroethane	ND	2.0	µg/L							
Chloroform	ND	2.0	µg/L							
Chloromethane	ND	2.0	µg/L							V-05, V-34
2-Chlorotoluene	ND	1.0	µg/L							
4-Chlorotoluene	ND	1.0	µg/L							
1,2-Dibromo-3-chloropropane (DBCP)	ND	5.0	µg/L							
1,2-Dibromoethane (EDB)	ND	0.50	µg/L							
Dibromomethane	ND	1.0	µg/L							
1,2-Dichlorobenzene	ND	1.0	µg/L							
1,3-Dichlorobenzene	ND	1.0	µg/L							
1,4-Dichlorobenzene	ND	1.0	µg/L							
trans-1,4-Dichloro-2-butene	ND	2.0	µg/L							
Dichlorodifluoromethane (Freon 12)	ND	2.0	µg/L							V-05
1,1-Dichloroethane	ND	1.0	µg/L							
1,2-Dichloroethane	ND	1.0	µg/L							
1,1-Dichloroethylene	ND	1.0	µg/L							
cis-1,2-Dichloroethylene	ND	1.0	µg/L							
trans-1,2-Dichloroethylene	ND	1.0	µg/L							
1,2-Dichloropropane	ND	1.0	µg/L							
1,3-Dichloropropane	ND	0.50	µg/L							
2,2-Dichloropropane	ND	1.0	µg/L							
1,1-Dichloropropene	ND	2.0	µg/L							
cis-1,3-Dichloropropene	ND	0.50	µg/L							
trans-1,3-Dichloropropene	ND	0.50	µg/L							
Diethyl Ether	ND	2.0	µg/L							
Diisopropyl Ether (DIPE)	ND	0.50	µg/L							
1,4-Dioxane	ND	50	µg/L							
Ethylbenzene	ND	1.0	µg/L							
Hexachlorobutadiene	ND	0.60	µg/L							
2-Hexanone (MBK)	ND	10	µg/L							
Isopropylbenzene (Cumene)	ND	1.0	µg/L							
p-Isopropyltoluene (p-Cymene)	ND	1.0	µg/L							
Methyl Acetate	ND	1.0	µg/L							

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B288365 - SW-846 5030B											
Blank (B288365-BLK1)				Prepared & Analyzed: 08/17/21							
Methyl tert-Butyl Ether (MTBE)	ND	1.0	µg/L								
Methyl Cyclohexane	ND	1.0	µg/L								
Methylene Chloride	ND	5.0	µg/L								
4-Methyl-2-pentanone (MIBK)	ND	10	µg/L								
Naphthalene	ND	2.0	µg/L								
n-Propylbenzene	ND	1.0	µg/L								
Styrene	ND	1.0	µg/L								
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L								
1,1,2,2-Tetrachloroethane	ND	0.50	µg/L								
Tetrachloroethylene	ND	1.0	µg/L								
Tetrahydrofuran	ND	10	µg/L								
Toluene	ND	1.0	µg/L								
1,2,3-Trichlorobenzene	ND	5.0	µg/L								
1,2,4-Trichlorobenzene	ND	1.0	µg/L								
1,3,5-Trichlorobenzene	ND	1.0	µg/L								
1,1,1-Trichloroethane	ND	1.0	µg/L								
1,1,2-Trichloroethane	ND	1.0	µg/L								
Trichloroethylene	ND	1.0	µg/L								
Trichlorofluoromethane (Freon 11)	ND	2.0	µg/L								
1,2,3-Trichloropropane	ND	2.0	µg/L								
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	1.0	µg/L								
1,2,4-Trimethylbenzene	ND	1.0	µg/L								
1,3,5-Trimethylbenzene	ND	1.0	µg/L								
Vinyl Chloride	ND	2.0	µg/L								
m+p Xylene	ND	2.0	µg/L								
o-Xylene	ND	1.0	µg/L								
Xylenes (total)	ND	1.0	µg/L								
Surrogate: 1,2-Dichloroethane-d4	*19.1*		µg/L	25.0		76.2	70-130				
Surrogate: Toluene-d8	*23.2*		µg/L	25.0		92.7	70-130				
Surrogate: 4-Bromofluorobenzene	*24.7*		µg/L	25.0		98.8	70-130				
LCS (B288365-BS1)				Prepared & Analyzed: 08/17/21							
Acetone	93.1	50	µg/L	100		93.1	70-160				†
Acrylonitrile	11.4	5.0	µg/L	10.0		114	70-130				
tert-Amyl Methyl Ether (TAME)	10.0	0.50	µg/L	10.0		100	70-130				
Benzene	10.7	1.0	µg/L	10.0		107	70-130				
Bromobenzene	10.7	1.0	µg/L	10.0		107	70-130				
Bromochloromethane	12.8	1.0	µg/L	10.0		128	70-130			V-20	
Bromodichloromethane	10.8	0.50	µg/L	10.0		108	70-130				
Bromoform	11.7	1.0	µg/L	10.0		117	70-130				
Bromomethane	13.3	2.0	µg/L	10.0		133	40-160			V-34	†
2-Butanone (MEK)	100	20	µg/L	100		100	40-160				†
tert-Butyl Alcohol (TBA)	96.4	20	µg/L	100		96.4	40-160				†
n-Butylbenzene	8.85	1.0	µg/L	10.0		88.5	70-130				
sec-Butylbenzene	8.99	1.0	µg/L	10.0		89.9	70-130				
tert-Butylbenzene	9.54	1.0	µg/L	10.0		95.4	70-130				
tert-Butyl Ethyl Ether (TBEE)	10.2	0.50	µg/L	10.0		102	70-130				
Carbon Disulfide	101	5.0	µg/L	100		101	70-130				
Carbon Tetrachloride	10.3	5.0	µg/L	10.0		103	70-130				
Chlorobenzene	11.3	1.0	µg/L	10.0		113	70-130				
Chlorodibromomethane	11.2	0.50	µg/L	10.0		112	70-130				
Chloroethane	9.87	2.0	µg/L	10.0		98.7	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B288365 - SW-846 5030B											
LCS (B288365-BS1)				Prepared & Analyzed: 08/17/21							
Chloroform	10.2	2.0	µg/L	10.0		102	70-130				
Chloromethane	4.09	2.0	µg/L	10.0		40.9	40-160			V-05, V-34	†
2-Chlorotoluene	10.5	1.0	µg/L	10.0		105	70-130				
4-Chlorotoluene	10.6	1.0	µg/L	10.0		106	70-130				
1,2-Dibromo-3-chloropropane (DBCP)	8.71	5.0	µg/L	10.0		87.1	70-130				
1,2-Dibromoethane (EDB)	12.0	0.50	µg/L	10.0		120	70-130				
Dibromomethane	11.3	1.0	µg/L	10.0		113	70-130				
1,2-Dichlorobenzene	9.98	1.0	µg/L	10.0		99.8	70-130				
1,3-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130				
1,4-Dichlorobenzene	9.89	1.0	µg/L	10.0		98.9	70-130				
trans-1,4-Dichloro-2-butene	11.5	2.0	µg/L	10.0		115	70-130				
Dichlorodifluoromethane (Freon 12)	8.83	2.0	µg/L	10.0		88.3	40-160			V-05	†
1,1-Dichloroethane	10.6	1.0	µg/L	10.0		106	70-130				
1,2-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130				
1,1-Dichloroethylene	10.1	1.0	µg/L	10.0		101	70-130				
cis-1,2-Dichloroethylene	10.8	1.0	µg/L	10.0		108	70-130				
trans-1,2-Dichloroethylene	11.2	1.0	µg/L	10.0		112	70-130				
1,2-Dichloropropane	11.6	1.0	µg/L	10.0		116	70-130				
1,3-Dichloropropane	11.3	0.50	µg/L	10.0		113	70-130				
2,2-Dichloropropane	10.1	1.0	µg/L	10.0		101	40-130				†
1,1-Dichloropropene	10.6	2.0	µg/L	10.0		106	70-130				
cis-1,3-Dichloropropene	11.2	0.50	µg/L	10.0		112	70-130				
trans-1,3-Dichloropropene	10.8	0.50	µg/L	10.0		108	70-130				
Diethyl Ether	9.90	2.0	µg/L	10.0		99.0	70-130				
Diisopropyl Ether (DIPE)	10.6	0.50	µg/L	10.0		106	70-130				
1,4-Dioxane	107	50	µg/L	100		107	40-130				†
Ethylbenzene	10.8	1.0	µg/L	10.0		108	70-130				
Hexachlorobutadiene	10.0	0.60	µg/L	10.0		100	70-130				
2-Hexanone (MBK)	100	10	µg/L	100		100	70-160				†
Isopropylbenzene (Cumene)	10.9	1.0	µg/L	10.0		109	70-130				
p-Isopropyltoluene (p-Cymene)	9.67	1.0	µg/L	10.0		96.7	70-130				
Methyl Acetate	10.9	1.0	µg/L	10.0		109	70-130				
Methyl tert-Butyl Ether (MTBE)	10.1	1.0	µg/L	10.0		101	70-130				
Methyl Cyclohexane	11.5	1.0	µg/L	10.0		115	70-130				
Methylene Chloride	10.3	5.0	µg/L	10.0		103	70-130				
4-Methyl-2-pentanone (MIBK)	107	10	µg/L	100		107	70-160				†
Naphthalene	8.38	2.0	µg/L	10.0		83.8	40-130				†
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130				
Styrene	11.3	1.0	µg/L	10.0		113	70-130				
1,1,1,2-Tetrachloroethane	12.2	1.0	µg/L	10.0		122	70-130				
1,1,2,2-Tetrachloroethane	11.2	0.50	µg/L	10.0		112	70-130				
Tetrachloroethylene	13.0	1.0	µg/L	10.0		130	70-130				
Tetrahydrofuran	10.2	10	µg/L	10.0		102	70-130				
Toluene	11.3	1.0	µg/L	10.0		113	70-130				
1,2,3-Trichlorobenzene	9.23	5.0	µg/L	10.0		92.3	70-130				
1,2,4-Trichlorobenzene	9.87	1.0	µg/L	10.0		98.7	70-130				
1,3,5-Trichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130				
1,1,1-Trichloroethane	10.2	1.0	µg/L	10.0		102	70-130				
1,1,2-Trichloroethane	11.6	1.0	µg/L	10.0		116	70-130				
Trichloroethylene	11.6	1.0	µg/L	10.0		116	70-130				
Trichlorofluoromethane (Freon 11)	9.33	2.0	µg/L	10.0		93.3	70-130				
1,2,3-Trichloropropane	12.3	2.0	µg/L	10.0		123	70-130				

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes	
Batch B288365 - SW-846 5030B											
LCS (B288365-BS1)				Prepared & Analyzed: 08/17/21							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.6	1.0	µg/L	10.0		106	70-130				
1,2,4-Trimethylbenzene	9.49	1.0	µg/L	10.0		94.9	70-130				
1,3,5-Trimethylbenzene	10.9	1.0	µg/L	10.0		109	70-130				
Vinyl Chloride	9.98	2.0	µg/L	10.0		99.8	40-160				†
m+p Xylene	22.2	2.0	µg/L	20.0		111	70-130				
o-Xylene	10.7	1.0	µg/L	10.0		107	70-130				
Xylenes (total)	32.9	1.0	µg/L	30.0		110	0-200				
Surrogate: 1,2-Dichloroethane-d4	*18.8*		µg/L	25.0		75.0	70-130				
Surrogate: Toluene-d8	*23.8*		µg/L	25.0		95.0	70-130				
Surrogate: 4-Bromofluorobenzene	*25.0*		µg/L	25.0		99.9	70-130				
LCS Dup (B288365-BSD1)				Prepared & Analyzed: 08/17/21							
Acetone	94.6	50	µg/L	100		94.6	70-160	1.66	25		†
Acrylonitrile	11.5	5.0	µg/L	10.0		115	70-130	0.524	25		
tert-Amyl Methyl Ether (TAME)	9.97	0.50	µg/L	10.0		99.7	70-130	0.600	25		
Benzene	10.7	1.0	µg/L	10.0		107	70-130	0.281	25		
Bromobenzene	10.3	1.0	µg/L	10.0		103	70-130	3.80	25		
Bromochloromethane	12.7	1.0	µg/L	10.0		127	70-130	0.862	25	V-20	
Bromodichloromethane	10.5	0.50	µg/L	10.0		105	70-130	2.54	25		
Bromoform	11.4	1.0	µg/L	10.0		114	70-130	2.25	25		
Bromomethane	13.6	2.0	µg/L	10.0		136	40-160	1.71	25	V-34	†
2-Butanone (MEK)	100	20	µg/L	100		100	40-160	0.150	25		†
tert-Butyl Alcohol (TBA)	97.5	20	µg/L	100		97.5	40-160	1.13	25		†
n-Butylbenzene	8.74	1.0	µg/L	10.0		87.4	70-130	1.25	25		
sec-Butylbenzene	9.00	1.0	µg/L	10.0		90.0	70-130	0.111	25		
tert-Butylbenzene	9.42	1.0	µg/L	10.0		94.2	70-130	1.27	25		
tert-Butyl Ethyl Ether (TBEE)	10.6	0.50	µg/L	10.0		106	70-130	3.93	25		
Carbon Disulfide	100	5.0	µg/L	100		100	70-130	1.03	25		
Carbon Tetrachloride	10.1	5.0	µg/L	10.0		101	70-130	1.67	25		
Chlorobenzene	11.2	1.0	µg/L	10.0		112	70-130	1.69	25		
Chlorodibromomethane	11.1	0.50	µg/L	10.0		111	70-130	0.538	25		
Chloroethane	9.53	2.0	µg/L	10.0		95.3	70-130	3.51	25		
Chloroform	10.2	2.0	µg/L	10.0		102	70-130	0.0977	25		
Chloromethane	4.08	2.0	µg/L	10.0		40.8	40-160	0.245	25	V-05, V-34	†
2-Chlorotoluene	10.6	1.0	µg/L	10.0		106	70-130	0.664	25		
4-Chlorotoluene	10.5	1.0	µg/L	10.0		105	70-130	1.42	25		
1,2-Dibromo-3-chloropropane (DBCP)	8.55	5.0	µg/L	10.0		85.5	70-130	1.85	25		
1,2-Dibromoethane (EDB)	11.7	0.50	µg/L	10.0		117	70-130	2.11	25		
Dibromomethane	11.5	1.0	µg/L	10.0		115	70-130	1.58	25		
1,2-Dichlorobenzene	9.82	1.0	µg/L	10.0		98.2	70-130	1.62	25		
1,3-Dichlorobenzene	10.0	1.0	µg/L	10.0		100	70-130	0.199	25		
1,4-Dichlorobenzene	9.86	1.0	µg/L	10.0		98.6	70-130	0.304	25		
trans-1,4-Dichloro-2-butene	11.4	2.0	µg/L	10.0		114	70-130	0.524	25		
Dichlorodifluoromethane (Freon 12)	8.54	2.0	µg/L	10.0		85.4	40-160	3.34	25	V-05	†
1,1-Dichloroethane	10.7	1.0	µg/L	10.0		107	70-130	0.0939	25		
1,2-Dichloroethane	10.4	1.0	µg/L	10.0		104	70-130	0.0959	25		
1,1-Dichloroethylene	9.84	1.0	µg/L	10.0		98.4	70-130	2.81	25		
cis-1,2-Dichloroethylene	10.6	1.0	µg/L	10.0		106	70-130	1.50	25		
trans-1,2-Dichloroethylene	11.2	1.0	µg/L	10.0		112	70-130	0.626	25		
1,2-Dichloropropane	11.7	1.0	µg/L	10.0		117	70-130	0.686	25		
1,3-Dichloropropane	11.3	0.50	µg/L	10.0		113	70-130	0.531	25		
2,2-Dichloropropane	9.58	1.0	µg/L	10.0		95.8	40-130	5.09	25		†

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QUALITY CONTROL

Volatile Organic Compounds by GC/MS - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch B288365 - SW-846 5030B										
LCS Dup (B288365-BSD1)				Prepared & Analyzed: 08/17/21						
1,1-Dichloropropene	10.5	2.0	µg/L	10.0		105	70-130	0.761	25	
cis-1,3-Dichloropropene	11.3	0.50	µg/L	10.0		113	70-130	1.07	25	
trans-1,3-Dichloropropene	10.6	0.50	µg/L	10.0		106	70-130	1.40	25	
Diethyl Ether	10.4	2.0	µg/L	10.0		104	70-130	5.02	25	
Diisopropyl Ether (DIPE)	10.4	0.50	µg/L	10.0		104	70-130	1.90	25	
1,4-Dioxane	112	50	µg/L	100		112	40-130	5.20	50	† ‡
Ethylbenzene	10.8	1.0	µg/L	10.0		108	70-130	0.0926	25	
Hexachlorobutadiene	9.70	0.60	µg/L	10.0		97.0	70-130	3.25	25	
2-Hexanone (MBK)	101	10	µg/L	100		101	70-160	0.229	25	†
Isopropylbenzene (Cumene)	10.6	1.0	µg/L	10.0		106	70-130	2.32	25	
p-Isopropyltoluene (p-Cymene)	9.50	1.0	µg/L	10.0		95.0	70-130	1.77	25	
Methyl Acetate	11.6	1.0	µg/L	10.0		116	70-130	5.52	25	
Methyl tert-Butyl Ether (MTBE)	10.2	1.0	µg/L	10.0		102	70-130	1.48	25	
Methyl Cyclohexane	11.0	1.0	µg/L	10.0		110	70-130	4.35	25	
Methylene Chloride	10.2	5.0	µg/L	10.0		102	70-130	0.390	25	
4-Methyl-2-pentanone (MIBK)	105	10	µg/L	100		105	70-160	1.19	25	†
Naphthalene	8.44	2.0	µg/L	10.0		84.4	40-130	0.713	25	†
n-Propylbenzene	10.4	1.0	µg/L	10.0		104	70-130	0.866	25	
Styrene	11.3	1.0	µg/L	10.0		113	70-130	0.531	25	
1,1,1,2-Tetrachloroethane	12.0	1.0	µg/L	10.0		120	70-130	2.15	25	
1,1,2,2-Tetrachloroethane	10.9	0.50	µg/L	10.0		109	70-130	2.08	25	
Tetrachloroethylene	12.5	1.0	µg/L	10.0		125	70-130	3.61	25	
Tetrahydrofuran	10.1	10	µg/L	10.0		101	70-130	1.09	25	
Toluene	11.2	1.0	µg/L	10.0		112	70-130	1.06	25	
1,2,3-Trichlorobenzene	9.22	5.0	µg/L	10.0		92.2	70-130	0.108	25	
1,2,4-Trichlorobenzene	10.2	1.0	µg/L	10.0		102	70-130	2.99	25	
1,3,5-Trichlorobenzene	10.3	1.0	µg/L	10.0		103	70-130	1.27	25	
1,1,1-Trichloroethane	9.80	1.0	µg/L	10.0		98.0	70-130	4.20	25	
1,1,2-Trichloroethane	11.8	1.0	µg/L	10.0		118	70-130	1.72	25	
Trichloroethylene	11.6	1.0	µg/L	10.0		116	70-130	0.173	25	
Trichlorofluoromethane (Freon 11)	9.39	2.0	µg/L	10.0		93.9	70-130	0.641	25	
1,2,3-Trichloropropane	11.6	2.0	µg/L	10.0		116	70-130	6.19	25	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	10.2	1.0	µg/L	10.0		102	70-130	2.88	25	
1,2,4-Trimethylbenzene	9.43	1.0	µg/L	10.0		94.3	70-130	0.634	25	
1,3,5-Trimethylbenzene	10.8	1.0	µg/L	10.0		108	70-130	1.47	25	
Vinyl Chloride	9.65	2.0	µg/L	10.0		96.5	40-160	3.36	25	†
m+p Xylene	22.0	2.0	µg/L	20.0		110	70-130	0.995	25	
o-Xylene	10.6	1.0	µg/L	10.0		106	70-130	1.04	25	
Xylenes (total)	32.6	1.0	µg/L	30.0		108	0-200	1.01		
Surrogate: 1,2-Dichloroethane-d4	*19.4*		µg/L	25.0		77.8	70-130			
Surrogate: Toluene-d8	*23.7*		µg/L	25.0		94.6	70-130			
Surrogate: 4-Bromofluorobenzene	*24.8*		µg/L	25.0		99.0	70-130			

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FLAG/QUALIFIER SUMMARY

*	QC result is outside of established limits.
†	Wide recovery limits established for difficult compound.
‡	Wide RPD limits established for difficult compound.
#	Data exceeded client recommended or regulatory level
ND	Not Detected
RL	Reporting Limit is at the level of quantitation (LOQ)
DL	Detection Limit is the lower limit of detection determined by the MDL study
MCL	Maximum Contaminant Level
	Percent recoveries and relative percent differences (RPDs) are determined by the software using values in the calculation which have not been rounded.
	No results have been blank subtracted unless specified in the case narrative section.
RL-11	Elevated reporting limit due to high concentration of target compounds.
V-05	Continuing calibration verification (CCV) did not meet method specifications and was biased on the low side for this compound.
V-20	Continuing calibration verification (CCV) did not meet method specifications and was biased on the high side. Data validation is not affected since sample result was "not detected" for this compound.
V-34	Initial calibration verification (ICV) did not meet method specifications and was biased on the low side for this compound. Reported result is estimated.

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Acetone	CT,ME,NH,VA,NY
Acrylonitrile	CT,ME,NH,VA,NY
tert-Amyl Methyl Ether (TAME)	ME,NH,VA,NY
Benzene	CT,ME,NH,VA,NY
Bromobenzene	ME,NY
Bromochloromethane	ME,NH,VA,NY
Bromodichloromethane	CT,ME,NH,VA,NY
Bromoform	CT,ME,NH,VA,NY
Bromomethane	CT,ME,NH,VA,NY
2-Butanone (MEK)	CT,ME,NH,VA,NY
tert-Butyl Alcohol (TBA)	ME,NH,VA,NY
n-Butylbenzene	ME,VA,NY
sec-Butylbenzene	ME,VA,NY
tert-Butylbenzene	ME,VA,NY
tert-Butyl Ethyl Ether (TBEE)	ME,NH,VA,NY
Carbon Disulfide	CT,ME,NH,VA,NY
Carbon Tetrachloride	CT,ME,NH,VA,NY
Chlorobenzene	CT,ME,NH,VA,NY
Chlorodibromomethane	CT,ME,NH,VA,NY
Chloroethane	CT,ME,NH,VA,NY
Chloroform	CT,ME,NH,VA,NY
Chloromethane	CT,ME,NH,VA,NY
2-Chlorotoluene	ME,NH,VA,NY
4-Chlorotoluene	ME,NH,VA,NY
1,2-Dibromo-3-chloropropane (DBCP)	ME,NY
1,2-Dibromoethane (EDB)	ME,NY
Dibromomethane	ME,NH,VA,NY
1,2-Dichlorobenzene	CT,ME,NH,VA,NY
1,3-Dichlorobenzene	CT,ME,NH,VA,NY
1,4-Dichlorobenzene	CT,ME,NH,VA,NY
trans-1,4-Dichloro-2-butene	ME,NH,VA,NY
Dichlorodifluoromethane (Freon 12)	ME,NH,VA,NY
1,1-Dichloroethane	CT,ME,NH,VA,NY
1,2-Dichloroethane	CT,ME,NH,VA,NY
1,1-Dichloroethylene	CT,ME,NH,VA,NY
cis-1,2-Dichloroethylene	ME,NY
trans-1,2-Dichloroethylene	CT,ME,NH,VA,NY
1,2-Dichloropropane	CT,ME,NH,VA,NY
1,3-Dichloropropane	ME,VA,NY
2,2-Dichloropropane	ME,NH,VA,NY
1,1-Dichloropropene	ME,NH,VA,NY
cis-1,3-Dichloropropene	CT,ME,NH,VA,NY
trans-1,3-Dichloropropene	CT,ME,NH,VA,NY
Diethyl Ether	ME,NY
Diisopropyl Ether (DIPE)	ME,NH,VA,NY
1,4-Dioxane	ME,NY
Ethylbenzene	CT,ME,NH,VA,NY

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CERTIFICATIONS

Certified Analyses included in this Report

Analyte	Certifications
SW-846 8260C-D in Water	
Hexachlorobutadiene	CT,ME,NH,VA,NY
2-Hexanone (MBK)	CT,ME,NH,VA,NY
Isopropylbenzene (Cumene)	ME,VA,NY
p-Isopropyltoluene (p-Cymene)	CT,ME,NH,VA,NY
Methyl Acetate	ME,NY
Methyl tert-Butyl Ether (MTBE)	CT,ME,NH,VA,NY
Methyl Cyclohexane	NY
Methylene Chloride	CT,ME,NH,VA,NY
4-Methyl-2-pentanone (MIBK)	CT,ME,NH,VA,NY
Naphthalene	ME,NH,VA,NY
n-Propylbenzene	CT,ME,NH,VA,NY
Styrene	CT,ME,NH,VA,NY
1,1,1,2-Tetrachloroethane	CT,ME,NH,VA,NY
1,1,2,2-Tetrachloroethane	CT,ME,NH,VA,NY
Tetrachloroethylene	CT,ME,NH,VA,NY
Toluene	CT,ME,NH,VA,NY
1,2,3-Trichlorobenzene	ME,NH,VA,NY
1,2,4-Trichlorobenzene	CT,ME,NH,VA,NY
1,3,5-Trichlorobenzene	ME
1,1,1-Trichloroethane	CT,ME,NH,VA,NY
1,1,2-Trichloroethane	CT,ME,NH,VA,NY
Trichloroethylene	CT,ME,NH,VA,NY
Trichlorofluoromethane (Freon 11)	CT,ME,NH,VA,NY
1,2,3-Trichloropropane	ME,NH,VA,NY
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	VA,NY
1,2,4-Trimethylbenzene	ME,VA,NY
1,3,5-Trimethylbenzene	ME,VA,NY
Vinyl Chloride	CT,ME,NH,VA,NY
m+p Xylene	CT,ME,NH,VA,NY
o-Xylene	CT,ME,NH,VA,NY
Xylenes (total)	ME,NY

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Con-Test, a Pace Environmental Laboratory, operates under the following certifications and accreditations:

Code	Description	Number	Expires
AIHA	AIHA-LAP, LLC - ISO17025:2017	100033	03/1/2022
MA	Massachusetts DEP	M-MA100	06/30/2022
CT	Connecticut Department of Publilc Health	PH-0165	12/31/2022
NY	New York State Department of Health	10899 NELAP	04/1/2022
NH-S	New Hampshire Environmental Lab	2516 NELAP	02/5/2022
RI	Rhode Island Department of Health	LAO00112	12/30/2021
NC	North Carolina Div. of Water Quality	652	12/31/2021
NJ	New Jersey DEP	MA007 NELAP	06/30/2022
FL	Florida Department of Health	E871027 NELAP	06/30/2022
VT	Vermont Department of Health Lead Laboratory	LL720741	07/30/2022
ME	State of Maine	MA00100	06/9/2023
VA	Commonwealth of Virginia	460217	12/14/2021
NH-P	New Hampshire Environmental Lab	2557 NELAP	09/6/2021
VT-DW	Vermont Department of Health Drinking Water	VT-255716	06/12/2022
NC-DW	North Carolina Department of Health	25703	07/31/2022
PA	Commonwealth of Pennsylvania DEP	68-05812	06/30/2022
MI	Dept. of Env, Great Lakes, and Energy	9100	09/6/2021

con-test ANALYTICAL LABORATORY
Phone: 413-525-2332
Fax: 413-525-6405
Email: info@contestlabs.com
39 Spruce Street
East Longmeadow, MA 01028

CHAIN OF CUSTODY RECORD

21f0767

Company Name:	Aptim Environmental & Infrastructure, Inc.
Address:	150 Royall Street, Canton, MA 02021
Phone:	617-794-1767
Project Name:	Textron Providence
Project Location:	333 Adelaide Avenue, Providence, RI
Project Number:	631010697
Project Manager:	Catherine Joe
Con-Test Bid:	PO ~~213851~~ 216859
Invoice Recipient:	Catherine Joe
Sampled By:	DANIEL C. CAHILL 617-312-8276

Requested Turnaround Time
7-Day ☐ 10-Day ☑
Other: STANDARD

Rush-Approval Required
1-Day ☐ 3-Day ☐
2-Day ☐ 4-Day ☐

Data Delivery
Format: PDF ☑ EXCEL ☐
Other: Equis format
Enhanced Data Package Required: ☐
Email To: catherine.joe@aptim.com
Fax To #:

ANALYSIS REQUESTED

Con-Test Work Order#	Client Sample ID / Description	Beginning Date/~~Time~~	Ending ~~Date~~/Time	Composite	Grab	[1]Matrix Code	Conc Code	# of Containers	EPA 8260C (VOCs)	VOCs / field parameters
1	MW-D	8/16/21	0900		G	GW	U	3	3	
						GW	U			
						GW	U			

[2] Preservation Code: H
[3] Container Code: V

Dissolved Metals Samples
○ Field Filtered
○ Lab to Filter

Orthophosphate Samples
○ Field Filtered
○ Lab to Filter

Comments: GIS Key to Catherine.joe@aptim.com

Please use the following codes to indicate possible sample concentration within the **Conc Code** column above:
H - High; M - Medium; L - Low; C - Clean; U - Unknown

[1] **Matrix Codes:**
GW = Ground Water
WW = Waste Water
DW = Drinking Water
A = Air
S = Soil/Solid
SL = Sludge
O = Other (please define)

[2] **Preservation Codes:**
I = Iced
H = HCL
M = Methanol
N = Nitric Acid
S = Sulfuric Acid
B = Sodium Bisulfate
X = Sodium Hydroxide
T = Sodium Thiosulfate
O = Other (please define)

[3] **Container Codes:**
A = Amber Glass
G = Glass
P = Plastic
ST = Sterile
V = Vial
S = Summa Canister
T = Tedlar Bag
O = Other (please define)

Relinquished by: (signature)	Date/Time: 1305	8/16/21
Received by: (signature)	Date/Time: 1305	8-16-21
Relinquished by: (signature)	Date/Time: 1430	8-16-21
Received by: (signature)	Date/Time:	8/16/21
Relinquished by: (signature)	Date/Time:	8/16/21 1755
Received by: (signature)	Date/Time:	8/16/21 1755

Detection Limit Requirements
MA
CT
Other:

Program Information

○ MCP Analytical Certification Form Required
○ RCP Analysis Certification Form Required
○ MA State DW Form Required
PWSID # _____

NELAC and AIHA-LAP, LLC Accredited

TURNAROUND TIME (BUSINESS DAYS) STARTS AT 9:00 AM THE DAY AFTER SAMPLE RECEIPT UNLESS THERE ARE QUESTIONS ON THIS CHAIN. IF THIS FORM IS NOT FILLED OUT COMPLETELY OR IS INCORRECT, TURNAROUND TIME CANNOT START UNTIL ALL QUESTIONS HAVE BEEN ANSWERED.

PLEASE BE CAREFUL NOT TO CONTAMINATE THIS DOCUMENT

Table of Contents

I Have Not Confirmed Sample Container Numbers With Lab Staff Before Relinquishing Over Samples_____

con-test® ANALYTICAL LABORATORY

Doc# 277 Rev 5 2017

Login Sample Receipt Checklist - (Rejection Criteria Listing - Using Acceptance Policy) Any False Statement will be brought to the attention of the Client - State True or False

Client Apton

Received By _____ Date 8/16/21 Time 1645

How were the samples received? In Cooler T No Cooler _____ On Ice T No Ice _____ Direct from Sampling _____ Ambient _____ Melted Ice _____

Were samples within Temperature? 2-6°C T By Gun # 3 Actual Temp - 3.6

By Blank # _____ Actual Temp - _____

Was Custody Seal Intact? n/a Were Samples Tampered with? n/a

Was COC Relinquished ? T Does Chain Agree With Samples? T

Are there broken/leaking/loose caps on any samples? F

Is COC in ink/ Legible? T Were samples received within holding time? T

Did COC include all pertinent Information? Client T Analysis T Sampler Name T Project T ID's T Collection Dates/Times T

Are Sample labels filled out and legible? T

Are there Lab to Filters? F

Are there Rushes? F Who was notified? _____

Are there Short Holds? F Who was notified? _____

Is there enough Volume? T Who was notified? _____

Is there Headspace where applicable? F MS/MSD? F

Proper Media/Containers Used? T Is splitting samples required? F

Were trip blanks received? F On COC? F

Do all samples have the proper pH? Acid n/a Base n/a

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-	3	500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Flashpoint		Col./Bacteria		2oz Amb/Clear	
DI-		Other Glass		Other Plastic		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Unused Media

Vials	#	Containers:	#		#		#
Unp-		1 Liter Amb.		1 Liter Plastic		16 oz Amb.	
HCL-		500 mL Amb.		500 mL Plastic		8oz Amb/Clear	
Meoh-		250 mL Amb.		250 mL Plastic		4oz Amb/Clear	
Bisulfate-		Col./Bacteria		Flashpoint		2oz Amb/Clear	
DI-		Other Plastic		Other Glass		Encore	
Thiosulfate-		SOC Kit		Plastic Bag		Frozen:	
Sulfuric-		Perchlorate		Ziplock			

Comments: