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18 May 2022

Massachusetts Department of Environmental Protection
Northeast Regional Office
Bureau of Waste Site Cleanup
205B Lowell Street
Wilmington, MA 01887

Reference: 0618685

Re: Remedy Operation Status Submittal
November 2021 through April 2022
Former Raytheon Facility
Wayland, Massachusetts
Release Tracking Nos. 3-13302 and 3-22408
Tier IB Permit Nos. 133939 and W045278

Dear Sir or Madam,

On behalf of Raytheon Company (Raytheon), Environmental Resources Management (ERM) has prepared this Remedy Operation Status (ROS) Submittal for the Former Raytheon Facility located at 430 Boston Post Road in Wayland, Massachusetts (herein referred to as the "Site") (**Figure 1**). This report discusses groundwater remediation and monitoring activities conducted at the Site during the reporting period from 1 November 2021 to 30 April 2022 and is intended to satisfy the requirements of the Massachusetts Contingency Plan (MCP) at 310 CMR 40.0893.

The Massachusetts Department of Environmental Protection (MassDEP) Remedy Operation Status (ROS) transmittal form (BWSC 108) and Remedial Monitoring Reports (RMRs) were filed electronically via eDEP. Copies of the BWSC forms are included in **Appendix A**.

1. Background

This submittal incorporates the ongoing bioremediation activities in the Northern Area of the Site (**Figure 2**) with the ongoing Southern Area in-situ chemical oxidation (ISCO) monitoring program. Northern Area response actions were formerly tracked under Release Tracking Number (RTN) 3-22408. A Phase IV Completion Report was submitted for RTN 3-22408 on 23 December 2008 for the chlorinated volatile organic compound (CVOC) impacts to Northern Area soil and groundwater. Beginning with the 9 June 2009 ROS report, activities formerly conducted under RTN 3-22408 were summarized jointly with those under RTN 3-13302. A Phase IV Completion Report was submitted for RTN 3-13302 on 24 November 2004 to MassDEP for portions of the approximately 83-acre property (**Figure 2**). The Phase IV Completion Report documented wetland remediation activities conducted from October 2003 through October 2004, and groundwater remediation activities conducted from May through July 2004. Since completion of Phase IV activities and the Site entering into ROS, an ROS report covering both RTN 3-22408 and 3-13302 is submitted to MassDEP on a semiannual basis.

Summaries of ongoing work conducted within both the Northern and Southern areas are provided in Sections 2 and 3, respectively.

2. Northern Area

2.1. Bioremediation Activities

Northern Area bioremediation response actions including groundwater monitoring activities were conducted by Innovative Engineering Solutions, Inc. (IESI) of Braintree, Massachusetts during this reporting period. IESI temporarily deactivated the Enhanced Anaerobic Dechlorination (EAD) system on 20 December 2016 in order to evaluate the progress of the remedial program in this area. The EAD system has remained offline since December 2016; however, IESI conducted a small-scale batch injection at RIW-11S in November 2018. No injection activities were conducted during this reporting period. **Appendix B** includes a memorandum prepared by IESI to document the monitoring activities completed during this reporting period.

2.2. Groundwater Monitoring

Quarterly groundwater sampling in the Northern Area was conducted by IESI in April 2022 during this reporting period. Groundwater sampling results for the Northern Area are summarized in **Appendix B**.

3. Southern Area

3.1. Groundwater Monitoring Plan

The groundwater monitoring plan in the Southern Area was modified in May 2019 following an evaluation of historical CVOC results, as described in the ROS report previously submitted to MassDEP on 21 May 2019. As outlined in the May 2019 ROS Report, specific criteria were used to determine sampling frequency for select wells. Based on the criteria, the Southern Area monitoring program was further modified in May 2021 and includes monitoring wells that are sampled on a biennial, annual, and semiannual basis, as shown on **Figure 3** and as summarized below:

- Biennial Locations: 18 monitoring locations are part of the biennial monitoring network including MW-217D, MW-1001M, MW-1002M, MW-1003, MW-1004, MW-1006, MW-1008, MW-1010D, MW-1016D, MW-1017D, MW-1019B, MW-1022, MW-1023, MW-1030, MW-1038, MW-1039, MW-1040, and SEN-1D. All samples included on the biennial monitoring list are analyzed for CVOCs only, with the exception of MW-1039, which is also analyzed for 1,4-dioxane. With the exception of location MW-1010D, as described below, these biennial locations were not sampled during this reporting period and will be sampled in 2023.

- Annual Locations: 7 monitoring locations are sampled annually for 1,4-dioxane including MW-1020, MW-1025M, MW-1026D, MW-1033, MW-1034, MW-1036, and MW-1039. These annual locations were sampled during this reporting period.

- Semiannual Locations: 8 monitoring locations are part of the semiannual monitoring network and are sampled twice annually including MW-217M, MW-1005, MW-1010M, MW-1014, MW-1015D, MW-1028, MW-1032, and MW-1034. All samples collected from the semiannual monitoring list are analyzed for CVOCs only, with the exception of MW-1034, which is also analyzed for 1,4-dioxane. These semiannual locations were sampled during this reporting period.

3.2. April 2022 Combined Semiannual and Annual Groundwater Monitoring Event

A combined semiannual and annual groundwater monitoring event was conducted by ERM within the Southern Area on 13 April and 14 April 2022, in accordance with the May 2021 ROS Report. Groundwater monitoring activities conducted during this event included:

- Comprehensive groundwater gauging; and
- Collection of groundwater samples via passive diffusion bags (PDBs) and low stress sampling methods for laboratory analyses.

Due to a slight increase of trichloroethene (TCE) observed at MW-1010D, which is historically sampled on a biennial frequency, this location was also sampled during the April 2022 semiannual event for CVOCs.

3.2.1. Groundwater Gauging

Groundwater gauging data collected within the Southern Area in April 2022 are presented in **Table 1**. Gauging data indicate that groundwater generally flows from the southeast to the northwest, and then west toward the Sudbury River, consistent with historical observations. Interpretations of the generalized upper and lower potentiometric surfaces are presented on **Figure 4A** and **Figure 4B**, respectively. Three wells (MW-1002M, MW-1003, and MW-1009) were inaccessible during this event and not gauged. MW-1002M, which is monitored on a biennial basis and scheduled to be sampled next year, was covered by a dumpster. MW-1009, which is no longer included in the sampling program, was covered by a parked vehicle. MW-1003, which is monitored on a biennial basis and scheduled to be sampled next year, had an obstruction within the well screen caused by a lodged PDB. These locations will be cleared of all obstructions ahead of the next scheduled sampling event.

3.2.2. Groundwater Sampling

Following gauging activities, groundwater samples were collected from the above-mentioned semiannual list of wells within the Southern Area for the analyses of CVOCs using the U.S. Environmental Protection Agency (USEPA) Method 8260. PDBs, which were used to collect groundwater samples for CVOC analysis, are constructed of a semi-permeable membrane that allows groundwater to pass through the membrane and into the PDB, thereby allowing collection of a sample from the aquifer at equilibrium conditions. PDBs were installed across the saturated mid-point of each screen and were allowed to equilibrate with the surrounding groundwater for at least 14 days before being collected. Samples collected for CVOC analysis were submitted to Eurofins Test America of Amherst, New York. A summary of the laboratory analytical data for the Southern Area monitoring wells is provided in **Table 2** and groundwater laboratory analytical reports are provided in **Appendix C**.

3.2.3. Groundwater Sampling Results

During the April 2022 monitoring event, TCE was detected above the MCP GW-1 criteria in monitoring wells MW-1005, MW-1010M, MW-1014, MW-1028, MW-1032, MW-1034, and MW-217M (**Figure 5**). The TCE concentration observed at MW-1005 was 5.1 µg/L, which was only slightly above the MCP GW-1 criteria of 5 µg/L. Although TCE exceedances were observed at select

locations, concentrations in the Southern Area are generally decreasing and are expected to continue doing so over time. There were no other exceedances of the MCP GW-1 criteria for CVOCs in groundwater during this sampling event, including at MW-1010D, which yielded a TCE concentration of 2.30 µg/L.

Of the seven wells sampled for 1,4-dioxane, six locations yielded concentrations that were just over the MCP GW-1 criteria of 0.3 µg/L, including wells MW-1025M, MW-1026D, MW-1033, MW-1034, MW-1036, and MW-1039. Concentrations at these locations ranged between 0.33 µg/L (MW-1036) and 4.7 µg/L (MW-1033). With the exception of MW-1033, all 1,4-dioxane concentrations were lower than the concentrations detected during the previous sampling event in 2021. The concentration detected at MW-1033 was only 0.1 µg/L higher than the 2021 concentration.

For reference, previously detected concentrations of CVOCs in MW-1038, MW-1039, and several other wells along the southern property boundary were determined to be originating from an off-site source(s). A Downgradient Property Status (DPS) Opinion was prepared to address the CVOCs originating from upgradient releases. The DPS Opinion was submitted to MassDEP on 7 March 2017 under RTN-3-33752.

3.2.4. Proposed Modifications to the Groundwater Monitoring Plan

Concentrations of CVOCs in the Southern Area have been extensively evaluated since completion of Phase IV activities in 2004. Since the installation of the current monitoring well network in 2012, CVOC concentrations have continued to decrease below GW-1 criteria in the majority of monitoring wells. Sampling frequencies for monitoring wells are reviewed periodically and adjusted, as appropriate. The Southern Area groundwater monitoring plan was last modified in the May 2021 ROS Report. No additional modifications to the sampling program are proposed at this time. For reference, the full groundwater monitoring plan, is outlined below:

Current Groundwater Monitoring Plan:

CVOC Sampling Frequency	Monitoring Wells
Semiannual	MW-217M, MW-1005, MW-1010M, MW-1014, MW-1015D, MW-1028, MW-1032, MW-1034
Biennial	MW-217D, MW-1001M, MW-1002M, MW-1003, MW-1004, MW-1006, MW-1008, MW-1010D, MW-1016D, MW-1017D, MW-1019B, MW-1022, MW-1023, MW-1030, MW-1038, MW-1039, MW-1040, SEN-1D
Discontinue	MW-217S, MW-1001B, MW-1002B, MW-1009, MW-1011, MW-1013, MW-1018, MW-1020, MW-1024D, MW-1025D, MW-1025M, MW-1026D, MW-1027, MW-1031, MW-1033, MW-1035, MW-1036, MW-1037, SEN-1M, SEN-2M, SEN-2D, SEN-3

4. Sentinel Well Monitoring

In 2009, Raytheon installed five sentinel wells on the Town of Wayland Cow Common Conservation Area as part of a voluntary Supplemental Environmental Project (SEP). In addition to the installation of the five wells, the SEP included an agreement to conduct semiannual monitoring of CVOC concentrations in the wells through December 2011; however, Raytheon continued to voluntarily sample these wells on an annual basis. The locations of the sentinel wells are shown on **Figure 6**. Historical groundwater gauging data for the sentinel wells are summarized in **Table 3** and historical groundwater analytical data is summarized in **Table 4**. Based on an evaluation of historical CVOC results, the monitoring frequency of sentinel wells was reduced, as described in the May 2019 ROS report. Sampling of SEN-1M, SEN-2M, SEN-2D, and SEN-3 has been discontinued and SEN-1D is now monitored on a biennial basis. SEN-1D was sampled in 2021; concentrations were consistent with historical detections. The next sampling round for SEN-1D is expected to be completed in the spring of 2023.

If you have any questions or comments in regard to this submittal, please contact the undersigned at (617) 646-7800.

Sincerely,

John C. Drobinski, P.G., LSP
Partner-in-Charge

Katie Wolf
Project Manager

cc: Jonathan Hone, Raytheon
Linda Hansen, Town of Wayland Conservation Commission
Tim Skehan, Russell's Garden Center
David Costello, National Development
Dave Falatko, IESI
Public Repositories

Attachments:

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Figure 2: Remediation Site Plan
Figure 3: Monitoring Well Locations—Southern Area
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Figure 4B: April 2022 Generalized Lower Potentiometric Surface Contours

Figure 5: April 2022 TCE Concentrations in Groundwater
Figure 6: Sentinel Well Locations

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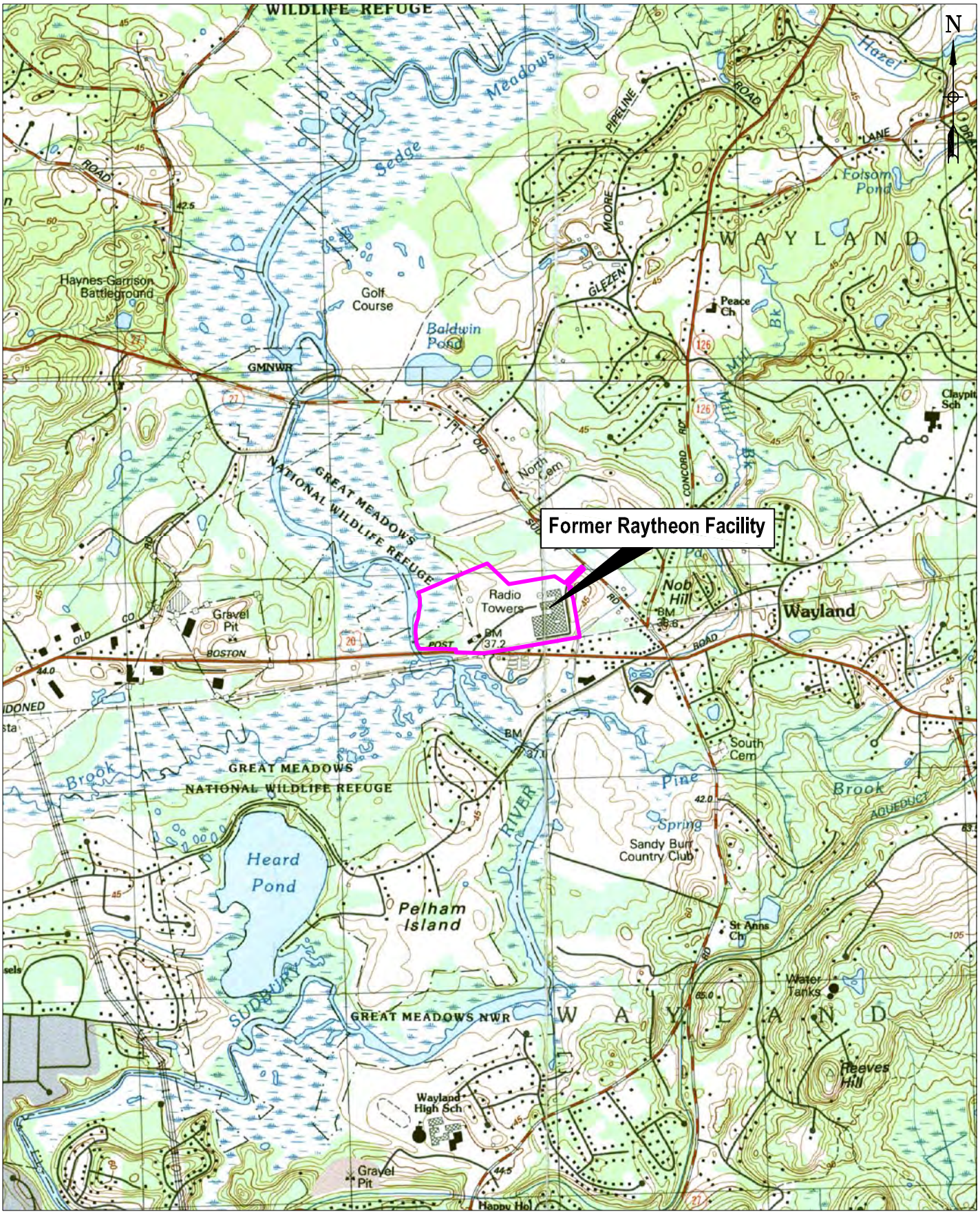
Table 2: Summary of Groundwater Analytical Data—Southern Area
Table 3: Summary of Groundwater Gauging Data—Cow Common Conservation Area
Table 4: Summary of Groundwater Analytical Data—Cow Common Conservation Area

Appendices:

Appendix A: BWSC Transmittal Form
Appendix B: IESI Memorandum
Appendix C: Laboratory Analytical Reports

FIGURES



Legend

Former Raytheon Facility Property Boundary

Figure 1 - Site Locus Map
Former Raytheon Facility

Scale = 1:25,000

ERM

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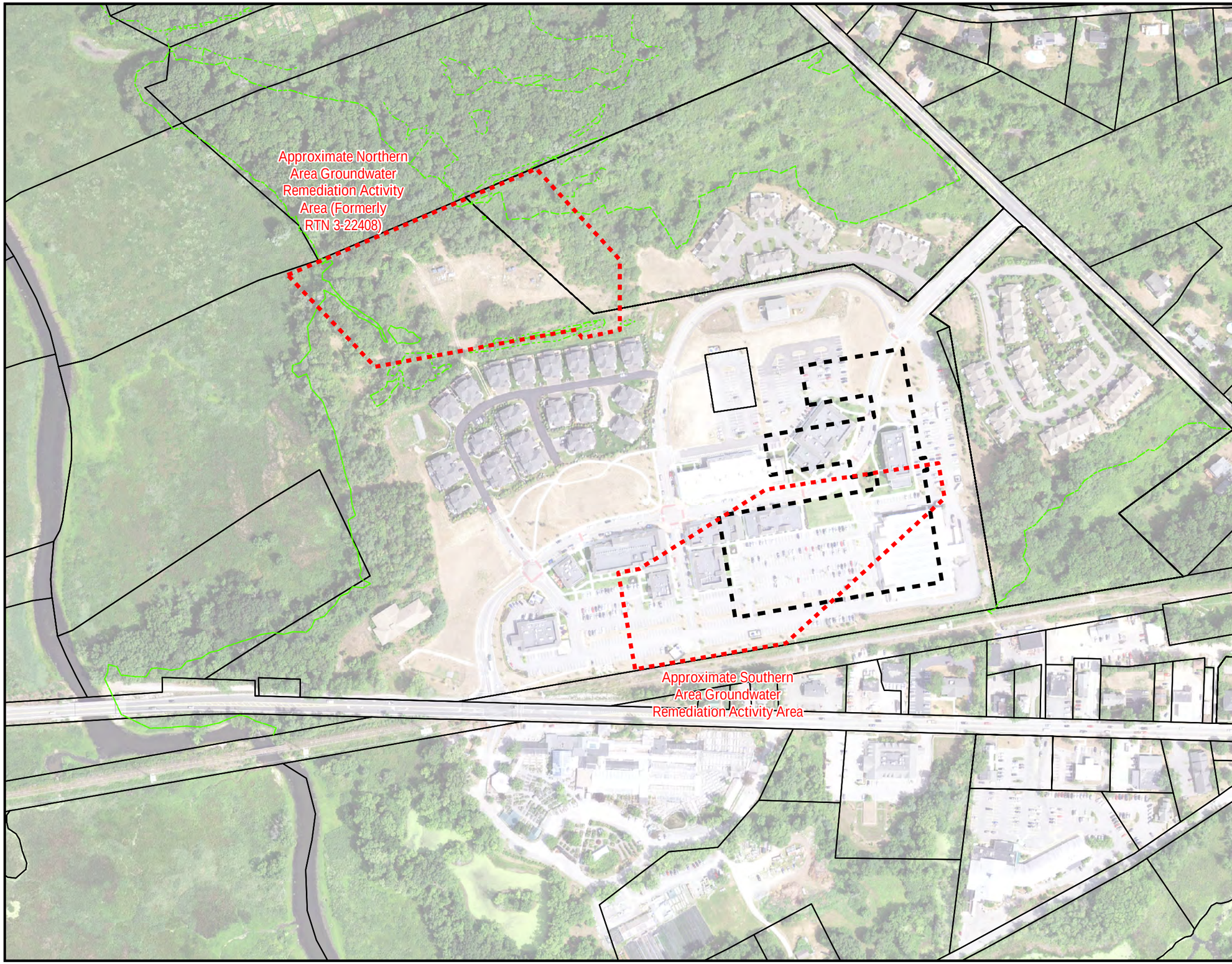

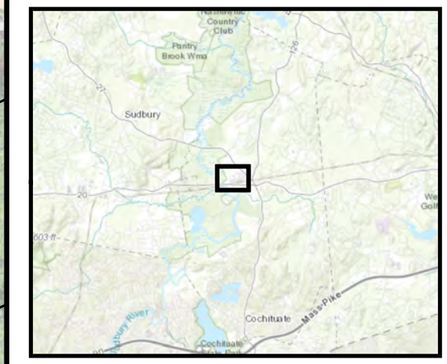

Legend

- Approximate Remediation Activity Area
- Approximate Former Building Footprint
- Delineated Wetland Boundary
- Parcel Outlines

N

0 50 100 200 300 400 500 Feet

Figure 2: Remediation Site Plan

Former Raytheon Facility
Wayland, MA

ERM

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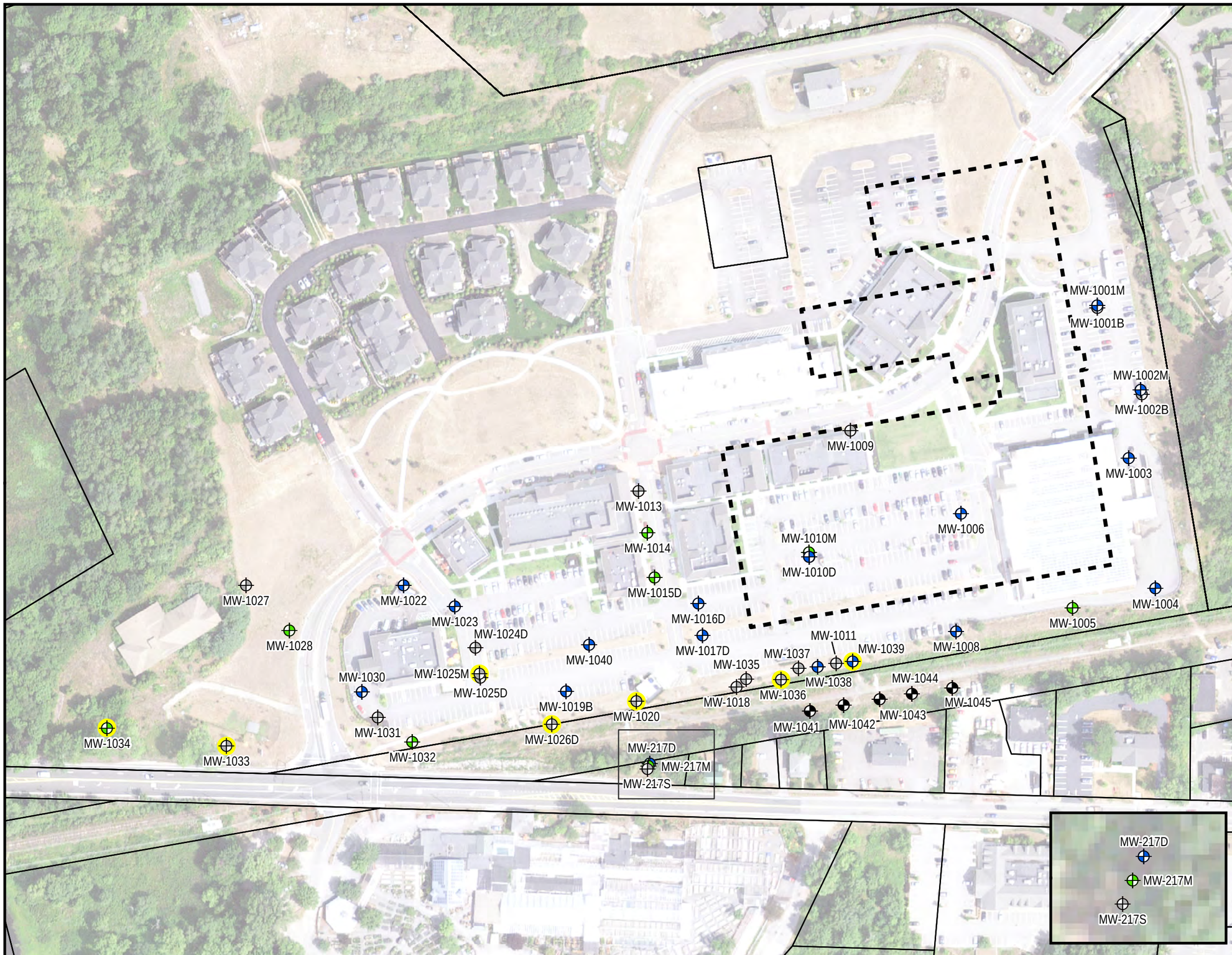

Figure 3: Monitoring Well Locations - Southern Area
Former Raytheon Facility
Wayland, MA

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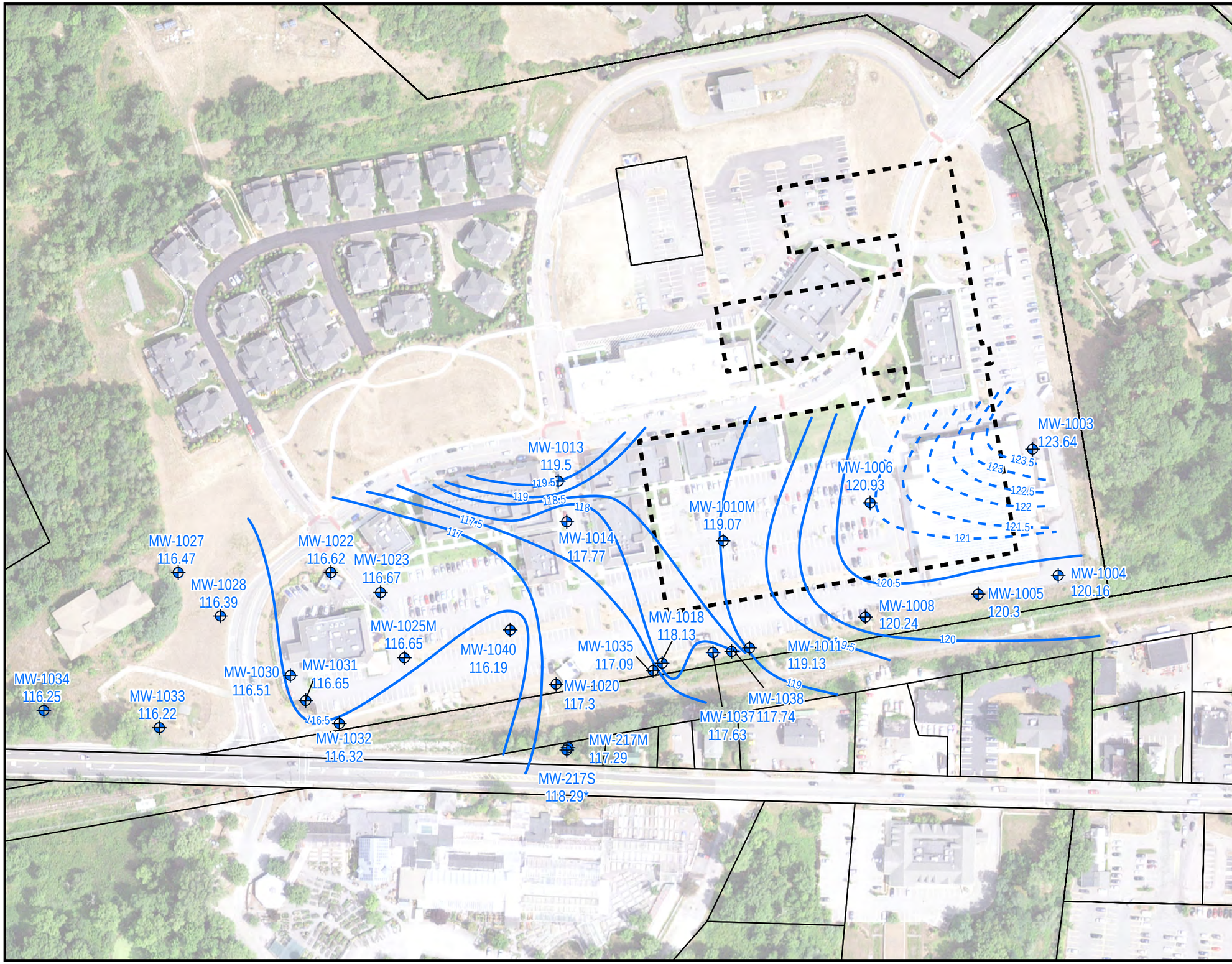

Legend

- Parcel Boundary
- Approximate Former Building Footprint

April 2022 Groundwater Elevation (ft ASL)

- Monitoring Well Screened in Upper Hydrogeologic Unit
- Upper Potentiometric Surface Contour

NOTES:
- Groundwater Elevation measured on April 13, 2022. Labeled as feet above sea level (ASL).
- Contours dashed where inferred
* = Elevation data not used for contouring

N

0 25 50 100 150 200 250 Feet

Figure 4A: April 2022 Generalized Upper Potentiometric Surface Contours
ROS Report
Former Raytheon Facility
Wayland, MA

ERM

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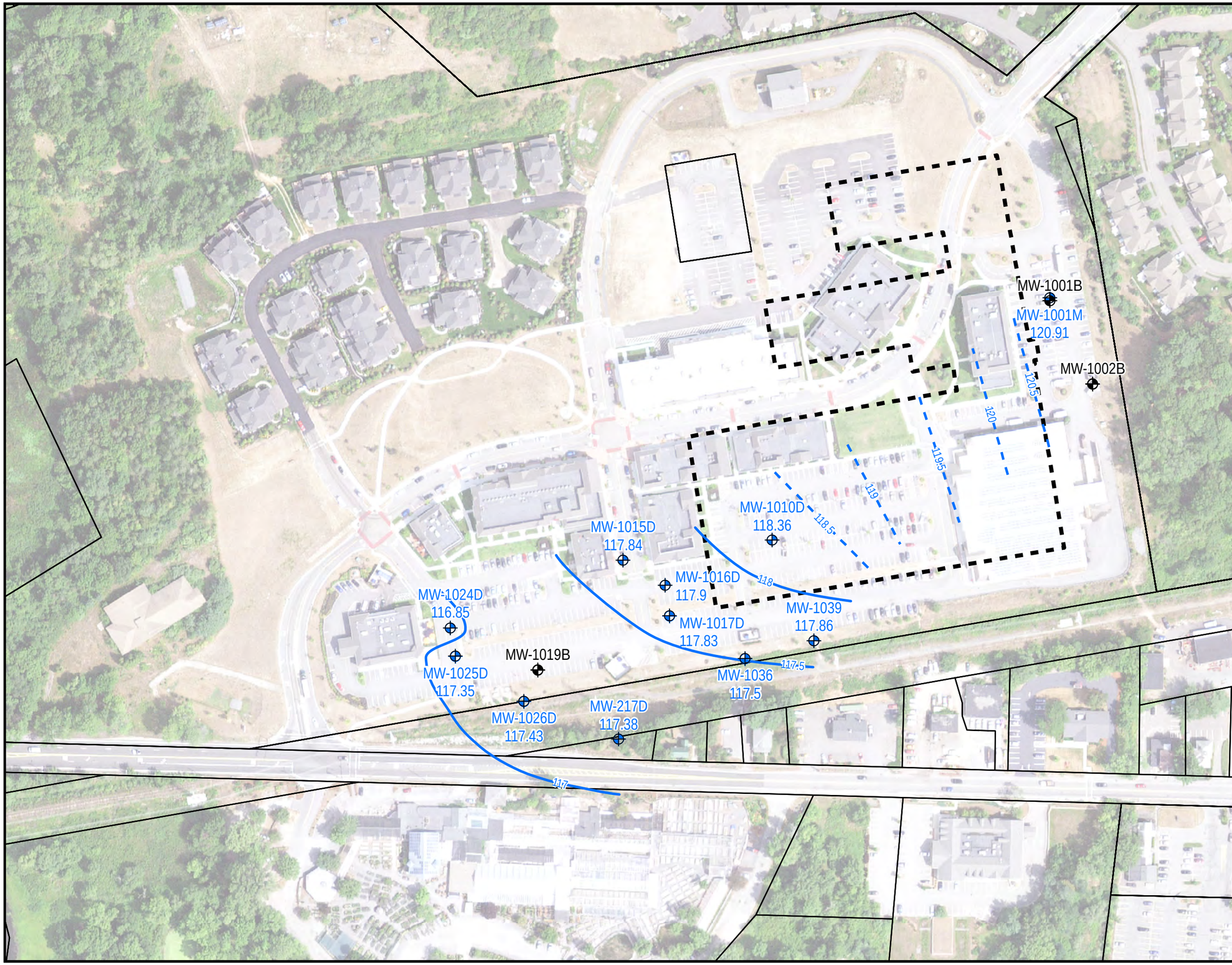

Legend

- Parcel Boundary
- Approximate Former Building Footprint

April 2022 Groundwater Elevation (ft ASL)

- Monitoring Well Screened in Lower Hydrogeologic Unit
- Monitoring Well Screened in Bedrock
- Lower Potentiometric Surface Contour

NOTES:
- Groundwater Elevation measured on April 13, 2022. Labeled as feet above sea level (ASL).
- Contours dashed where inferred
* = Elevation data not used for contouring

N

0 25 50 100 150 200 250 Feet

Figure 4B: April 2022 Generalized Lower Potentiometric Surface Contours
ROS Report
Former Raytheon Facility
Wayland, MA

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Legend

Approximate Former Building Footprint

Parcel Outlines

April 2022 TCE Concentrations in Groundwater (ug/L)

- Non-detect
- Below GW 1 Criteria (<5 ug/L)
- Exceeds GW 1 Criteria (≥5 ug/L)

MW-1008 - Well ID
3.9 - TCE Concentration (µg/L)

NOTES:
- Locations sampled on 13 April 2022
- ug/L = micrograms per liter

N

0 25 50 100 150 200 250 Feet

Figure 5: April 2022
TCE Concentrations in Groundwater
ROS Report
Former Raytheon Facility
Wayland, MA

ERM

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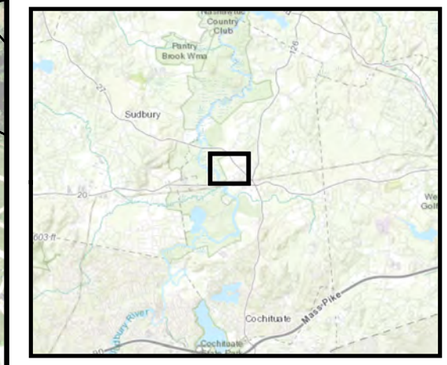

Legend

- Sentinel Well Location
- Approximate Former Building Footprint
- Parcel Boundary

N

0 50100 200 300 400 500
Feet

Figure 6: Sentinel Well Locations
Former Raytheon Facility
Wayland, MA

ERM

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TABLES

Table 1
Summary of Groundwater Gauging Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Well	Measurement Date	Historical Reference Elevation (feet above sea level)	Depth to Water (feet below top of casing)	Groundwater Elevation (feet above sea level)
MW-1001B	13-Apr-22	135.11	0.31	134.80
	15-Sep-21	135.11	0.40	134.71
	01-Apr-21	135.11	0.55	134.56
	09-Sep-20	135.11	2.06	133.05
MW-1001M	13-Apr-22	135.06	14.15	120.91
	15-Sep-21	135.06	13.93	121.13
	01-Apr-21	135.06	14.95	120.11
	09-Sep-20	135.06	16.19	118.87
MW-1002B	13-Apr-22	135.44	14.93	120.51
	15-Sep-21	135.44	15.07	120.37
	01-Apr-21	135.44	15.68	119.76
	09-Sep-20	135.44	17.36	118.08
MW-1002M	13-Apr-22	135.57	NM	NM
	15-Sep-21	135.57	14.00	121.57
	01-Apr-21	135.57	14.47	121.10
	09-Sep-20	135.57	16.12	119.45
MW-1003	13-Apr-22	132.53	8.89	123.64
	15-Sep-21	132.53	7.59	124.94
	01-Apr-21	132.53	13.03	119.50
	09-Sep-20	132.53	13.78	118.75
MW-1004	13-Apr-22	134.61	14.45	120.16
	14-Sep-21	134.61	14.55	120.06
	01-Apr-21	134.61	16.03	118.58
	09-Sep-20	134.61	16.71	117.90
MW-1005	13-Apr-22	134.28	13.98	120.30
	15-Sep-21	134.28	14.08	120.20
	01-Apr-21	134.28	15.06	119.22
	09-Sep-20	134.28	16.44	117.84
MW-1006	13-Apr-22	135.21	14.28	120.93
	14-Sep-21	135.21	14.24	120.97
	01-Apr-21	135.21	15.78	119.43
	09-Sep-20	135.21	16.21	119.00
MW-1008	13-Apr-22	134.84	14.60	120.24
	15-Sep-21	134.84	15.06	119.78
	01-Apr-21	134.84	15.74	119.10
	10-Sep-20	134.84	17.39	117.45
MW-1009	13-Apr-22	134.66	NM	NM
	15-Sep-21	134.66	15.68	118.98
	02-Apr-21	134.66	16.49	118.17
	10-Sep-20	134.66	18.36	116.30
MW-1010D	13-Apr-22	133.40	15.04	118.36
	15-Sep-21	133.40	14.83	118.57
	01-Apr-21	133.40	16.53	116.87
	09-Sep-20	133.40	17.85	115.55
MW-1010M	13-Apr-22	133.43	14.36	119.07
	15-Sep-21	133.43	14.21	119.22
	01-Apr-21	133.43	15.96	117.47
	09-Sep-20	133.43	16.71	116.72
MW-1011	13-Apr-22	133.18	14.05	119.13
	15-Sep-21	133.18	14.35	118.83
	02-Apr-21	133.18	14.96	118.22
	09-Sep-20	133.18	16.23	116.95
MW-1013	13-Apr-22	133.26	13.76	119.50
	15-Sep-21	133.26	13.65	119.61
	02-Apr-21	133.26	14.61	118.65
	09-Sep-20	133.26	15.38	117.88
MW-1014	13-Apr-22	133.37	15.60	117.77
	15-Sep-21	133.37	15.28	118.09
	02-Apr-21	133.37	16.31	117.06
	09-Sep-20	133.37	18.48	114.89
MW-1015D	13-Apr-22	133.61	15.77	117.84

Table 1
Summary of Groundwater Gauging Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Well	Measurement Date	Historical Reference Elevation (feet above sea level)	Depth to Water (feet below top of casing)	Groundwater Elevation (feet above sea level)
	15-Sep-21	133.61	15.48	118.13
	02-Apr-21	133.61	16.58	117.03
	09-Sep-20	133.61	18.63	114.98
MW-1016D	13-Apr-22	133.40	15.50	117.90
	14-Sep-21	133.40	15.16	118.24
	02-Apr-21	133.40	16.38	117.02
	09-Sep-20	133.40	18.46	114.94
MW-1017D	13-Apr-22	133.15	15.32	117.83
	14-Sep-21	133.15	15.04	118.11
	02-Apr-21	133.15	16.03	117.12
	09-Sep-20	133.15	18.15	115.00
MW-1018	13-Apr-22	133.55	15.42	118.13
	15-Sep-21	133.55	15.61	117.94
	02-Apr-21	133.55	16.38	117.17
	09-Sep-20	133.55	18.82	114.73
MW-1019B	13-Apr-22	131.51	13.79	117.72
	15-Sep-21	131.51	13.40	118.11
	02-Apr-21	131.51	14.69	116.82
	10-Sep-20	131.51	16.61	114.90
MW-1020	13-Apr-22	132.92	15.62	117.30
	15-Sep-21	132.92	15.07	117.85
	02-Apr-21	132.92	16.49	116.43
	10-Sep-20	132.92	18.97	113.95
MW-1022	13-Apr-22	132.22	15.60	116.62
	15-Sep-21	132.22	14.99	117.23
	01-Apr-21	132.22	16.32	115.90
	10-Sep-20	132.22	18.82	113.40
MW-1023	13-Apr-22	131.76	15.09	116.67
	15-Sep-21	131.76	14.28	117.48
	10-Sep-20	131.76	18.38	113.38
	31-Mar-20	131.76	15.35	116.41
MW-1024D	13-Apr-22	130.66	13.81	116.85
	15-Sep-21	130.66	12.86	117.80
	01-Apr-21	130.66	14.05	116.61
	10-Sep-20	130.66	16.19	114.47
MW-1025D	13-Apr-22	130.92	13.57	117.35
	15-Sep-21	130.92	13.26	117.66
	01-Apr-21	130.92	14.13	116.79
	10-Sep-20	130.92	16.46	114.46
MW-1025M	13-Apr-22	130.75	14.10	116.65
	15-Sep-21	130.75	13.49	117.26
	01-Apr-21	130.75	14.81	115.94
	10-Sep-20	130.75	17.31	113.44
MW-1026D	13-Apr-22	131.55	14.12	117.43
	15-Sep-21	131.55	13.88	117.67
	01-Apr-21	131.55	14.84	116.71
	10-Sep-20	131.55	17.02	114.53
MW-1027	13-Apr-22	126.87	10.40	116.47
	14-Sep-21	126.87	9.69	117.18
	01-Apr-21	126.87	11.25	115.62
	09-Sep-20	126.87	13.66	113.21
MW-1028	13-Apr-22	127.99	11.60	116.39
	15-Sep-21	127.99	10.87	117.12
	01-Apr-21	127.99	12.44	115.55
	09-Sep-20	127.99	14.83	113.16
MW-1030	13-Apr-22	131.51	15.00	116.51
	14-Sep-21	131.51	14.25	117.26
	01-Apr-21	131.51	15.79	115.72
	09-Sep-20	131.51	18.23	113.28
MW-1031	13-Apr-22	130.56	13.91	116.65
	14-Sep-21	130.56	13.06	117.50

Table 1
Summary of Groundwater Gauging Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Well	Measurement Date	Historical Reference Elevation (feet above sea level)	Depth to Water (feet below top of casing)	Groundwater Elevation (feet above sea level)
	01-Apr-21	130.56	15.02	115.54
	09-Sep-20	130.56	17.29	113.27
MW-1032	13-Apr-22	130.08	13.76	116.32
	15-Sep-21	130.08	13.01	117.07
	01-Apr-21	130.08	14.54	115.54
	09-Sep-20	130.08	16.90	113.18
MW-1033	13-Apr-22	119.99	3.77	116.22
	14-Sep-21	119.99	3.05	116.94
	01-Apr-21	119.99	4.46	115.53
	10-Sep-20	119.99	7.05	112.94
MW-1034	13-Apr-22	123.20	6.95	116.25
	15-Sep-21	123.20	6.26	116.94
	01-Apr-21	123.20	7.82	115.38
	09-Sep-20	123.20	10.23	112.97
MW-1035	13-Apr-22	132.35	15.26	117.09
	15-Sep-21	132.35	14.92	117.43
	01-Apr-21	132.35	15.94	116.41
	09-Sep-20	132.35	18.43	113.92
MW-1036	13-Apr-22	132.70	15.20	117.50
	15-Sep-21	132.70	14.98	117.72
	01-Apr-21	132.70	15.79	116.91
	09-Sep-20	132.70	18.12	114.58
MW-1037	13-Apr-22	132.70	15.07	117.63
	15-Sep-21	132.70	14.88	117.82
	01-Apr-21	132.70	15.71	116.99
	09-Sep-20	132.70	18.17	114.53
MW-1038	13-Apr-22	132.03	14.29	117.74
	15-Sep-21	132.03	14.19	117.84
	01-Apr-21	132.03	14.86	117.17
	09-Sep-20	132.03	17.38	114.65
MW-1039	13-Apr-22	131.14	13.28	117.86
	15-Sep-21	131.14	13.14	118.00
	01-Apr-21	131.14	14.54	116.60
	09-Sep-20	131.14	16.02	115.12
MW-1040	13-Apr-22	130.97	14.78	116.19
	15-Sep-21	130.97	14.14	116.83
	01-Apr-21	130.97	15.56	115.41
	10-Sep-20	130.97	18.02	112.95
MW-217D	13-Apr-22	129.87	12.49	117.38
	14-Sep-21	129.87	12.06	117.81
	02-Apr-21	129.87	13.17	116.70
	09-Sep-20	129.87	15.30	114.57
MW-217M	13-Apr-22	130.21	12.92	117.29
	15-Sep-21	130.21	12.93	117.28
	02-Apr-21	130.21	13.50	116.71
	09-Sep-20	130.21	16.14	114.07
MW-217S	13-Apr-22	130.44	12.15	118.29
	14-Sep-21	130.44	11.73	118.71
	02-Apr-21	130.44	12.79	117.65
	09-Sep-20	130.44	15.53	114.91

Notes: MW-1002M and MW-1009 were not measured in this event as they were obstructed.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1001B 05-Sep-18 N	MW-1001M 05-Sep-18 N	MW-1001M 21-Aug-19 N	MW-1001M 31-Mar-20 N	MW-1001M 09-Sep-20 N	MW-1001M 31-Mar-21 N	MW-1001M 14-Sep-21 N	MW-1002B 05-Sep-18 N	MW-1002M 05-Sep-18 N	MW-1002M 21-Aug-19 N	MW-1002M 09-Sep-20 N	MW-1002M 31-Mar-21 N	MW-1003 05-Sep-18 N	MW-1003 03-Apr-19 N	MW-1003 21-Aug-19 N	MW-1003 31-Mar-20 N	MW-1003 09-Sep-20 N	MW-1003 31-Mar-21 N	MW-1004 05-Sep-18 N	MW-1004 03-Apr-19 N	MW-1004 31-Mar-20 N	MW-1004 28-Apr-21 N
VOC, Method 8260, µg/L																								
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *1	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *	< 50 *	< 50	< 50	< 50	< 50	< 50 *	< 50	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	17 *+
Acetone	µg/L	6,300	< 50	< 50	< 50	170	< 50	< 50	< 50 *1	< 50	< 50	< 50	110	< 50	< 50	64 *	< 50	150	< 50	< 50	< 50	< 50 *	140	< 50
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	17	16	< 1.0	17	2.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	3.0	1.1	3.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	**5**	< 1.0	4.7	3.7	< 1.0	3.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	**6.1**	2.1	4.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																								
1,4-Dioxane	µg/L	**0.3**																						

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
U*+F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high, MS and/or MSD Recovery is outside acceptance limits (TABUF)
U*- = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased (TABUF)
U*-*1 = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased; LCS/LCSD RPD exceeds control limits (TABUF)
U*1 = Indicates the analyte was analyzed for but not detected; LCS/LCSD RPD exceeds control limits (TABUF)
U*F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits; MS and/or MSD Recovery is outside acceptance limits (TABUF)
UF1 = Indicates the analyte was analyzed for but not detected; MS and/or MSD Recovery is outside acceptance limits (TABUF)

Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1005 05-Sep-18 N	MW-1005 05-Sep-18 FD	MW-1005 03-Apr-19 N	MW-1005 03-Apr-19 FD	MW-1005 21-Aug-19 N	MW-1005 31-Mar-20 N	MW-1005 09-Sep-20 N	MW-1005 31-Mar-21 N	MW-1005 14-Sep-21 N	MW-1005 13-Apr-22 N	MW-1006 05-Sep-18 N	MW-1006 03-Apr-19 N	MW-1006 31-Mar-21 N	MW-1008 05-Sep-18 N	MW-1008 04-Apr-19 N	MW-1008 01-Apr-20 N	MW-1008 31-Mar-21 N	MW-1009 05-Sep-18 N	MW-1009 04-Apr-19 N	MW-1010D 05-Sep-18 N	MW-1010D 03-Apr-19 N	MW-1010D 21-Aug-19 N	MW-1010D 31-Mar-20 N	MW-1010D 09-Sep-20 N	MW-1010D 31-Mar-21 N	MW-1010D 14-Sep-21 N	MW-1010D 13-Apr-22 N
VOC, Method 8260, µg/L																												
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50	< 50 *	< 50	< 50 *	< 50	< 50	< 50	< 50 *1	< 50	< 50	< 50 *	< 50	< 50	< 200	< 50	< 50	< 50	< 200	< 50	< 50 *	< 50 *	< 50	< 50	< 50	< 50 *1	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+F1	< 10 *+	< 10 *+F1	< 10 *	< 10 *	< 10 *+	< 10 *	< 50	< 10 *	< 10 *+	< 10 *	< 50	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *+
Acetone	µg/L	6,300	< 50	< 50	< 50 *	< 50	< 50	140	< 50	< 50	73 *1	51 F1F2	< 50	< 50 *	< 50	< 50	< 25	< 50	< 50	< 50	< 25	< 50	< 50 *	< 50	91	< 50	< 50	< 50 *1	54
Chloroform	µg/L	70	1.1	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	5.5	4.5	8.2	8.4	13	9.4	13	3.8	11	6.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	8.5	< 1.0	< 1.0	< 1.0	< 1.0	1.8	2.4	< 1.0
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
Trichloroethene	µg/L	**5**	**7.2**	**7.0**	**5.3**	**5.2**	**5.2**	**5.5**	4.7	3.4	3.7	**5.1**	4.4	4.0	3.5	3.2	2.4	3.8	3.3	< 1.0	< 1.0	**20**	4.1	< 1.0	< 1.0	< 1.0	3.7	**5.5**	2.3
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	15	11	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																												
1,4-Dioxane	µg/L	**0.3**																										

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
U*+F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high, MS and/or MSD Recovery is outside acceptance limits (TABUF)
U*- = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased (TABUF)
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Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1010M 05-Sep-18 N	MW-1010M 03-Apr-19 N	MW-1010M 21-Aug-19 N	MW-1010M 21-Aug-19 FD	MW-1010M 31-Mar-20 N	MW-1010M 31-Mar-20 FD	MW-1010M 09-Sep-20 N	MW-1010M 09-Sep-20 FD	MW-1010M 31-Mar-21 N	MW-1010M 31-Mar-21 FD	MW-1010M 14-Sep-21 N	MW-1010M 14-Sep-21 FD	MW-1010M 13-Apr-22 N	MW-1010M 13-Apr-22 FD	MW-1011 05-Sep-18 N	MW-1011 03-Apr-19 N	MW-1013 05-Sep-18 N	MW-1013 04-Apr-19 N	MW-1013 31-Mar-20 N	MW-1013 31-Mar-21 N	MW-1014 05-Sep-18 N	MW-1014 04-Apr-19 N	MW-1014 21-Aug-19 N	MW-1014 31-Mar-20 N	MW-1014 09-Sep-20 N	MW-1014 01-Apr-21 N	MW-1014 14-Sep-21 N	MW-1014 13-Apr-22 N
VOC, Method 8260, µg/L																														
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0 *-	< 1.0	38	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50 *	< 50 *	< 50 *	< 50	< 50	< 50	< 50	< 50	< 50	< 50 *1	< 50 *1	< 50	< 50	< 50	< 50 *	< 50	< 200	< 50	< 50	< 50	< 200	< 50 *	< 50	< 50	< 50	< 50 *1	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *+	< 10 *+	< 10 *+	< 10 *+	< 10 *	< 10 *	< 10 *	< 50	< 10 *	< 10 *+	< 10 *	< 50	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *+
Acetone	µg/L	6,300	< 50	< 50 *	< 50	< 50	170	130	< 50	< 50	< 50	< 50	77 *1	79 *1	< 50	< 50	< 50	< 50 *	< 50	< 25	< 50	< 50	< 50	42	< 50	150	< 50	< 50	51 *1	< 50
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	7.2	3.0	< 1.0	< 1.0	< 1.0	< 1.0	11	7.9	6.9	4.4	7.1	1.4	3.0	1.3
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
Trichloroethene	µg/L	**5**	**13**	**11**	**11**	**10**	**6.4**	**5.7**	**14**	**13**	**12**	**12**	**16**	**15**	**15**	**14**	**16**	**140**	< 1.0	< 1.0	< 1.0	< 1.0	**48**	**34**	**45**	**17**	**39**	**7.5**	**23**	**8.5**
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																														
1,4-Dioxane	µg/L	**0.3**																												

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
U*+F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high, MS and/or MSD Recovery is outside acceptance limits (TABUF)
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Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1015D 05-Sep-18 N	MW-1015D 03-Apr-19 N	MW-1015D 21-Aug-19 N	MW-1015D 31-Mar-20 N	MW-1015D 09-Sep-20 N	MW-1015D 31-Mar-21 N	MW-1015D 14-Sep-21 N	MW-1015D 13-Apr-22 N	MW-1016D 05-Sep-18 N	MW-1016D 05-Sep-18 FD	MW-1016D 03-Apr-19 N	MW-1016D 03-Apr-19 FD	MW-1016D 31-Mar-21 N	MW-1017D 05-Sep-18 N	MW-1017D 03-Apr-19 N	MW-1017D 01-Apr-21 N	MW-1018 05-Sep-18 N	MW-1018 03-Apr-19 N	MW-1019B 05-Sep-18 N	MW-1019B 03-Apr-19 N	MW-1019B 31-Mar-21 N	MW-1020 05-Sep-18 N	MW-1020 04-Apr-19 N	MW-1020 01-Apr-20 N	MW-1020 01-Apr-21 N	MW-1020 14-Apr-22 N	MW-1022 05-Sep-18 N	MW-1022 04-Apr-19 N	MW-1022 01-Apr-21 N
VOC, Method 8260, µg/L																														
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.8	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50 *	< 50 *	< 50	< 50	< 50	< 50 *1	< 50	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *	< 50	< 50	< 50 *	< 50	< 50 *	< 50	< 50	< 200				< 50	< 200	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *	< 50				< 10 *	< 50	< 10 *+
Acetone	µg/L	6,300	< 50	< 50 *	< 50	250	< 50	< 50	< 50 *1	< 50	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *	< 50	< 50	< 50 *	< 50	< 50 *	< 50	< 50	< 25				< 50	< 25	< 50
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	1.3	< 1.0	65	24	5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0				< 1.0	< 5.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.0	< 1.0	< 1.0	< 1.0	< 1.0	15	16				< 1.0	< 1.0	< 1.0
Tetrachloroethene	µg/L	5	1.5	1.5	1.3	1.7	1.1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
Trichloroethene	µg/L	**5**	**9.9**	**8.4**	**8.2**	**8.1**	**6.3**	4.3	4.6	3.9	4.4	4.3	**16**	**15**	< 1.0	**16**	**13**	3.0	**10**	< 1.0	< 1.0	< 1.0	< 1.0	**9.3**	**7.0**				2.7	2.4	1.9
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																														
1,4-Dioxane	µg/L	**0.3**																							**0.50**	**0.36**	**0.45**	0.29			

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
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Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1023 05-Sep-18 N	MW-1023 05-Sep-19 N	MW-1023 14-Sep-21 N	MW-1024D 05-Sep-18 N	MW-1024D 03-Apr-19 N	MW-1025D 05-Sep-18 N	MW-1025D 03-Apr-19 N	MW-1025M 05-Sep-18 N	MW-1025M 05-Sep-18 FD	MW-1025M 04-Apr-19 N	MW-1025M 04-Apr-19 FD	MW-1025M 01-Apr-20 N	MW-1025M 02-Apr-21 N	MW-1025M 14-Apr-22 N	MW-1026D 05-Sep-18 N	MW-1026D 04-Apr-19 N	MW-1026D 31-Mar-20 N	MW-1026D 02-Apr-21 N	MW-1026D 14-Apr-22 N
VOC, Method 8260, µg/L																					
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
1,4-Dioxane	µg/L	0.3	< 50	< 50	< 50 *1	< 50	< 50 *	< 50	< 50 *	< 50	< 50	< 200 *	< 200				< 50	< 200			
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 50	< 50				< 10 *	< 50			
Acetone	µg/L	6,300	< 50	90	< 50 *1	< 50	< 50 *	< 50	< 50 *	< 50	55	< 25	< 25				< 50	< 25			
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0	6.0	< 1.0	2.4	< 1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0				17	26			
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0				< 1.0	< 5.0			
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.2	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
Trichloroethene	µg/L	**5**	< 1.0	< 1.0	2.4	< 1.0	**5.8**	< 1.0	< 1.0	**7.8**	**8.5**	< 1.0	< 1.0				**68**	**26**			
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0				< 1.0	< 1.0			
VOC, Method EPA522, µg/L																					
1,4-Dioxane	µg/L	**0.3**										**0.93**		< 0.20	**0.74**	**0.39**		**0.58**	**0.65**	**0.53**	**0.36**

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
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N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
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F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
U*+F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high, MS and/or MSD Recovery is outside acceptance limits (TABUF)
U*- = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased (TABUF)
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UF1 = Indicates the analyte was analyzed for but not detected; MS and/or MSD Recovery is outside acceptance limits (TABUF)

Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1027 05-Sep-18 N	MW-1027 03-Apr-19 N	MW-1028 05-Sep-18 N	MW-1028 03-Apr-19 N	MW-1028 21-Aug-19 N	MW-1028 31-Mar-20 N	MW-1028 09-Sep-20 N	MW-1028 31-Mar-21 N	MW-1028 14-Sep-21 N	MW-1028 13-Apr-22 N	MW-1030 05-Sep-18 N	MW-1030 03-Apr-19 N	MW-1030 31-Mar-21 N	MW-1031 05-Sep-18 N	MW-1031 03-Apr-19 N	MW-1032 05-Sep-18 N	MW-1032 03-Apr-19 N	MW-1032 22-Aug-19 N	MW-1032 31-Mar-20 N	MW-1032 09-Sep-20 N	MW-1032 09-Sep-20 FD	MW-1032 31-Mar-21 N	MW-1032 14-Sep-21 N	MW-1032 13-Apr-22 N
VOC, Method 8260, µg/L																										
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.8	1.1	< 1.0	1.0	1.1	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.4	1.3	1.1	1.4	1.2	1.2	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50 *	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *1	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50	< 50 *1	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *F1	< 10 *+	< 10 *+	< 10 *+	< 10 *	< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *+	< 10 *+
Acetone	µg/L	6,300	< 50	< 50 *	< 50	< 50 *	56	130	< 50	< 50	< 50 *1	< 50	< 50	< 50 *	< 50	< 50	< 50 *	< 50	< 50 *	< 50	< 50	< 50	< 50	< 50	< 50 *1	< 50
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	1.1	1.1	< 1.0	1.0	1.4	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	46	59	35	53	29	29	31	25	21
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
Trichloroethene	µg/L	**5**	< 1.0	< 1.0	**5.2**	3.9	4.8	**5.9**	**8.1**	**5.8**	**6.9**	**8.8**	2.9	2.7	4.1	< 1.0	< 1.0	**7.2**	**6.9**	**6.0**	**7.8**	**6.5**	**6.5**	**5.8**	**6.3**	**6.8**
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 F1	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																										
1,4-Dioxane	µg/L	**0.3**																								

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
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U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
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Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1033 05-Sep-18 N	MW-1033 05-Apr-19 N	MW-1033 01-Apr-20 N	MW-1033 02-Apr-21 N	MW-1033 14-Apr-22 N	MW-1034 05-Sep-18 N	MW-1034 05-Sep-18 FD	MW-1034 05-Apr-19 N	MW-1034 05-Apr-19 FD	MW-1034 21-Aug-19 N	MW-1034 21-Aug-19 FD	MW-1034 31-Mar-20 N	MW-1034 31-Mar-20 FD	MW-1034 01-Apr-20 N	MW-1034 01-Apr-20 FD	MW-1034 09-Sep-20 N	MW-1034 01-Apr-21 N	MW-1034 01-Apr-21 FD	MW-1034 14-Sep-21 N	MW-1034 13-Apr-22 N	MW-1034 14-Apr-22 N	MW-1034 14-Apr-22 FD	MW-1035 05-Sep-18 N	MW-1035 03-Apr-19 N	MW-1036 05-Sep-18 N	MW-1036 05-Sep-18 FD	MW-1036 04-Apr-19 N	MW-1036 04-Apr-19 FD	MW-1036 01-Apr-20 N	MW-1036 01-Apr-21 N	MW-1036 14-Apr-22 N
VOC, Method 8260, µg/L																																	
1,1,1-Trichloroethane	µg/L	200	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-			6.0	6.9	< 1.0	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
1,1-Dichloroethene	µg/L	7	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
1,4-Dioxane	µg/L	0.3	< 50	< 200				< 50	< 50	< 200	< 200 *	< 50 *	< 50 *	< 50	< 50			< 50	< 50	< 50	< 50 *1	< 50			< 50	< 50	< 50	< 50	< 200	< 200			
2-Butanone	µg/L	4,000	< 10 *	< 50				< 10 *	< 10 *	< 50	< 50	< 10 *	< 10 *	< 10 *	< 10 *			< 10 *	< 10 *+	< 10 *+	< 10 *+	< 10 *+			< 10 *	< 10 *	< 10 *	< 10 *	< 50	< 50			
Acetone	µg/L	6,300	< 50	< 25				< 50	< 50	< 25	< 25	< 50	< 50	56	51			< 50	< 50	< 50	< 50 *1	53			< 50	< 50 *	< 50	< 50	< 25	< 25			
Chloroform	µg/L	70	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0				14	14	12	11	12	12	12	11			13	20	20	17	13			< 1.0	< 1.0	10	8.8	< 1.0	< 1.0			
Ethyl ether	µg/L	NS	< 1.0	< 5.0				< 1.0	< 1.0	< 5.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	< 5.0			
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			2.7	2.1	< 1.0	< 1.0	< 1.0	< 1.0			
Tetrachloroethene	µg/L	5	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
Toluene	µg/L	1,000	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0				1.7	1.9	1.4	1.4	1.3	1.4	1.3	1.2			1.3	1.4	1.6	1.2	1.1 *-			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
Trichloroethene	µg/L	**5**	< 1.0	< 1.0				**37**	**39**	**31**	**31**	**32**	**31**	**29**	**29**			**31**	**16**	**17**	**24**	**23**			**33**	**28**	**20**	**20**	< 1.0	< 1.0			
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0				< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0			
VOC, Method EPA522, µg/L																																	
1,4-Dioxane	µg/L	**0.3**		**3.7**	**1.7**	**4.6**	**4.7**			**0.43**						0.28	**0.34**		**0.50**	**0.53**			**0.42**	**0.39**					< 0.20	< 0.20	0.23	**0.34**	**0.33**

Notes:
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Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
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Table 2
Summary of Groundwater Analytical Data - Southern Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	Unit	Location ID Sample Date Sample Type MA-GW-1-2020	MW-1037 05-Sep-18 N	MW-1037 03-Apr-19 N	MW-1038 05-Sep-18 N	MW-1038 03-Apr-19 N	MW-1038 31-Mar-21 N	MW-1039 05-Sep-18 N	MW-1039 05-Apr-19 N	MW-1039 01-Apr-20 N	MW-1039 01-Apr-21 N	MW-1039 14-Apr-22 N	MW-1040 05-Sep-19 N	MW-1040 14-Sep-21 N	MW-217M 05-Sep-18 N	MW-217M 03-Apr-19 N	MW-217M 21-Aug-19 N	MW-217M 31-Mar-20 N	MW-217M 09-Sep-20 N	MW-217M 01-Apr-21 N	MW-217M 14-Sep-21 N	MW-217M 14-Sep-21 FD	MW-217M 13-Apr-22 N
VOC, Method 8260, µg/L																							
1,1,1-Trichloroethane	µg/L	200	34	18	40	15	80	< 1.0	< 1.0		< 1.0		7.9	2.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
1,1-Dichloroethane	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	1.8	< 1.0	< 1.0		< 1.0		1.9	1.9	2.8	2.7	1.2	2.4	1.3	1.9	2.2	2.2	1.9
1,1-Dichloroethene	µg/L	7	1.6	< 1.0	1.7	< 1.0	5.3	< 1.0	< 1.0		< 1.0		3.0	1.6	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	µg/L	600	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	1.0	1.1	< 1.0	1.5	< 1.0	1.3	1.2	1.3	< 1.0
1,4-Dioxane	µg/L	0.3	< 50	< 50	< 50	< 50	< 50	< 50	< 200		< 50		< 50	< 50 *1	< 50	< 50	< 50 *	< 50	< 50	< 50	< 50 *1	< 50 *1	< 50
2-Butanone	µg/L	4,000	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *+	< 10 *	< 50		< 10 *+F1		< 10 *	< 10 *+	< 10 *	< 10 *	< 10 *	< 10 *	< 10 *	10 *+	< 10 *+	< 10 *+	< 10 *+
Acetone	µg/L	6,300	< 50	< 50	< 50	< 50	68	< 50	< 25		< 50		< 50	52 *1	< 50	< 50 *	< 50	110	< 50	< 50	< 50 *1	< 50 *1	< 50
Chloroform	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	µg/L	**70**	< 1.0	< 1.0	< 1.0	< 1.0	1.5	35	29		32		1.6	1.7	1.2	1.0	< 1.0	1.2	< 1.0	1.0	1.4	1.3	1.0
Ethyl ether	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Methyl tert-butyl ether	µg/L	70	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		1.5	2.1	51	56	48	57	43	42	36	35	30
Tetrachloroethene	µg/L	5	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene	µg/L	1,000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	µg/L	100	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	2.4	2.0		2.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *-
Trichloroethene	µg/L	**5**	**120**	**59**	**150**	**47**	**260**	**53**	**51**		**39**		**86**	**43**	**6.4**	**6.9**	3.9	**7.6**	4.7	**5.9**	**6.3**	**6.3**	**6.3**
Trichlorofluoromethane (Freon 11)	µg/L	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0		< 1.0		< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
VOC, Method EPA522, µg/L																							
1,4-Dioxane	µg/L	**0.3**							**0.34**	0.26	**0.41**	**0.36**											

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reportin
Empty cells = Not analyzed
NS = No Standard
FD = Field Duplicate Sample
N = Normal Sample
Units are in µg/L = micrograms per liter

Qualifiers - Organic:
* = LCS or LCSD is outside acceptance limits (TABUF)
*+ = LCS and/or LCSD is outside acceptance limits, high biased (TABUF)
*- = LCS and/or LCSD is outside acceptance limits, low biased.
*1 = LCS/LCSD RPD exceeds control limits (TABUF)
F1F2 = MS and/or MSD Recovery is outside acceptance limits; MS/MSD RPD exceeds control limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TABUF)
U* = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits (TANSH)
U*+ = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high (TABUF)
U*+*1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high; LCS/LCSD RPD exceeds control limits (TABUF)
U*+F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits biased high, MS and/or MSD Recovery is outside acceptance limits (TABUF)
U*- = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased (TABUF)
U*-*1 = Indicates the analyte was analyzed for but not detected; LCS and/or LCSD is outside acceptance limits, low biased; LCS/LCSD RPD exceeds control limits (TABUF)
U*1 = Indicates the analyte was analyzed for but not detected; LCS/LCSD RPD exceeds control limits (TABUF)
U*F1 = Indicates the analyte was analyzed for but not detected; LCS or LCSD is outside acceptance limits; MS and/or MSD Recovery is outside acceptance limits (TABUF)
UF1 = Indicates the analyte was analyzed for but not detected; MS and/or MSD Recovery is outside acceptance limits (TABUF)

Analyses performed by TestAmerica - Buffalo, NY (TABUF), Alpha Analytical Westborough, TestAmerica - Burlington, VT, and/or TestAmerica - Nashville, TN (TANSH).

MA-GW-1-2020 = Massachusetts Contingency Plan, 310 CMR 40, Method 1 Groundwater Standards, Category GW-1, 2020.

Table 3
Summary of Groundwater Gauging Data - Cow Common Conservation Area
Former Raytheon Facility
Wayland, Massachusetts

Well	Measurement Date	Depth to Water (feet below top of casing)
SEN-1D	15-Mar-16	16.09
	05-Apr-17	15.56
	28-Mar-18	14.32
	05-Apr-19	11.17
	02-Apr-21	13.63
SEN-1M	15-Mar-16	16.27
	05-Apr-17	15.76
	28-Mar-18	14.37
	05-Apr-19	11.10
SEN-2D	15-Mar-16	9.69
	05-Apr-17	8.82
	28-Mar-18	8.92
	05-Apr-19	7.86
SEN-2M	15-Mar-16	9.76
	05-Apr-17	8.89
	28-Mar-18	9.02
	05-Apr-19	7.96
SEN-3	15-Mar-16	18.95
	05-Apr-17	19.02
	28-Mar-18	17.68
	05-Apr-19	14.55

Table 4
Summary of Groundwater Analytical Data - Cow Common Conservation Area
Former Raytheon Facility
Wayland, Massachusetts

Analyte	MA-GW-1-2020	MA-GW-3-2014	SEN-1D 3/15/2016 N	SEN-1D 4/5/2017 N	SEN-1D 4/13/2018 N	SEN-1D 4/5/2019 N	SEN-1D 4/2/2021 FD	SEN-1D 4/2/2021 N	SEN-1M 3/15/2016 N	SEN-1M 4/5/2017 N	SEN-1M 4/13/2018 N	SEN-1M 4/5/2019 N	SEN-2D 3/15/2016 N	SEN-2D 4/5/2017 N	SEN-2D 4/13/2018 N	SEN-2D 4/5/2019 N	SEN-2M 3/15/2016 N	SEN-2M 4/5/2017 N	SEN-2M 4/13/2018 N	SEN-2M 4/5/2019 N	SEN-3 3/15/2016 N	SEN-3 4/5/2017 N	SEN-3 4/13/2018 N	SEN-3 4/5/2019 N
SW8260C, ug/L																								
1,1,1-Trichloroethane	200	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethane	70	20000	1.2	2.7	2.1	2.2	1.7	1.9	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,1-Dichloroethene	**7**	30000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
1,2-Dichlorobenzene	600	2000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
2-Butanone	4000	50000	< 10	< 10	< 10 *	< 50	< 10 *+	< 10 *+	< 10	< 10	< 10 *	< 50	< 10	< 10	< 10 *	< 50	< 10	< 10	< 10 *	< 50	16	< 10	< 10 *	< 50
Acetone	6300	50000	120	52	< 50	< 25	< 50	< 50	< 50	61	< 50	< 25	< 50	93	< 50	< 25	< 50	89	< 50	< 25	75	< 50	< 50	< 25
Chloroform	70	20000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
cis-1,2-Dichloroethene	**70**	50000	2.8	6.5	7.8	7.5	7.8	8.3	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Ethyl ether	NS	NS	< 1.0	3.2	2.3	7.8	6.9	6.8	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 5.0
Methyl tert-butyl ether	**70**	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
tert-Amyl Methyl Ether	NS	NS	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 1.0	< 5.0	< 5.0	< 5.0	< 1.0
Tetrachloroethene	5	30000	< 1.0 *	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0 *	< 1.0	< 1.0	< 1.0	< 1.0 *	< 1.0	< 1.0	< 1.0	< 1.0 *	< 1.0	< 1.0	< 1.0	< 1.0 *	< 1.0	< 1.0	< 1.0
Toluene	1000	40000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
trans-1,2-Dichloroethene	100	50000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichloroethene	**5**	5000	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Trichlorofluoromethane (Freon 11)	NS	NS	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Notes:
< = Compound not detected at concentrationsabove the laboratory reporting detection limit.The laboratory reporting detection limit is shown.
Empty cells = not analyzed
FD = Field Duplicate Sample
N = Normal Environmental Sample
*+ = LCS and/or LCSD is outside acceptance limits, high biased.
Units are in ug/L = micrograms per liter
NS = No standard

APPENDIX A BWSC TRANSMITTAL FORMS—SUBMITTED CONCURRENTLY VIA EDEP

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup

BWSC 108

Release Tracking Number
3 - 13302

COMPREHENSIVE RESPONSE ACTION TRANSMITTAL FORM & PHASE I COMPLETION STATEMENT

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: RAYTHEON COMPANY

2. Street Address: 430 BOSTON POST RD

3. City/Town: WAYLAND 4. ZIP Code: 017780000

☑ 5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

☑ a. Tier I ☐ b. Tier ID ☐ c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

☐ 1. Submit a **Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 2. Submit a **Revised Phase I Completion Statement,** pursuant to 310 CMR 40.0484.

☐ 3. Submit a **Phase II Scope of Work,** pursuant to 310 CMR 40.0834.

☐ 4. Submit an **interim Phase II Report.** This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.

☐ 5. Submit a **final Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 6. Submit a **Revised Phase II Report and Completion Statement,** pursuant to 310 CMR 40.0836.

☐ 7. Submit a **Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement,** pursuant to 310 CMR 40.0862.

☐ 9. Submit a **Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 10. Submit a **Modified Phase IV Remedy Implementation Plan,** pursuant to 310 CMR 40.0874.

☐ 11. Submit an **As-Built Construction Report,** pursuant to 310 CMR 40.0875.

☐ 12. Submit a **Phase IV Status Report,** pursuant to 310 CMR 40.0877.

☐ 13. Submit a **Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

☐ a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.

☐ b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

☐ 14. Submit a **Revised Phase IV Completion Statement,** pursuant to 310 CMR 40.0878 and 40.0879.

☐ 15. Submit a **Phase V Status Report,** pursuant to 310 CMR 40.0892.

☑ 16. Submit a **Remedial Monitoring Report.** (This report can only be submitted through eDEP.)

a. Type of Report: (check one) ☐ i. Initial Report ☑ ii. Interim Report ☐ iii. Final Report

b. Frequency of Submittal: (check all that apply)

☐ i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

☐ ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

☑ iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

☐ iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) ☐ i. Phase IV ☐ ii. Phase V ☑ iii. Remedy Operation Status ☐ iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 2

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

☐ 17. Submit a **Remedy Operation Status,** pursuant to 310 CMR 40.0893.

☑ 18. Submit a **Status Report to maintain a Remedy Operation Status,** pursuant to 310 CMR 40.0893(2).

☐ 19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS),** pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

☐ a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

☐ b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

☐ 20. Submit a **Termination of a Remedy Operation Status,** pursuant to 310 CMR 40.0893(6).(check one)

☐ a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6)(b) for resuming the ROS are attached.

☐ b. Submit a notice of Termination of ROS.

☐ 21. Submit a **Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

☐ a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

☐ 22. Submit a **Revised Phase V Completion Statement,** pursuant to 310 CMR 40.0894.

☐ 23. Submit a **Temporary Solution Status Report,** pursuant to 310 CMR 40.0898.

☐ 24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

☐ i. Phase IV ☐ ii. Phase V ☐ iii. Remedy Operation Status ☐ iv. Temporary Solution

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> *if Section B indicates that a* ***Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement*** *and/or a* ***Termination of a Remedy Operation Status*** *is being submitted*, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that a* ***Phase II Scope of Work*** *or a* ***Phase IV Remedy Implementation Plan*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> *if Section B indicates that an* ***As-Built Construction Report,*** *a* ***Remedy Operation Status,*** *a* ***Phase IV, Phase V or Temporary Solution Status Report,*** *a* ***Status Report to Maintain a Remedy Operation Status,*** *a* ***Transfer or Modification of Persons Maintaining a Remedy Operation Status*** *and/or a* ***Remedial Monitoring Report*** *is being submitted,* the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 2196
2. First Name: JOHN C
3. Last Name: DROBINSKI
4. Telephone: 6176467800
5. Ext.:
6. Email: john.drobinski@erm.com
7. Signature: JOHN C DROBINSKI
8. Date: 5/19/2022 (mm/dd/yyyy)
9. LSP Stamp:

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: ☐ a. change in contact name ☑ b. change of address ☐ c. change in the person undertaking response actions

2. Name of Organization: RAYTHEON CO

3. Contact First Name: JONATHAN R 4. Last Name: HONE

5. Street: 366 LOWELL ST MS 3661E262 6. Title: ENVIRONMENTAL ENGINEER

7. City/Town: ANDOVER 8. State: MA 9. ZIP Code: 018100000

10. Telephone: 9788584784 11. Ext: 12. Email: jonathan.r.hone@rtx.com

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: ☐ Check here to change relationship

☑ 1. RP or PRP ☐ a. Owner ☐ b. Operator ☐ c. Generator ☐ d. Transporter

☑ e. Other RP or PRP Specify: NON-SPECIFIED PRP

☐ 2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

☐ 3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

☐ 4. Any Other Person Undertaking Response Actions Specify Relationship:

F. REQUIRED ATTACHMENT AND SUBMITTALS:

☐ 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.

☐ 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.

☐ 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.

☐ 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.

☐ 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.

☐ 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.

☐ 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.

☐ 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.

☑ 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

1. I, JONATHAN HONE, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>*if Section B indicates that this is a* **Modification of a Remedy Operation Status (ROS),** I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: JONATHAN HONE
Signature

3. Title: ENVIRONMENTAL ENGINEER

4. For: RAYTHEON CO
(Name of person or entity recorded in Section D)

5. Date: 5/19/2022
(mm/dd/yyyy)

☐ 6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO $10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on 5/19/2022 10:08:44 AM

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 1 of: 2

BWSC108 -A

Release Tracking Number
3 - 13302

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

☑ a. Active Remedial System: (check all that apply)

☐ i. NAPL Recovery ☐ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
☑ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
☐ x. Other Describe: _____

☐ b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water

☑ c. Application of Remedial Additives: (check all that apply)
☐ i. To the Subsurface ☑ ii. To Groundwater (Injection) ☐ iii. To the Surface

☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe: _____

2. Mode of Operation: (check one)
☑ a. Continuous ☐ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other: _____

3. System Effluent/Discharge: (check all that apply)
☐ a. Sanitary Sewer/POTW
☑ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☑ ii. Upgradient
☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
☐ d. Drinking Water Supply
☐ e. Surface Water (including Storm Drains)
☐ f. Other Describe: _____

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 11/1/2021 (mm/dd/yyyy) To: 4/30/2022 (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)
☐ a. System Startup: (if applicable)
☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
☐ ii. Other Describe: _____
☑ b. Post-system Startup (after first month) or Monitoring Program:
☐ i. Monthly
☑ ii. Quarterly
☐ iii. Annually
☐ iv. Other Describe: _____

☐ 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit
☐ c. Emergency Exclusion Effective Date of Permit: _____ (mm/dd/yyyy)

☑ 2. MCP Performance Standard MCP Citations(s): 310 CMR 40.0045(4)

☐ 3. DEP Approval Letter Date of Letter: _____ (mm/dd/yyyy)

☐ 4. Other Describe: _____

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☑ 2. Remedial Additives: (check all that apply)

☑ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 183

c. Reason(s) for Scheduled Shutdowns: REMEDIATION EXPECTED TO CONTINUE NATURALLY WITHOUT ASSISTANCE OF SYSTEM

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 2

BWSC108 -A

Release Tracking Number
3 - 13302

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)
   - ☐ a. Active Remedial System: (check all that apply)
     - ☐ i. NAPL Recovery ☐ ii. Soil Vapor Extraction/Bioventing ☐ iii. Vapor-phase Carbon Adsorption
     - ☐ iv. Groundwater Recovery ☐ v. Dual/Multi-phase Extraction ☐ vi. Aqueous-phase Carbon Adsorption
     - ☐ vii. Air Stripping ☐ viii. Sparging/Biosparging ☐ ix. Cat/Thermal Oxidation
     - ☐ x. Other Describe:
   - ☐ b. Active Exposure Pathway Elimination Measure
     Active Exposure Pathway Mitigation System to address (check one): ☐ i. Indoor Air ☐ ii. Drinking Water
   - ☑ c. Application of Remedial Additives: (check all that apply)
     - ☐ i. To the Subsurface ☑ ii. To Groundwater (Injection) ☐ iii. To the Surface
   - ☐ d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
     - ☐ i. Reactive Wall ☐ ii. Natural Attenuation ☐ iii. Other Describe:
2. Mode of Operation: (check one)
   - ☐ a. Continuous ☑ b. Intermittent ☐ c. Pulsed ☐ d. One-time Event Only ☐ e. Other:
3. System Effluent/Discharge: (check all that apply)
   - ☐ a. Sanitary Sewer/POTW
   - ☐ b. Groundwater Re-infiltration/Re-injection: (check one) ☐ i. Downgradient ☐ ii. Upgradient
   - ☐ c. Vapor-phase Discharge to Ambient Air: (check one) ☐ i. Off-gas Controls ☐ ii. No Off-gas Controls
   - ☐ d. Drinking Water Supply
   - ☐ e. Surface Water (including Storm Drains)
   - ☑ f. Other Describe: NO EFFLUENT

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 11/1/2021 (mm/dd/yyyy) To: 4/30/2022 (mm/dd/yyyy)
2. Number of monitoring events during the reporting period: (check one)
   - ☐ a. System Startup: (if applicable)
     - ☐ i. Days 1, 3, 6, and then weekly thereafter, for the first month.
     - ☐ ii. Other Describe:
   - ☑ b. Post-system Startup (after first month) or Monitoring Program:
     - ☐ i. Monthly
     - ☐ ii. Quarterly
     - ☐ iii. Annually
     - ☑ iv. Other Describe: SEMI-ANNUALLY
3. ☐ Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- ☐ 1. NPDES: (check one) ☐ a. Remediation General Permit ☐ b. Individual Permit ☐ c. Emergency Exclusion
  Effective Date of Permit: (mm/dd/yyyy)
- ☐ 2. MCP Performance Standard MCP Citations(s):
- ☐ 3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)
- ☑ 4. Other Describe: NO EFFLUENT

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

☐ 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.

a. Name: _____ b. Grade: _____

c. License No: _____ d. License Exp. Date: _____ (mm/dd/yyyy)

☐ 2. Not Required

☑ 3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

☐ 1. The Active Remedial System was functional one or more days during the Reporting Period.

a. Days System was Fully Functional: _____ b. GW Recovered (gals): _____

c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____

e. Avg. Soil Gas Recovery Rate (scfm): _____ f. Avg. Sparging Rate (scfm): _____

☑ 2. Remedial Additives: (check all that apply)

☑ a. No Remedial Additives applied during the Reporting Period.

☐ b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Microorganisms:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

☐ c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

☐ i. Permanganates:

Name of Additive	Date	Quantity	Units

☐ ii. Peroxides:

Name of Additive	Date	Quantity	Units

☐ iii. Persulfates:

Name of Additive	Date	Quantity	Units

☐ iv. Other:

Name of Additive	Date	Quantity	Units

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

☐ d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units	Name of Additive	Date	Quantity	Units

☐ e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

☐ 1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: _____ b. Total Number of Days of Unscheduled Shutdowns: _____

c. Reason(s) for Unscheduled Shutdowns: _____

☑ 2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: 1 b. Total Number of Days of Scheduled Shutdowns: 183

c. Reason(s) for Scheduled Shutdowns: REMEDIATION EXPECTED TO CONTINUE NATURALLY WITHOUT ASSISTANCE OF SYSTEM

☐ 3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

☐ b. No Further Effluent Discharges.

☐ c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

☐ d. No Further Submittals Planned.

☐ e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

☑ 1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

☑ 2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

☑ 3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

☐ 5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

APPENDIX B IESI MEMORANDUM

Innovative Engineering Solutions, Inc.
37 Pearl Street, #1, Braintree, Massachusetts 02184 (508) 623-1224 • fax (508) 668-5175

MEMORANDUM

To: Jonathan Hone; Raytheon Company
From: David Falatko, P.E., IESI
Subject: Work Summary for ROS Report
Raytheon Facility
Wayland, Massachusetts
Date: May 6, 2022

At the request of Raytheon Company (Raytheon), Innovative Engineering Solutions Inc. (IESI) has prepared this memorandum outlining the bioremediation activities between November 1, 2021, and May 1, 2022 at the Northern area of the Former Raytheon Facility located in Wayland, Massachusetts. The memorandum provides sufficient detail to be incorporated into a Remedy Operation Status (ROS) report.

IESI performed the following activities during this time period:

1. Collection of groundwater elevation data (April 2022);
2. Sampling and analysis to evaluate remediation progress (February and April 2022); and,
3. Sampling and microbial testing for 1,4-dioxane degradation (February through March 2022).

Since remedial system start up in 2011, approximately 12.8 million gallons of groundwater were recirculated by extraction and injection wells across the site as shown on the site plans of Figures 1 thru 4. The active groundwater recirculation system was deactivated on December 20, 2016 since the bulk of the chlorinated volatile organic compounds (CVOCs) had been remediated across the entire site. We expect continued groundwater improvement over the next several years since residual total organic carbon (TOC) will act as an electron donor as will TOC that may be generated from endogenous microbial decay. At this point, five years after system shut down, the analytical data indicates that there is no noticeable VOC concentration rebound and the recirculation system is expected to remain off for an indefinite period.

Collection of Groundwater Elevation Data

Groundwater elevation data was collected from selected wells in the Northern Area on April 5, 2022. The data is compiled and presented in Table 1. Figures 1 thru 4 present interpreted groundwater elevation contour maps for this measurement event along with recent site groundwater analytical data. Consistent with past groundwater elevation measurements, groundwater flow is to the west.

Sampling and Analysis to Evaluate the Progress of the Recirculation System

In February, IESI collected groundwater samples from MW-267M, MW-268S, and MW-268M, and analyzed them for VOCs and the presence and abundance of microbes with the potential for biological degradation of 1,4-dioxane. Eurofins of Amherst, New York conducted the VOC analyses, and Microbial Insights, Inc. (MBI) of Knoxville, Tennessee conducted the biological analyses. After these groundwater samples for VOCs and microbial activity were collected, a canister set-up to track microbial growth and 1,4-dioxane degradation was set in each of the three wells and remained there for 43 days. These canisters were set-up by MBI (referred to as “Bio-traps”) and contained radio-labeled 1,4-dioxane (labeled w/carbon - C_{13}) adsorbed onto activated carbon within a permeable membrane to track

1,4-dioxane degradation. After 43 days, the canisters were removed, sent back to the MBI lab, and the contents analyzed for microbial growth, mineralization of 1,4-dioxane, and microbial populations. The results of this work for these three wells are presented in Table 3.

The site-wide annual groundwater sampling event to evaluate the progress of the remedial program was conducted during this reporting period in April of 2022; the analytical data is summarized in Table 2. All laboratory analytical data reports can be found in Attachment A. All sampling was conducted using low flow sampling methods using a peristaltic pump. Groundwater sampling logs can be found in Attachment B. Groundwater dissolved gas sample analysis was conducted by Alpha Analytical of Westborough, MA, and dissolved VOCs and other constituents were analyzed by Eurofins of Amherst, New York. Analytical results for sample trip blank and sample duplicates conform to acceptable and applicable guidelines/standards and are tabulated in the tables alongside the respective sampled wells. Correlation between the sample duplicates is considered acceptable. The laboratory blanks were free of detectable VOCs. Selected analytical data for selected wells are graphed in Attachment C. Each page in Attachment C is for a single well and is made up of four separate graphs to allow a simultaneous evaluation of biogeochemical and VOC data.

Groundwater Analytical Results:

In general, the data indicate excellent CVOC reduction, electron donor distribution, sulfate reduction, methane generation and dechlorination of parent compounds to breakdown products (leading to ethene/ethane). The data often indicate initial electron donor induced desorption (of CVOCs), followed by dechlorination of the chlorinated VOCs (CVOCs). Near complete dechlorination has essentially been achieved across the northern area plume. Near complete dechlorination is evident in all treatment zone wells. Figures 1 thru 4 show the site plan of wells and has groundwater VOC data called out for selected wells. Locations with CVOCs remaining typically have mostly degradation by-products such as 1,2-cis dichloroethane and vinyl chloride, with relatively low concentrations of trichloroethene.

As of May, 2022, the following wells have had had non-detectable concentrations of the targeted CVOCs for at least the last year: MW-261S, MW-551, MW-552, MW-560, MW-561, MW-562, MW-563, and REW-series wells 1, 6, 7, 8, 9, 10, 11, and 12. The sampling frequency of these wells has therefore been reduced, and overall site monitoring events will occur twice a year going forward instead of quarterly. The new sampling plan for the Northern Area is shown on Table 4. The sampling plan may change as new data becomes available and may be adjusted accordingly.

In addition to the previous wells that have non-detectable concentrations, several other wells have had significant reductions in concentrations of the targeted CVOCs but still have low to trace concentrations remaining, including MW-264M, MW-266Mb, and the MW-268 cluster (shallow, medium, and deep intervals). Groundwater quality at MW-268S has not improved as quickly as at other locations, with total CVOCs of 88 ug/L during the February 2022 sampling event. However, groundwater remains anaerobic, as shown by the high levels of dissolved methane present and continued biological treatment and dechlorination is anticipated.

It should be noted that groundwater VOC data from the February 2022 sampling event for the three wells that were studied for microbial degradation of 1,4-dioxane (MW-267M, MW-268S, and MW-268M) are presented in the tables and figures instead of VOC data from the April sampling event. The Bio-trap canisters used for evaluating microbial growth in the three wells desorbed low levels of 1,4-dioxane into groundwater, causing a localized transitory increase in 1,4-dioxane concentrations at these wells that is expected to be reduced to prior levels by the time the next sampling event occurs in the fall. The February VOC data for these three wells was used in place of the April data as it was considered more representative of current groundwater quality; analytical lab reports for all of these results are included in Attachment A.

In general, the site data show good degradation of the targeted CVOCs, illustrated by the following:

1) TCE has been reduced to below the GW-1 standard of 5 ug/l at all but one location (MW-268S), as shown on Figure 1.
2) Cis-1,2-DCE has been reduced to below the GW-1 standard of 70 ug/l at all but locations as shown on Figure 2.
3) Vinyl chloride has been reduced to below the GW-1 standard of 2 ug/l at all but four monitoring locations, although at two of these locations vinyl chloride is right at the standard of 2 ug/l, as shown on Figure 3.

Concentrations of 1,4-dioxane have been reduced across the site, but still exceed the low GW-1 standard of 0.3 ug/l at approximately 50% of the monitoring locations, as shown on Figure 4. Of the locations where 1,4-dioxane is still present above the GW-1 standard, concentrations are typically stable or decreasing. One location, however, MW-268S, had a 1,4-dioxane concentration of 26 ug/l in the February 2022 sampling event, and it is slowly increasing in concentration. 1,4-dioxane was not a targeted compound in the EAD remedial approach but can be co-metabolically degraded after the EAD process. It appears that 1,4-dioxane concentrations across the site have decreased after EAD treatment, and that reduction may be attributed to this co-metabolic process. Location MW-268S appears to be one of the last areas to be treated with EAD, and this may be why 1,4-dioxane concentrations are still elevated there, but these concentrations are expected to decrease in accordance with overall site trends for 1,4-dioxane. The temporary 1,4-dioxane concentrations increase as chlorinated ethenes are degraded is anticipated, and is expected to decrease over time.

Acetone and/or methyl ethyl ketone (MEK), fermentation products of many electron donors, are present at a few locations within the treatment area in concentrations up to 230 µg/L (MEK at well MW-267S in April 2022). These compounds have been detected more commonly and at more locations in the past when electron donor injections were still occurring, and the groundwater recirculation system was active. The generation of acetone and MEK is a transient phenomenon, and the compounds are not expected to mobilize beyond the treatment area. Both acetone and MEK are electron donors and are expected to degrade over time (Fowler et. al., 2011). Acetone and MEK are readily degraded and should not reach more downgradient locations in significant concentrations.

Assessment of Potential for Microbial Degradation of 1,4-Dioxane

As discussed previously, groundwater samples were collected in February 2022 from three wells, MW-267M, MW268S, and MW-268M, and analyzed for VOCs and gene cell counts indicative of the potential for 1,4-dioxane degradation. As part of this sampling event, Bio-trap canisters were suspended in each of the three wells using nylon line. The Bio-traps were left in place for 43 days and then were retrieved and sent in for analysis on March 17, 2022. Analytical data for this biological assessment is presented in Table 3. All laboratory analytical data reports can be found in Attachment A.

The groundwater collected in February of 2022 was tested for the presence and quantity of cells that contain functional genes needed for the production of various forms of monooxygenase enzymes that can degrade 1,4-dioxane. As shown in Table 3, samples for all three wells showed elevated cell counts for several of these microorganism populations. All locations showed positive results, but well MW-268S showed the highest cell counts for microbial populations that can produce various types of monooxygenase enzymes. Microbes that can degrade and grow on propane, methane, and toluene appear to have the most potential for monooxygenase production at this site. This is consistent with the site conditions as methane and toluene are present at this site, and there is likely some propane also present due to the strong anaerobic conditions. Overall, this data indicates microbial populations present in the groundwater on site can produce enzymes that can lead to the degradation of 1,4-dioxane.

The Bio-traps used for sampling consist of carbon inside of a permeable membrane, with radio-labeled 1,4-dioxane (C_{13}) is adsorbed to the carbon inside of the Bio-traps. The C_{13} concentration adsorbed to each Bio-trap is measured before it leaves the laboratory and again after an incubation period, when the samples are retrieved from the wells and returned to the lab. After retrieval the Bio-traps are also analyzed for biomass and inorganic carbon that contain the radio-labeled C_{13}. If C_{13} is found in microorganisms' biomass it indicates 1,4-dioxane is being biodegraded by microorganism through metabolization and incorporated into their call mass, and if the C_{13} if found in inorganic sources of carbon it indicates 1,4-dioxane is being biodegraded by microorganisms through mineralization (complete degradation to carbon dioxide). Results of testing indicated that biomass containing C_{13} was present in moderate levels in all three wells proving that 1,4-dioxane biodegradation was occurring in the groundwater due to metabolization. Results also show levels of C_{13} in dissolved inorganic carbon (DIC) in well MW-267M above background, but with background levels of C_{13} in wells MW-268S and MW 268M, indicating low mineralization into inorganic carbon or poor tracking of C_{13}. DIC can show inconsistent results as it is soluble and may leave the Biotrap.

Overall, the results of microbial testing show moderate indications that 1,4-dioxane can be biodegraded onsite, but at low to moderate rates, as confirmed by the residual but slowly decreasing concentrations of 1,4-dioxane. These results may explain the decrease in 1,4-dioxane that has been observed in groundwater samples since the system was deactivated in 2016. Future post-remediation monitoring and long-term monitored natural attenuation (MNA) approaches and evaluations should consider the results and implications of this microbial testing.

References

Fowler, T., Thompson, B., Mueller, J., 2011; Acetone and 2-Butanone Creation Associated with Biological and Chemical Remediation of Environmental Contamination; Remediation Journal Winter 2011, p-9-27.

Tables

Table 1: Groundwater Gauging Summary, April 5, 2022
Table 2: Summary of Analytical Data, February/April, 2022
Table 3: Summary of Biological Testing of Potential for 1,4-Dioxane Degradation
Table 4: Sampling Plan for Northern Area

Figures

Figure 1: Site Plan with Recent Groundwater Data and TCE Flags
Figure 2: Site Plan with Recent Groundwater Data and cis-1,2-DCE Flags
Figure 3: Site Plan with Recent Groundwater Data and VC Flags
Figure 4: Site Plan with Recent Groundwater Data and 1,4-Dioxane Flags

Attachments

Attachment A: Analytical Data
Attachment B: Well Sampling Logs
Attachment C: Selected Well Analytical Data Tracking Graphs

Table 1 - Groundwater Gauging Summary, April 5, 2021

Former Raytheon Facility, Northern Area, Wayland MA

Well Designation	Screen Length (feet)	Total Well Depth (feet)	Measuring Point Elevation	Depth to Water (feet)	Depth to Bottom (feet)	Groundwater Elevation (feet)
MW-261S	5	22	131.28	10.36	24.4	120.92
MW-264S	10	20	126.32	4.78	22	121.54
MW-264M	10	44	126.28	6.76	47.3	119.52
MW-264D	5	77	126.63	8.36	79.8	118.27
MW-265S	10	18	130.06	7.6	21	122.46
MW-265M	5	45	129.89	10.37	48.4	119.52
MW-265D	5	89	130.07	12.2	91.45	117.87
MW-266S	10	17	126.79	7.15	20.02	119.64
MW-266Ma	5	52	127.72	9.18	55.1	118.54
MW-266Mb	10	68	126.88	8.38	70.1	118.50
MW-266D	5	105	127.70	9.94	107.93	117.76
MW-266B	5	138	128.14	10.13	137.7	118.01
MW-267S	5	77	125.30	7.84	76.4	117.46
MW-267M	10	95	125.40	8.09	98.2	117.31
MW-267D	5	121	125.88	7.7	122.95	118.18
MW-267B	5	153	124.02	6.6	113.36	117.42
MW-268S	5	74	123.66	6.61	77	117.05
MW-268M	10	94	123.41	6.63	93.8	116.78
MW-268D	5	127	124.86	7.7	130.15	117.16
MW-268B	5	153	122.34	5.62	156.8	116.72
MW-269S	10	20	125.54	6.95	21.81	118.59
MW-269Ma	5	32	124.96	7.65	33.68	117.31
MW-269Mb	10	84	125.42	8.7	83.82	116.72
MW-269D	5	144	125.34	9.83	146.8	115.51
MW-551	5	26	129.30	8.31	26.3	120.99
MW-552	5	24	130.09	9.24	27.1	120.85
MW-553	5	20	130.33	9.26	21.5	121.07
DEP-19S	5	15	120.79	1.7	12.66	119.09
DEP-19M	5	40	120.62	2.41	39.8	118.21
DEP-19D	5	50	120.78	2.96	49.55	117.82
DEP-21	5	50	119.18	6	49.61	113.18
MW-560	10	67	127.23	8.74	65.2	118.49
MW-561	10	53.65	127.90	8.85	53.65	119.05
MW-562	10	45	128.13	7.48	41.6	120.65
MW-563	30	70	125.70	5.8	65.2	119.90
REW-1	30	45	126.23	3.21	14.36	123.02
REW-4	30	45	125.85	7.79	47.36	118.06
REW-5	30	45	125.80	7.42	39.53	118.38

DTW- depth to water

Wells not listed were not measured in this gauging round.

Table 2- Summary of Analytical Data, February/April 2022
Former Raytheon Facility, Wayland MA

Sample ID	units	DEP-21	MW-261S	MW-264M	MW-265M	MW-266Ma	MW-266Mb	MW-267S	MW-267S DUP 2	MW-267M	MW-268S	MW-268M	MW-268D	MW-268D DUP 1	MW-269Ma	MW-551	MW-552	MW-553	MW-563	REW-6	REW-7	REW-11	REW-12	Trip Blank
Methane	ug/L	na	na	20100	na	na	28,200	15,000	na	31,700	27,000	36,500	8,940	na	na	na	na	15,100	na	na	na	na	na	na
Ethene	ug/L	na	na	2.03	na	na	ND	2.82	na	ND	12.10	1.26	2.36	na	na	na	na	0.76	na	na	na	na	na	na
Ethane	ug/L	na	na	1.96	na	na	4.96	0.525	na	56.2	10.60	18.1	1.55	na	na	na	na	7	na	na	na	na	na	na
Vinyl Chloride	ug/L	ND	ND	16	ND	ND	ND	ND	ND	ND	12	5.6	2	1.9	ND	1.1	ND	2	ND	ND	ND	ND	ND	na
Chloroethane	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,1-DCE	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,1-DCA	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	1.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,2-c DCE	ug/L	3.5	ND	23	2.1	ND	ND	28	ND	ND	66	1.6	6.1	6.3	2.6	ND	ND	ND	ND	ND	ND	ND	ND	na
1,2-t-DCE	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,1,1-TCA	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
TCE	ug/L	ND	ND	2	ND	ND	ND	ND	ND	ND	7.9	ND	2.1	2.1	3.1	ND	ND	ND	ND	ND	ND	ND	ND	na
PCE	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Acetone	ug/L	ND	ND	ND	ND	ND	ND	230	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
THF	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
m,p xylene	ug/L	ND	ND	ND	1.2	ND	26	ND	ND	1.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	ND	ND	2.4	na
Benzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Toluene	ug/L	ND	ND	ND	ND	ND	ND	51	51	ND	1.3	ND	2	1.9	ND	ND	ND	ND	ND	6.9	ND	38	ND	na
Ethyl Benzene	ug/L	ND	ND	ND	1.5	ND	7	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.5	na
2-Butananone (MEK)	ug/L	ND	ND	ND	ND	ND	ND	230	210	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
o-xylene	ug/L	ND	ND	ND	ND	ND	5.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1.7	na
Carbon Disulfide	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,2 Dichlorbenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
1,4 Dichlorobenzene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Naphthalene	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Methylene Chloride	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Dibromochloromethane	ug/L	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	na
Tetrahydrofuran	ug/L	ND	ND	ND	5.6	ND	6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.4	na
1,4 Dioxane	ug/L	ND	0.58	3.5	2.4	1.3	5	0.79	ND	4.8	26	4.9	3.5	0.33	0.63	0.42	0.49	0.61	0.22	4	ND	8.9	4.2	na
Chloride	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
Nitrate	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
Sulfate	mg/L	na	na	23	na	na	ND	ND	na	ND	22	ND	25	na	na	na	na	ND	na	na	na	na	na	na
Alkalinity	mg/L	na	na	320	na	na	520	800	na	98	92	320	81	na	na	na	na	720	na	na	na	na	na	na
Manganese	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
NH3-N	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
PO4	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
Sulfide	mg/L	na	na	ND	na	na	ND	ND	na	ND	ND	ND	ND	na	na	na	na	ND	na	na	na	na	na	na
Total Iron	mg/L	na	na	14	na	na	48	840	na	62	3	5	ND	na	na	na	na	16	na	na	na	na	na	na
COD	mg/L	na	na	20	na	na	48	130	na	30	23	25	14	na	na	na	na	12	na	na	na	na	na	na
TOC	mg/L	na	na	2.5	na	na	7.1	460	na	2.1	3.6	4.3	ND	na	na	na	na	2.8	na	na	na	na	na	na
lab pH	pH units	na	na	6.7	na	na	6.4	5.6	na	6.6	7.2	7.0	8.0	na	na	na	na	7.2	na	na	na	na	na	na
field pH	pH units	7.09	6.87	6.7	6.2	6.4	6.1	5.4	5.4	6.9	7.4	6.9	8.2	8.19	7.1	6.7	6.9	6.9	7.09	7	6.98	7.71	6.7	na

VOC data presented for wells MW-267M, MW-268S, and MW-268M are from February, 2022, all other data are from April, 2022.
1,1 DCE- 1,1 dichloroethene; 1,1 DCA-1,1 Dichloroethane; 1,2cDCE- 1,2 cis dichloroethene;
1,1,1 TCA- 1,1,1 trichoroethane, TCE- trichoroethene; PCE- tetrachloroethene; THF-tetrahydrofuran;
na/NA- not analyzed ; ND- not detected- see lab reports for detection limits
MCP Method 1 GW-1: MCP Method 1 Standards for GW-1 Category Groundwater, NS: no standard
All analysis by Test America except dissolved gases by Alpha Analytical.
DUP 1 = duplicate #1

VOC detections

ketone breakdown products

Table 3: Summary of Biological Testing of Potential for 1,4-Dioxane Degradation

Former Raytheon Facility, Wayland MA

Sample ID	units	MW-267M	MW-268S	MW-268M	Degradation Potential
Recent 1,4-Dioxane in Groundwater:	ug/l:	4.8	26	4.9	
Groundwater Gene Analysis Results					
Short chain alkane monooxygenase (SCAM):	cells/ml:	<4.7	1.1	<4.8	Low
	Percentile:	NA	NA	NA	
Dioxane tetrahydrofuran monooxygenase (DXMO):	cells/ml:	0.6	1.5	<4.8	Low
	Percentile:	NA	NA	NA	
Aldehyde dehydrogenase (ALDH):	cells/ml:	<4.7	<1.47	<4.8	Low
	Percentile:	NA	NA	NA	
Propane monooxygenase (PPO):	cells/ml:	98.9	145	0.2	Moderate
	Percentile:	***49%***	***55%***	***1%***	
Soluble methane monooxygenase (SMMO):	cells/ml:	301	3770	394	High
	Percentile:	***62%***	***92%***	***67%***	
Toluene monooxygenase 2 (RDEG):	cells/ml:	943	230000	180	High
	Percentile:	***50%***	***99%***	***25%***	
Toluene monooxygenase 1 (RMO):	cells/ml:	43.3	426	123	Moderate
	Percentile:	***14%***	***36%***	***22%***	
^{13}C Contaminant Loss					
^{13}C 1,4-dioxane Pre-deployment	ug/bead	360 ± 8	360 ± 8	360 ± 8	NA
^{13}C 1,4-dioxane Post-deployment	ug/bead	37 ± 5	26 ± 2	29 ± 6	
Biomass & ^{13}C Incorporation					
Total Biomass	Cells/Bead	624000	473000	210000	Moderate
^{13}C Enriched Biomass	Cells/Bead	1780	1810	967	
Average Enriched PLFA Delta	(‰)	270	18	122	Low to moderate
Maximum Enriched PLFA Delta	(‰)	427	45	255	
^{13}C Mineralization					
Dissolved Inorganic Carbon (DIC) Delta	(‰)	11	-10	-2	Low
Community Structure					
Firmicutes (TerBrSats)	% total PLFA	2.09	2.31	0	Mixed microbial population
Proteobacteria (Monos)	% total PLFA	62.18	63.76	67.12	
Anaerobic Metal Reducers (BrMonos)	% total PLFA	1.92	1.24	0	
Actinomycetes (MidBrSats)	% total PLFA	0.51	1.05	0	
General (Nsats)	% total PLFA	31.4	30	30.82	
Eukaryotes (Polyenoics)	% total PLFA	1.89	1.65	2.05	
Physiological Status (Proteobacteria Only)					
Slowed Growth		0.03	0.07	0.03	Good for bio-growth
Decreased Permeability		0.06	0.24	0.13	

Notes:

1)Bio-analytical work was by Microbial Insights.

2)Setting of "bio-traps" in these wells occurred on 2/3/2022 and retreval occurred on 3/17/2022

3)Groundwater sampling was conducted on 2/3/2022

Table 4: 2021 - 2022 Sampling Plan for Northern Area

Former Raytheon Facility

Wayland, Massachusetts

Well ID	Biennial Sampling - Spring / Summer (complete every two years, 2021, then 2023)				Annual Sampling - 2022 (complete in spring)				Semi-annual Sampling (complete in fall)			
	Well ID	CVOCs[1]	Dioxane by 522[2]	Bio Suite [3]	Well ID	CVOCs[1]	Dioxane by 522[2]	Bio Suite [3]	Well ID	CVOCs[1]	Dioxane by 522[2]	Bio Suite [3]
DEP-21	DEP-21	X	X		DEP-21	X	X		DEP-21			
MW-261S	MW-261S	X	X		MW-261S	X	X		MW-261S			
MW-264M	MW-264M	X	X	X	MW-264M	X	X	X	MW-264M	X	X	X
MW-265S	MW-265S	X	X		MW-265S				MW-265S			
MW-265M	MW-265M	X	X		MW-265M	X	X		MW-265M			
MW-265D	MW-265D	X	X		MW-265D				MW-265D			
MW-266Ma	MW-266Ma	X	X		MW-266Ma	X	X		MW-266Ma			
MW-266Mb	MW-266Mb	X	X	X	MW-266Mb	X	X	X	MW-266Mb	X	X	X
MW-267S	MW-267S	X	X	X	MW-267S	X	X	X	MW-267S	X	X	X
MW-267M	MW-267M	X	X	X	MW-267M	X	X	X	MW-267M	X	X	X
MW-268S	MW-268S	X	X	X	MW-268S	X	X	X	MW-268S	X	X	X
MW-268M	MW-268M	X	X	X	MW-268M	X	X	X	MW-268M	X	X	X
MW-268D	MW-268D	X	X	X	MW-268D	X	X	X	MW-268D	X	X	X
MW-269Ma	MW-269Ma	X	X		MW-269Ma	X	X		MW-269Ma	X	X	
MW-551	MW-551	X	X		MW-551	X	X		MW-551			
MW-552	MW-552	X	X		MW-552	X	X		MW-552			
MW-553	MW-553	X	X	X	MW-553	X	X	X	MW-553	X	X	X
MW-560	MW-560	X	X		MW-560				MW-560			
MW-561	MW-561	X	X		MW-561				MW-561			
MW-562	MW-562	X	X		MW-562				MW-562			
MW-563	MW-563	X	X		MW-563	X	X		MW-563			
REW-1	REW-1				REW-1				REW-1			
REW-4	REW-4				REW-4				REW-4			
REW-5	REW-5				REW-5				REW-5			
REW-6	REW-6	X	X		REW-6	X	X		REW-6			
REW-7	REW-7	X	X		REW-7	X	X		REW-7			
REW-8	REW-8				REW-8				REW-8			
REW-9	REW-9				REW-9				REW-9			
REW-10	REW-10				REW-10				REW-10			
REW-11	REW-11	X	X		REW-11	X	X		REW-11			
REW-12	REW-12	X	X		REW-12	X	X		REW-12			
	TOTALS:	25	25	8	**TOTALS:**	20	20	8	**TOTALS:**	9	9	8

NOTES:

1) 8260 for CVOC

2) 522 for 1,4 dioxane

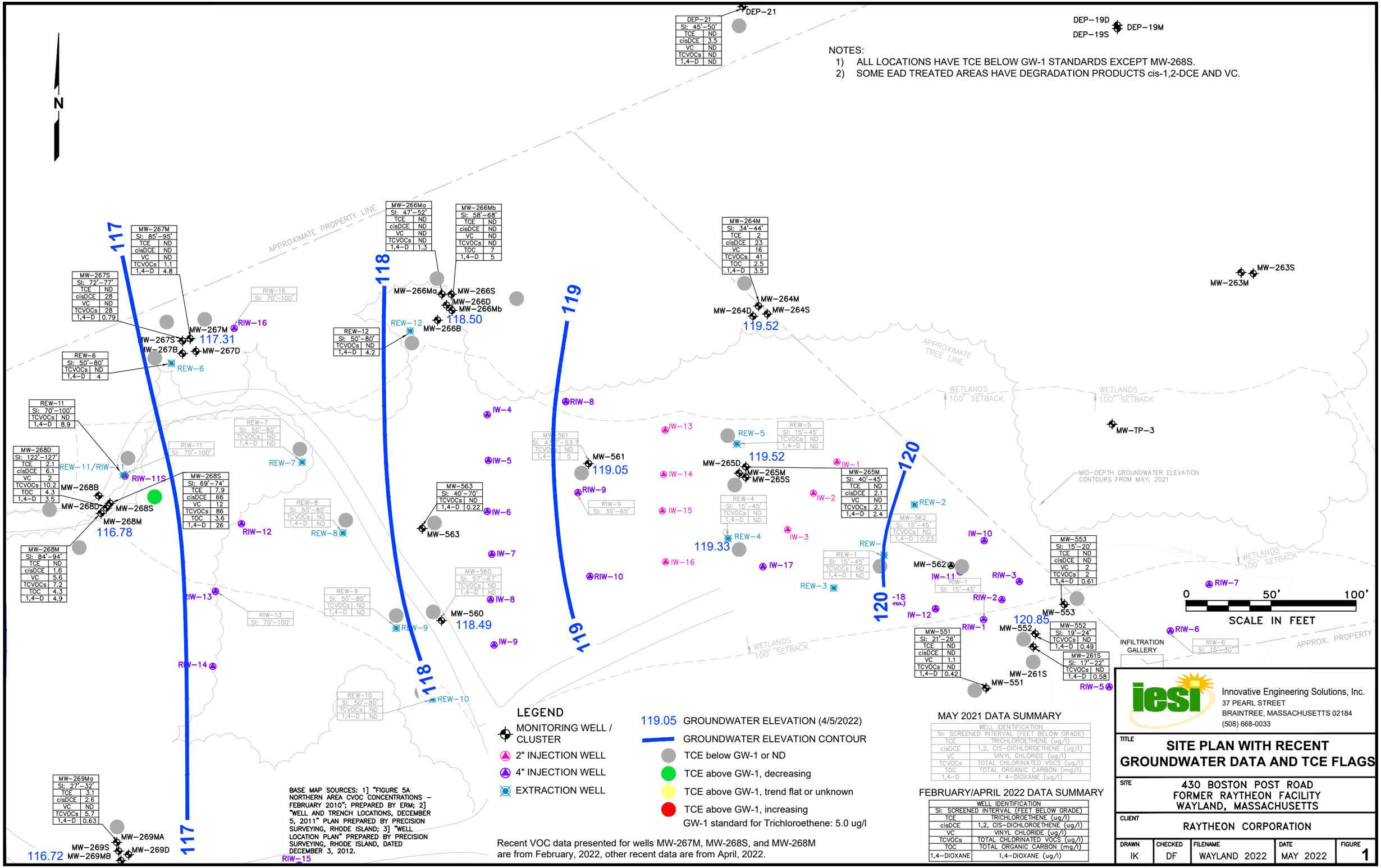
3) Bio suite: anions, gases, TOC, alkalinity, total iron, pH

4) Targeted EAD VOCs include chlorinated ethenes such PCE, TCE and associated degradation by-products. This does not include 1,4-dioxane, THF, BTEX compounds, ketones from the EAD process, or other 8260 reported VOCs.

5) General criteria used to determine frequency reductions are as follows (adjust as new data is available):

- Semiannual Stable or slightly increasing CVOC and/or 1,4-Dioxane concentrations, GW-1 exceedances observed
- Annual Low to non-detect CVOC and 1,4-Dioxane concentrations, continue to monitor bio suite
- Biennial Non-detect CVOC and 1,4-Dioxane concentrations for at least the last 3 years

NOTES:
1) ALL LOCATIONS HAVE TCE BELOW GW-1 STANDARDS EXCEPT MW-268S.
2) SOME EAD TREATED AREAS HAVE DEGRADATION PRODUCTS cis-1,2-DCE AND VC.



MW-267M	
SI: 85'-95'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	1.1
1,4-D	4.8

MW-267S	
SI: 72'-77'	
TCE	ND
cisDCE	28
VC	ND
TCVOCs	28
1,4-D	0.79

REW-6	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4

REW-11	
SI: 70'-100'	
TCVOCs	ND
1,4-D	8.9

MW-268D	
SI: 122'-127'	
TCE	2.1
cisDCE	6.1
VC	2
TCVOCs	10.2
TOC	4.3
1,4-D	3.5

MW-268S	
SI: 69'-74'	
TCE	7.9
cisDCE	66
VC	12
TCVOCs	86
TOC	3.6
1,4-D	26

MW-268M	
SI: 84'-94'	
TCE	ND
cisDCE	1.6
VC	5.6
TCVOCs	7.2
TOC	4.3
1,4-D	4.9

MW-269Ma	
SI: 27'-32'	
TCE	3.1
cisDCE	2.6
VC	ND
TCVOCs	5.7
1,4-D	0.63

MW-266Ma	
SI: 47'-52'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
1,4-D	1.3

MW-266Mb	
SI: 58'-68'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
TOC	7
1,4-D	5

REW-12	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4.2

MW-561	
SI: 47'-53.7'	
TCVOCs	ND
1,4-D	5

MW-563	
SI: 40'-70'	
TCVOCs	ND
1,4-D	0.22

MW-560	
SI: 57'-67'	
TCVOCs	ND
1,4-D	ND

DEP-21	
SI: 45'-50'	
TCE	ND
cisDCE	3.5
VC	ND
TCVOCs	ND
1,4-D	ND

MW-264M	
SI: 34'-44'	
TCE	2
cisDCE	23
VC	16
TCVOCs	41
TOC	2.5
1,4-D	3.5

REW-5	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-265M	
SI: 40'-45'	
TCE	ND
cisDCE	2.1
VC	ND
TCVOCs	2.1
1,4-D	2.4

REW-4	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-562	
SI: 15'-45'	
TCVOCs	ND
1,4-D	0.23

REW-1	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

RIW-1	
SI: 15'-45'	

MW-553	
SI: 15'-20'	
TCE	ND
cisDCE	ND
VC	2
TCVOCs	2
1,4-D	0.61

MW-551	
SI: 21'-26'	
TCE	ND
cisDCE	ND
VC	1.1
TCVOCs	ND
1,4-D	0.42

MW-552	
SI: 19'-24'	
TCVOCs	ND
1,4-D	0.49

MW-261S	
SI: 17'-22'	
TCVOCs	ND
1,4-D	0.58

RIW-6	
SI: 15'-30'	

LEGEND

- MONITORING WELL / CLUSTER
- 2" INJECTION WELL
- 4" INJECTION WELL
- EXTRACTION WELL
- 119.05 GROUNDWATER ELEVATION (4/5/2022)
- GROUNDWATER ELEVATION CONTOUR
- TCE below GW-1 or ND
- TCE above GW-1, decreasing
- TCE above GW-1, trend flat or unknown
- TCE above GW-1, increasing

GW-1 standard for Trichloroethene: 5.0 ug/l

BASE MAP SOURCES: 1] "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM; 2] "WELL AND TRENCH LOCATIONS, DECEMBER 5, 2011" PLAN PREPARED BY PRECISION SURVEYING, RHODE ISLAND; 3] "WELL LOCATION PLAN" PREPARED BY PRECISION SURVEYING, RHODE ISLAND, DATED DECEMBER 3, 2012.

Recent VOC data presented for wells MW-267M, MW-268S, and MW-268M are from February, 2022, other recent data are from April, 2022.

MAY 2021 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-D	1 4-DIOXANE (ug/l)

FEBRUARY/APRIL 2022 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

Innovative Engineering Solutions, Inc.
37 PEARL STREET
BRAINTREE, MASSACHUSETTS 02184
(508) 668-0033

TITLE: SITE PLAN WITH RECENT GROUNDWATER DATA AND TCE FLAGS

SITE: 430 BOSTON POST ROAD
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT: RAYTHEON CORPORATION

DRAWN	CHECKED	FILENAME	DATE	FIGURE
IK	DF	WAYLAND 2022	MAY 2022	1

NOTES:
1) ALL LOCATIONS HAVE cis-1,2-DCE CONCENTRATIONS BELOW GW-1 STANDARDS.
2) cis-1,2-DCE CONCENTRATIONS ARE STILL DECREASING ACROSS THE SITE.

N

DEP-21

DEP-21	
SI: 45'-50'	
TCE	ND
cisDCE	3.5
VC	ND
TCVOCs	ND
1,4-D	ND

DEP-19D
DEP-19S
DEP-19M

APPROXIMATE PROPERTY LINE

MW-267M	
SI: 85'-95'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	1.1
1,4-D	4.8

MW-267S	
SI: 72'-77'	
TCE	ND
cisDCE	28
VC	ND
TCVOCs	28
1,4-D	0.79

REW-6	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4

REW-11	
SI: 70'-100'	
TCVOCs	ND
1,4-D	8.9

MW-268D	
SI: 122'-127'	
TCE	2.1
cisDCE	6.1
VC	2
TCVOCs	10.2
TOC	4.3
1,4-D	3.5

MW-268M	
SI: 84'-94'	
TCE	ND
cisDCE	1.6
VC	5.6
TCVOCs	7.2
TOC	4.3
1,4-D	4.9

MW-268S	
SI: 69'-74'	
TCE	7.9
cisDCE	66
VC	12
TCVOCs	86
TOC	3.6
1,4-D	26

MW-269Ma	
SI: 27'-32'	
TCE	3.1
cisDCE	2.6
VC	ND
TCVOCs	5.7
1,4-D	0.63

117.31
116.78
116.72
118.50
118.49
119.05
119.52
119.33
120.85
120.-18 (approx.)

MW-266Ma	
SI: 47'-52'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
1,4-D	1.3

MW-266Mb	
SI: 58'-68'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
TOC	7
1,4-D	5

REW-12	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4.2

MW-563	
SI: 40'-70'	
TCVOCs	ND
1,4-D	0.22

MW-560	
SI: 57'-67'	
TCVOCs	ND
1,4-D	ND

MW-561	
SI: 47'-53.7'	
TCVOCs	ND
1,4-D	5

MW-264M	
SI: 34'-44'	
TCE	2
cisDCE	23
VC	16
TCVOCs	41
TOC	2.5
1,4-D	3.5

MW-265M	
SI: 40'-45'	
TCE	ND
cisDCE	2.1
VC	ND
TCVOCs	2.1
1,4-D	2.4

MW-553	
SI: 15'-20'	
TCE	ND
cisDCE	ND
VC	2
TCVOCs	2
1,4-D	0.61

MW-552	
SI: 19'-24'	
TCVOCs	ND
1,4-D	0.49

MW-551	
SI: 21'-26'	
TCE	ND
cisDCE	ND
VC	1.1
TCVOCs	ND
1,4-D	0.42

MW-261S	
SI: 17'-22'	
TCVOCs	ND
1,4-D	0.58

REW-7	
SI: 50'-80'	
TCVOCs	ND
1,4-D	ND

REW-8	
SI: 50'-80'	
TCVOCs	ND
1,4-D	ND

REW-9	
SI: 50'-80'	
TCVOCs	ND
1,4-D	ND

REW-10	
SI: 50'-80'	
TCVOCs	ND
1,4-D	ND

REW-5	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

REW-4	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

REW-1	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-562	
SI: 15'-45'	
TCVOCs	ND
1,4-D	0.23

RIW-16	
SI: 70'-100'	

RIW-11	
SI: 70'-100'	

RIW-13	
SI: 70'-100'	

RIW-9	
SI: 35'-65'	

RIW-1	
SI: 15'-45'	

RIW-6	
SI: 15'-30'	

MW-263S
MW-263M
MW-264M
MW-264D
MW-264S
MW-266Ma
MW-266S
MW-266D
MW-266Mb
MW-266B
MW-267M
MW-267S
MW-267B
MW-267D
MW-268B
MW-268D
MW-268S
MW-268M
MW-269MA
MW-269S
MW-269D
MW-269MB
MW-265D
MW-265M
MW-265S
MW-563
MW-560
MW-561
MW-562
MW-553
MW-552
MW-551
MW-261S
MW-TP-3
REW-11/RIW-11
RIW-11S
RIW-16
RIW-12
RIW-13
RIW-14
RIW-15
RIW-9
RIW-10
RIW-8
RIW-7
RIW-6
RIW-5
RIW-3
RIW-2
RIW-1
REW-12
REW-6
REW-7
REW-8
REW-9
REW-10
REW-5
REW-4
REW-1
REW-2
REW-3
IW-4
IW-5
IW-6
IW-7
IW-8
IW-9
IW-13
IW-14
IW-15
IW-16
IW-17
IW-1
IW-2
IW-3
IW-10
IW-11
IW-12
117
118
119
120

APPROXIMATE TREE LINE
WETLANDS 100' SETBACK
MID-DEPTH GROUNDWATER ELEVATION CONTOURS FROM MAY, 2021
HAYBALE LINE
INFILTRATION GALLERY
APPROX. PROPERTY

0 50' 100'
SCALE IN FEET

BASE MAP SOURCES: 1] "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM; 2] "WELL AND TRENCH LOCATIONS, DECEMBER 5, 2011" PLAN PREPARED BY PRECISION SURVEYING, RHODE ISLAND; 3] "WELL LOCATION PLAN" PREPARED BY PRECISION SURVEYING, RHODE ISLAND, DATED DECEMBER 3, 2012.

LEGEND

- MONITORING WELL / CLUSTER
- 2" INJECTION WELL
- 4" INJECTION WELL
- EXTRACTION WELL
- 119.05 GROUNDWATER ELEVATION (4/5/2022)
- GROUNDWATER ELEVATION CONTOUR
- cis-1,2 DCE below GW-1 or ND
- cis-1,2 DCE above GW-1, decreasing
- cis-1,2 DCE above GW-1, trend flat or unknown
- cis-1,2 DCE above GW-1, increasing

GW-1 standard for cis-1,2 DCE: 70 ug/l

Recent VOC data presented for wells MW-267M, MW-268S, and MW-268M are from February, 2022, other recent data are from April, 2022.

MAY 2021 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-D	1 4-DIOXANE (ug/l)

FEBRUARY/APRIL 2022 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

Innovative Engineering Solutions, Inc.
37 PEARL STREET
BRAINTREE, MASSACHUSETTS 02184
(508) 668-0033

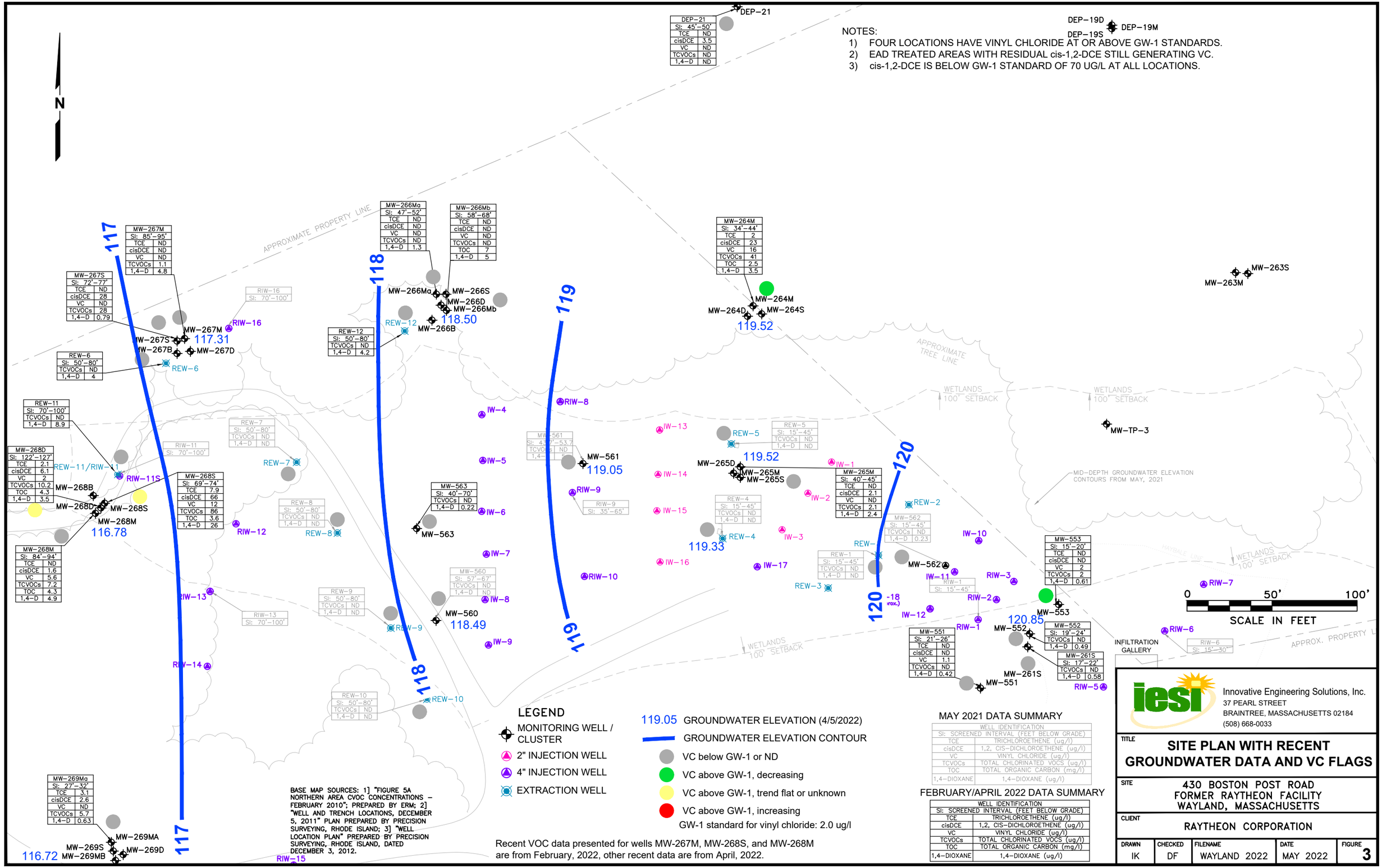
TITLE: SITE PLAN WITH RECENT GROUNDWATER DATA AND cis-1,2-DCE FLAGS

SITE: 430 BOSTON POST ROAD
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT: RAYTHEON CORPORATION

DRAWN	CHECKED	FILENAME	DATE	FIGURE
IK	DF	WAYLAND 2022	MAY 2022	2

NOTES:
1) FOUR LOCATIONS HAVE VINYL CHLORIDE AT OR ABOVE GW-1 STANDARDS.
2) EAD TREATED AREAS WITH RESIDUAL cis-1,2-DCE STILL GENERATING VC.
3) cis-1,2-DCE IS BELOW GW-1 STANDARD OF 70 UG/L AT ALL LOCATIONS.



DEP-21	
SI: 45'-50'	
TCE	ND
cisDCE	3.5
VC	ND
TCVOCs	ND
1,4-D	ND

MW-267M	
SI: 85'-95'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	1.1
1,4-D	4.8

MW-267S	
SI: 72'-77'	
TCE	ND
cisDCE	28
VC	ND
TCVOCs	28
1,4-D	0.79

REW-6	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4

REW-11	
SI: 70'-100'	
TCVOCs	ND
1,4-D	8.9

MW-268D	
SI: 122'-127'	
TCE	2.1
cisDCE	6.1
VC	2
TCVOCs	10.2
TOC	4.3
1,4-D	3.5

MW-268S	
SI: 69'-74'	
TCE	7.9
cisDCE	66
VC	12
TCVOCs	86
TOC	3.6
1,4-D	26

MW-268M	
SI: 84'-94'	
TCE	ND
cisDCE	1.6
VC	5.6
TCVOCs	7.2
TOC	4.3
1,4-D	4.9

MW-269Ma	
SI: 27'-32'	
TCE	3.1
cisDCE	2.6
VC	ND
TCVOCs	5.7
1,4-D	0.63

MW-266Ma	
SI: 47'-52'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
1,4-D	1.3

MW-266Mb	
SI: 58'-68'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
TOC	7
1,4-D	5

REW-12	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4.2

MW-563	
SI: 40'-70'	
TCVOCs	ND
1,4-D	0.22

MW-560	
SI: 57'-67'	
TCVOCs	ND
1,4-D	ND

MW-264M	
SI: 34'-44'	
TCE	2
cisDCE	23
VC	16
TCVOCs	41
TOC	2.5
1,4-D	3.5

MW-265M	
SI: 40'-45'	
TCE	ND
cisDCE	2.1
VC	ND
TCVOCs	2.1
1,4-D	2.4

MW-553	
SI: 15'-20'	
TCE	ND
cisDCE	ND
VC	2
TCVOCs	2
1,4-D	0.61

MW-552	
SI: 19'-24'	
TCVOCs	ND
1,4-D	0.49

MW-261S	
SI: 17'-22'	
TCVOCs	ND
1,4-D	0.58

MW-551	
SI: 21'-26'	
TCE	ND
cisDCE	ND
VC	1.1
TCVOCs	ND
1,4-D	0.42

LEGEND

- MONITORING WELL / CLUSTER
- 2" INJECTION WELL
- 4" INJECTION WELL
- EXTRACTION WELL
- 119.05 GROUNDWATER ELEVATION (4/5/2022)
- GROUNDWATER ELEVATION CONTOUR
- VC below GW-1 or ND
- VC above GW-1, decreasing
- VC above GW-1, trend flat or unknown
- VC above GW-1, increasing

GW-1 standard for vinyl chloride: 2.0 ug/l

BASE MAP SOURCES: 1] "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM; 2] "WELL AND TRENCH LOCATIONS, DECEMBER 5, 2011" PLAN PREPARED BY PRECISION SURVEYING, RHODE ISLAND; 3] "WELL LOCATION PLAN" PREPARED BY PRECISION SURVEYING, RHODE ISLAND, DATED DECEMBER 3, 2012.

Recent VOC data presented for wells MW-267M, MW-268S, and MW-268M are from February, 2022, other recent data are from April, 2022.

MAY 2021 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

FEBRUARY/APRIL 2022 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

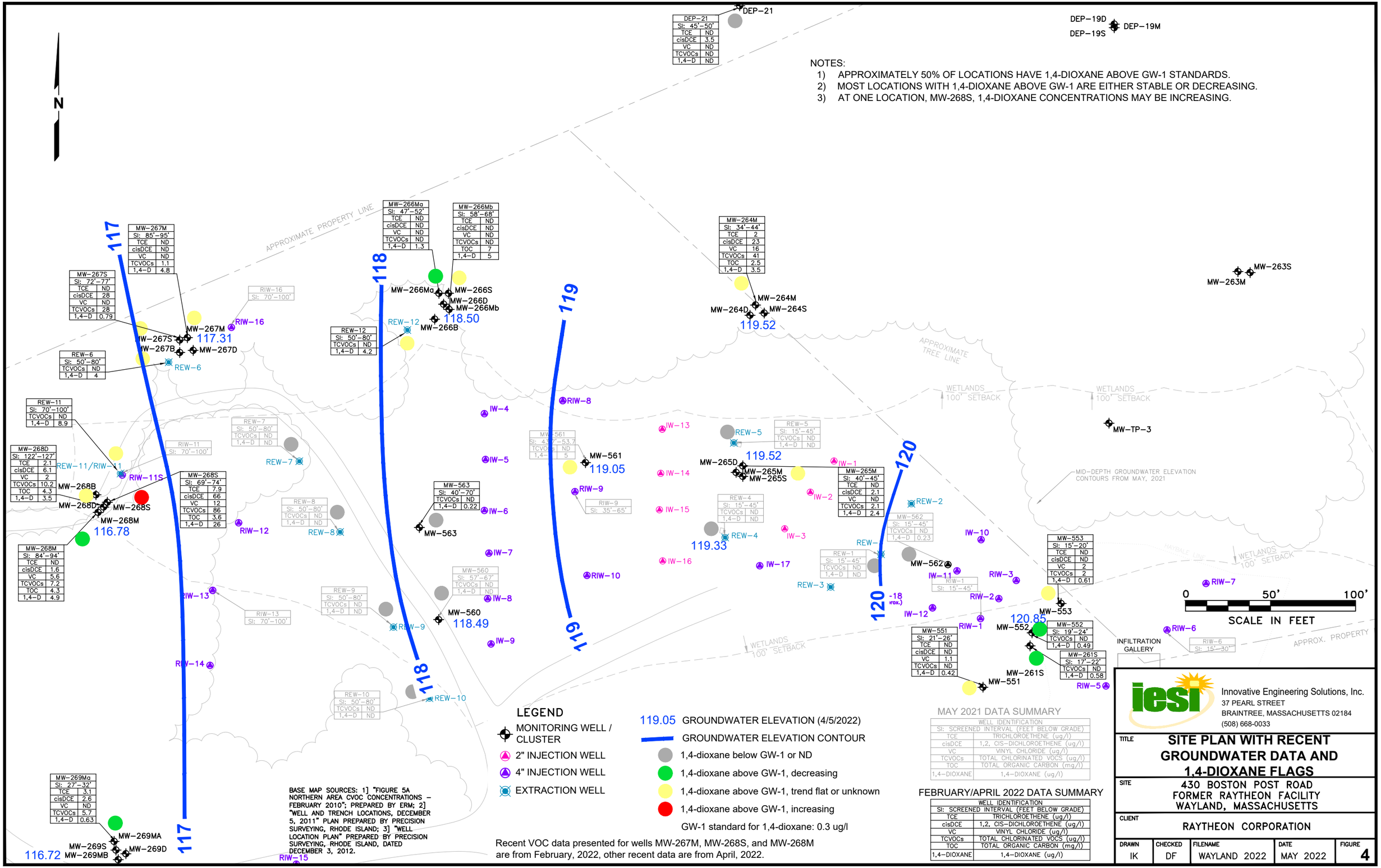
Innovative Engineering Solutions, Inc.
37 PEARL STREET
BRAINTREE, MASSACHUSETTS 02184
(508) 668-0033

TITLE: **SITE PLAN WITH RECENT GROUNDWATER DATA AND VC FLAGS**

SITE: 430 BOSTON POST ROAD
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT: RAYTHEON CORPORATION

DRAWN	CHECKED	FILENAME	DATE	FIGURE
IK	DF	WAYLAND 2022	MAY 2022	3



MW-267M	
SI: 85'-95'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	1.1
1,4-D	4.8

MW-267S	
SI: 72'-77'	
TCE	ND
cisDCE	28
VC	ND
TCVOCs	28
1,4-D	0.79

REW-6	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4

REW-11	
SI: 70'-100'	
TCVOCs	ND
1,4-D	8.9

MW-268D	
SI: 122'-127'	
TCE	2.1
cisDCE	6.1
VC	2
TCVOCs	10.2
TOC	4.3
1,4-D	3.5

MW-268S	
SI: 69'-74'	
TCE	7.9
cisDCE	66
VC	12
TCVOCs	86
TOC	3.6
1,4-D	26

MW-268M	
SI: 84'-94'	
TCE	ND
cisDCE	1.6
VC	5.6
TCVOCs	7.2
TOC	4.3
1,4-D	4.9

MW-269Ma	
SI: 27'-32'	
TCE	3.1
cisDCE	2.6
VC	ND
TCVOCs	5.7
1,4-D	0.63

MW-266Ma	
SI: 47'-52'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
1,4-D	1.3

MW-266Mb	
SI: 58'-68'	
TCE	ND
cisDCE	ND
VC	ND
TCVOCs	ND
TOC	7
1,4-D	5

REW-12	
SI: 50'-80'	
TCVOCs	ND
1,4-D	4.2

MW-563	
SI: 40'-70'	
TCVOCs	ND
1,4-D	0.22

MW-560	
SI: 57'-67'	
TCVOCs	ND
1,4-D	ND

MW-561	
SI: 43'-53.7'	
TCVOCs	ND
1,4-D	5

MW-264M	
SI: 34'-44'	
TCE	2
cisDCE	23
VC	16
TCVOCs	41
TOC	2.5
1,4-D	3.5

REW-5	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-265M	
SI: 40'-45'	
TCE	ND
cisDCE	2.1
VC	ND
TCVOCs	2.1
1,4-D	2.4

REW-4	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-562	
SI: 15'-45'	
TCVOCs	ND
1,4-D	0.23

REW-1	
SI: 15'-45'	
TCVOCs	ND
1,4-D	ND

MW-553	
SI: 15'-20'	
TCE	ND
cisDCE	ND
VC	2
TCVOCs	2
1,4-D	0.61

MW-552	
SI: 19'-24'	
TCVOCs	ND
1,4-D	0.49

MW-261S	
SI: 17'-22'	
TCVOCs	ND
1,4-D	0.58

MW-551	
SI: 21'-26'	
TCE	ND
cisDCE	ND
VC	1.1
TCVOCs	ND
1,4-D	0.42

DEP-21	
SI: 45'-50'	
TCE	ND
cisDCE	3.5
VC	ND
TCVOCs	ND
1,4-D	ND

NOTES:

1) APPROXIMATELY 50% OF LOCATIONS HAVE 1,4-DIOXANE ABOVE GW-1 STANDARDS.
2) MOST LOCATIONS WITH 1,4-DIOXANE ABOVE GW-1 ARE EITHER STABLE OR DECREASING.
3) AT ONE LOCATION, MW-268S, 1,4-DIOXANE CONCENTRATIONS MAY BE INCREASING.

BASE MAP SOURCES: 1] "FIGURE 5A NORTHERN AREA CVOC CONCENTRATIONS – FEBRUARY 2010"; PREPARED BY ERM; 2] "WELL AND TRENCH LOCATIONS, DECEMBER 5, 2011" PLAN PREPARED BY PRECISION SURVEYING, RHODE ISLAND; 3] "WELL LOCATION PLAN" PREPARED BY PRECISION SURVEYING, RHODE ISLAND, DATED DECEMBER 3, 2012.

LEGEND

- MONITORING WELL / CLUSTER
- 2" INJECTION WELL
- 4" INJECTION WELL
- EXTRACTION WELL
- 119.05 GROUNDWATER ELEVATION (4/5/2022)
- GROUNDWATER ELEVATION CONTOUR
- 1,4-dioxane below GW-1 or ND
- 1,4-dioxane above GW-1, decreasing
- 1,4-dioxane above GW-1, trend flat or unknown
- 1,4-dioxane above GW-1, increasing

GW-1 standard for 1,4-dioxane: 0.3 ug/l

Recent VOC data presented for wells MW-267M, MW-268S, and MW-268M are from February, 2022, other recent data are from April, 2022.

MAY 2021 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

FEBRUARY/APRIL 2022 DATA SUMMARY

WELL IDENTIFICATION	
SI: SCREENED INTERVAL (FEET BELOW GRADE)	
TCE	TRICHLOROETHENE (ug/l)
cisDCE	1,2, CIS-DICHLOROETHENE (ug/l)
VC	VINYL CHLORIDE (ug/l)
TCVOCs	TOTAL CHLORINATED VOCS (ug/l)
TOC	TOTAL ORGANIC CARBON (mg/l)
1,4-DIOXANE	1,4-DIOXANE (ug/l)

Innovative Engineering Solutions, Inc.
37 PEARL STREET
BRAINTREE, MASSACHUSETTS 02184
(508) 668-0033

TITLE: **SITE PLAN WITH RECENT GROUNDWATER DATA AND 1,4-DIOXANE FLAGS**

SITE: 430 BOSTON POST ROAD
FORMER RAYTHEON FACILITY
WAYLAND, MASSACHUSETTS

CLIENT: RAYTHEON CORPORATION

DRAWN	CHECKED	FILENAME	DATE	FIGURE
IK	DF	WAYLAND 2022	MAY 2022	4

Attachment A: Analytical Data

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: Dave Falatko
IESI
144 Thadeus St.
#6
South Portland, ME 04106

Phone:

Fax:

Identifier: 013TB **Date Rec:** 02/07/2022 **Report Date:** 02/10/2022

Client Project #: RA008 **Client Project Name:** Raytheon Wayland

Purchase Order #:

Test results provided for: CENSUS

Reviewed By:

Charles Slater

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Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **IESI**
Project: Raytheon Wayland

MI Project Number: **013TB**
Date Received: 02/07/2022

Sample Information

Client Sample ID:	**MW-268M**	**MW-268S**	**MW-267M**
Sample Date:	02/03/2022	02/03/2022	02/03/2022
Units:	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:	BB/CS	BB/CS	BB/CS

Functional Genes

Short Chain Alkane monooxygenas	SCAM	<4.80E+00	**1.10E+00 (J)**	<4.70E+00
Dioxane Tetrahydrofuran Monooxyg	DXMO	<4.80E+00	**1.50E+00 (J)**	**6.00E-01 (J)**
Aldehyde Dehydrogenase	ALDH	<4.80E+00	<1.47E+01	<4.70E+00
Propane Monooxygenase	PPO	**2.00E-01 (J)**	**1.45E+02**	**9.89E+01**
Soluble Methane Monooxygenase	SMMO	**3.94E+02**	**3.77E+03**	**3.01E+02**
Toluene Monooxygenase 2	RDEG	**1.80E+02**	**2.30E+05**	**9.43E+02**
Toluene Monooxygenase	RMO	**1.23E+02**	**4.26E+02**	**4.33E+01**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **2/7/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DXMO	02/07/2022	02/10/2022	0 °C	106%	non-detect	non-detect
ALDH	02/07/2022	02/10/2022	0 °C	101%	non-detect	non-detect
SMMO	02/07/2022	02/10/2022	0 °C	101%	non-detect	non-detect
PPO	02/07/2022	02/10/2022	0 °C	101%	non-detect	non-detect
RMO	02/07/2022	02/10/2022	0 °C	103%	non-detect	non-detect
RDEG	02/07/2022	02/10/2022	0 °C	106%	non-detect	non-detect
SCAM	02/07/2022	02/10/2022	0 °C	100%	non-detect	non-detect

10515 Research Dr.
Knoxville, TN 37932
Phone: 865.573.8188
Fax: 865.573.8133
Web: www.microbe.com

SITE LOGIC Report

Stable Isotope Probing (SIP)

Contact: Dave Falatko
Address: IESI
144 Thadeus St.
#6
South Portland, ME, 04106

Phone: 207-767-7331

Email: DaveFalatko@IESIonline.com

MI Identifier: 076TC

Report Date: April 13, 2022

Project: Raytheon Wayland; RA 008

Comments:

NOTICE: This report is intended only for the addressee shown above and may contain confidential or privileged information. If the recipient of this material is not the intended recipient or if you have received this in error, please notify Microbial Insights, Inc. immediately. The data and other information in this report represent only the sample(s) analyzed and are rendered upon condition that it is not to be reproduced without approval from Microbial Insights, Inc. Thank you for your cooperation.

Executive Summary

A Stable Isotope Probing (SIP) study was performed to determine whether biodegradation of 1,4 dioxane is occurring under existing site conditions. Bio-Trap® samplers baited with ^{13}C-labeled 1,4 dioxane were deployed in MW-267M, MW-268S, and MW-268M monitoring wells. Following a 42-day deployment period, the Bio-Traps were recovered to quantify ^{13}C incorporation into biomass and dissolved inorganic carbon (DIC). A complete summary of the SIP results is provided in Table 1 and Figures 1 through 5. Following are the key observations from the results obtained for the monitoring wells.

Stable Isotope Probing Results

- The incorporation of ^{13}C into the biomass demonstrated that 1,4 dioxane was metabolized in all three wells under existing site conditions. The average PLFA $\delta^{13}C$ values for the MW-267M, and MW-268M samples were within the moderate range with values of 270‰ and 122‰, respectively, whereas the average PLFA $\delta^{13}C$ value for the MW-268S sample was within the low range with a value of 18‰. These results indicate that 1,4 dioxane was metabolized during the deployment period.
- The average DIC $\delta^{13}C$ value for MW-267M fell within the low range with a value of 11‰, which indicates that 1,4 dioxane was mineralized during the deployment period. However, the average DIC $\delta^{13}C$ values for MW-268S and MW-268M were -10‰ and -2‰, respectively, which were near to the average background value, suggesting that the mineralization of 1,4 dioxane was limited at these locations.
- The total PLFA biomass concentrations in MW-267M, MW-268S, and MW-268M were within the moderate range (10^5 cells/bead).
- The PLFA community structure for sample MW-267M was primarily comprised of monoenoics (62.18%) followed by normal saturates (31.40%) and indicators of firmicutes (2.09%), anaerobic metal reducers (1.92%), eukaryotes (1.89%), and actinomycetes (0.51%).
- The PLFA community structure for sample MW-268S was primarily comprised of monoenoics (63.76%) followed by normal saturates (30.00%), and firmicutes (2.31%). Less than 4% of the PLFA community structure was comprised of eukaryotes (1.65%), anaerobic metal reducers (1.24%), and actinomycetes (1.05%).
- For MW-268M, monoenoics (67.12%) and normal saturates (30.82%) were the most abundant structural groups, and indicators of eukaryotes (2.05%) was also detected.

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Overview of Approach

Stable Isotope Probing (SIP)

Stable isotope probing (SIP) is an innovative approach to conclusively determine whether *in situ* biodegradation of a contaminant of concern is occurring.

With the SIP method, a Bio-Trap® is amended with a specially synthesized ^{13}C form of the contaminant of concern (e.g. ^{13}C-benzene). The ^{13}C essentially serves as a "label" to track biodegradation. For petroleum hydrocarbons and many other contaminants, biodegradation is a process whereby some microorganisms use the contaminant of concern as a carbon and energy source. When used as carbon source, contaminant carbon is incorporated into biomolecules such as phospholipids, DNA, and proteins supporting growth of new cells (biomass). When used as an energy source, contaminant carbon is oxidized to CO_2 as part of cellular metabolism. Thus, detection of the ^{13}C "label" in the end products of biodegradation (bacterial biomass and CO_2) at the end of the SIP study provides conclusive evidence of contaminant biodegradation.

To perform a SIP study, a Bio-Trap® is amended with the ^{13}C form of the contaminant of concern (e.g. ^{13}C-benzene) and deployed in an existing monitoring well for a period of 30 to 60 days. If present and active under the existing subsurface conditions, bacteria capable of utilizing the ^{13}C labeled contaminant of concern will colonize and grow in the Bio-Trap® over the course of the deployment period. Following recovery from the well, the Bio-Trap® is shipped to the laboratory and two approaches are used to conclusively evaluate contaminant biodegradation:

- Quantification of ^{13}C enriched phospholipid fatty acids (PLFA)
- Quantification of ^{13}C enriched dissolved inorganic carbon (DIC)

PLFA are a primary component of the membrane of bacterial cells and have long been used as a measure of microbial biomass. The detection of ^{13}C enriched PLFA during a SIP study indicates incorporation into microbial biomass and therefore conclusively demonstrates contaminant biodegradation.

Detection of ^{13}C enriched DIC which includes $^{13}CO_2$ conclusively indicates contaminant biodegradation and mineralization.

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Results

Table 1. Summary of the stable isotope probing results obtained from the Bio-Trap® Units.

Sample Name	MW-267M	MW-268S	MW-268M
Sample Date	3/17/2022	3/17/2022	3/17/2022
MI ID	076TC-1	076TC-2	076TC-3
^{13}C Contaminant Loss			
^{13}C 1,4 dioxane Pre-deployment (µg/bead)	**360 ± 8**	**360 ± 8**	**360 ± 8**
^{13}C 1,4 dioxane Post-deployment (µg/bead)	**37 ± 5**	**26 ± 2**	**29 ± 6**
Biomass & ^{13}C Incorporation			
Total Biomass (Cells/bead)	**6.24E+05**	**4.73E+05**	**2.10E+05**
^{13}C Enriched Biomass (Cells/bead)	**1.78E+03**	**1.81E+03**	**9.67E+02**
Average Enriched PLFA Delta (‰)	**270**	**18**	**122**
Maximum Enriched PLFA Delta (‰)	**427**	**45**	**255**
^{13}C Mineralization			
DIC Delta (‰)	**11**	**-10**	**-2**
Community Structure (% total PLFA)			
Firmicutes (TerBrSats)	**2.09**	**2.31**	0.00
Proteobacteria (Monos)	**62.18**	**63.76**	**67.12**
Anaerobic metal reducers (BrMonos)	**1.92**	**1.24**	0.00
Actinomycetes (MidBrSats)	**0.51**	**1.05**	0.00
General (Nsats)	**31.40**	**30.00**	**30.82**
Eukaryotes (Polyenoics)	**1.89**	**1.65**	**2.05**
Physiological Status (Proteobacteria only)			
Slowed Growth	**0.03**	**0.07**	**0.03**
Decreased Permeability	**0.06**	**0.24**	**0.13**

Legend:
NA = Not analyzed NS = Not sampled J = Estimated result below PQL but above LQL I = Inhibited ND = Result not detected

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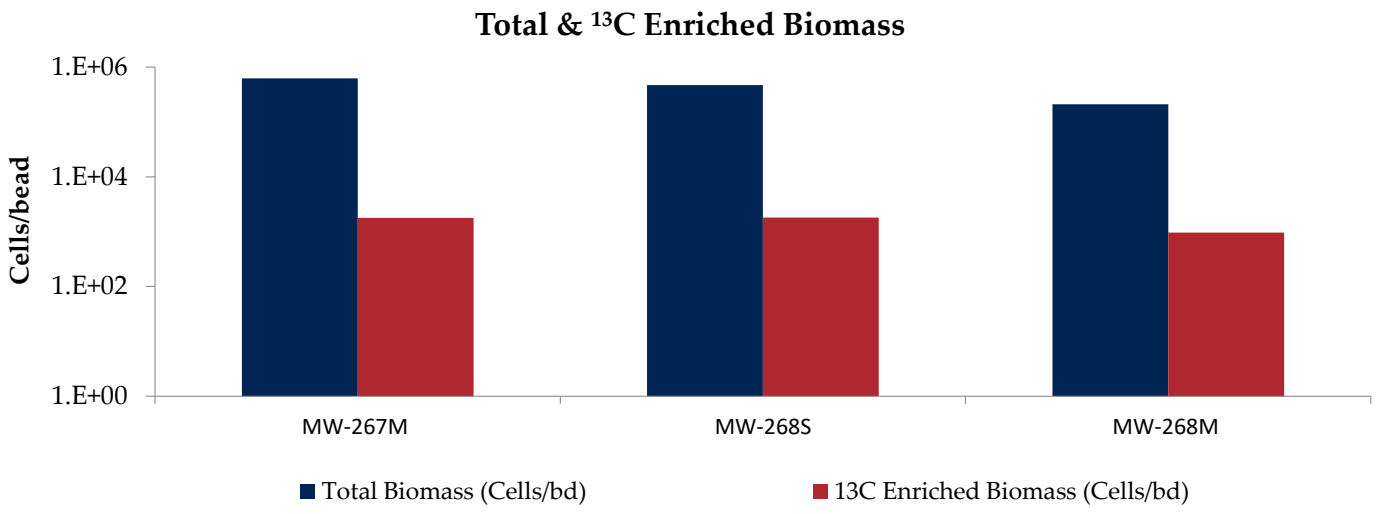

Figure 1. Biomass content is presented as a cell equivalent based on the total amount of phospholipid fatty acids (PLFA) extracted from a given sample. Total biomass is calculated based upon PLFA attributed to bacterial and eukaryotic biomass (associated with higher organisms).

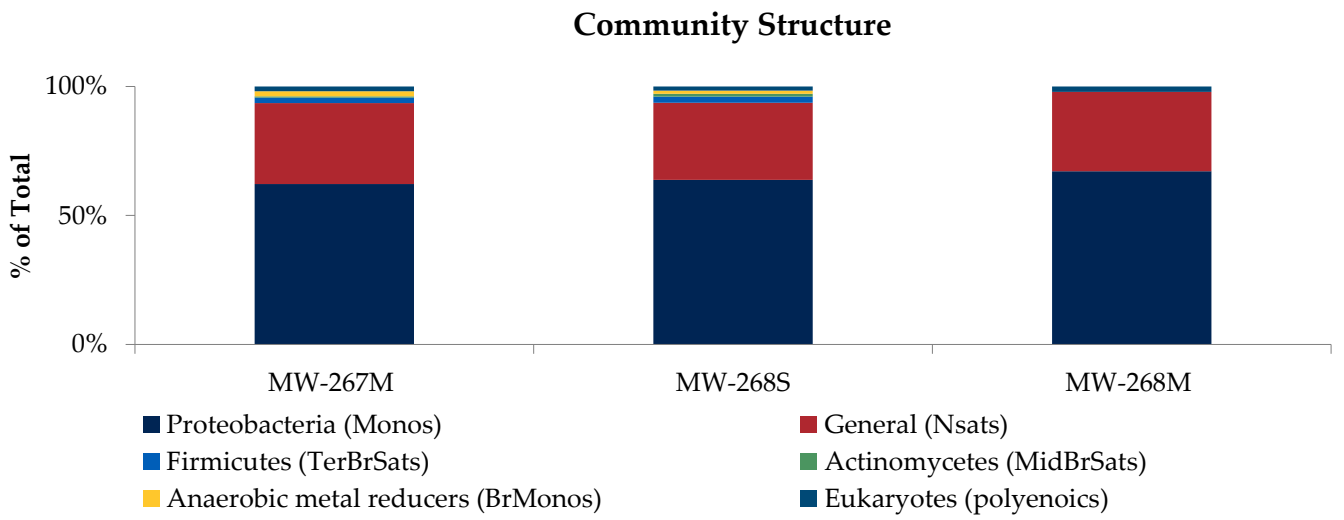

Figure 2. Relative percentages of total PLFA structural groups in the samples analyzed. Structural groups are assigned according to PLFA chemical structure, which is related to fatty acid biosynthesis. See the table in the interpretation section for detailed descriptions of the structural groups.

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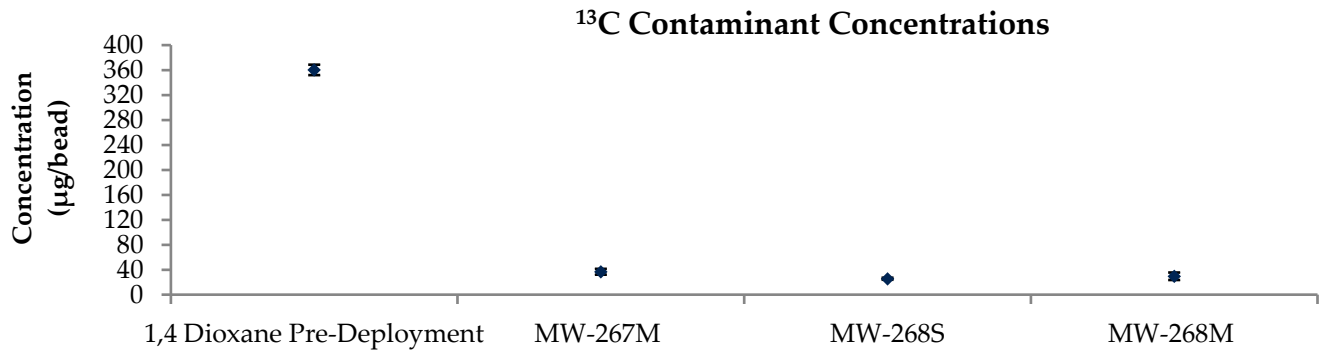

Figure 3. Comparison of Pre-deployment concentrations loaded on Bio-Sep beads to the concentrations detected after incubation.

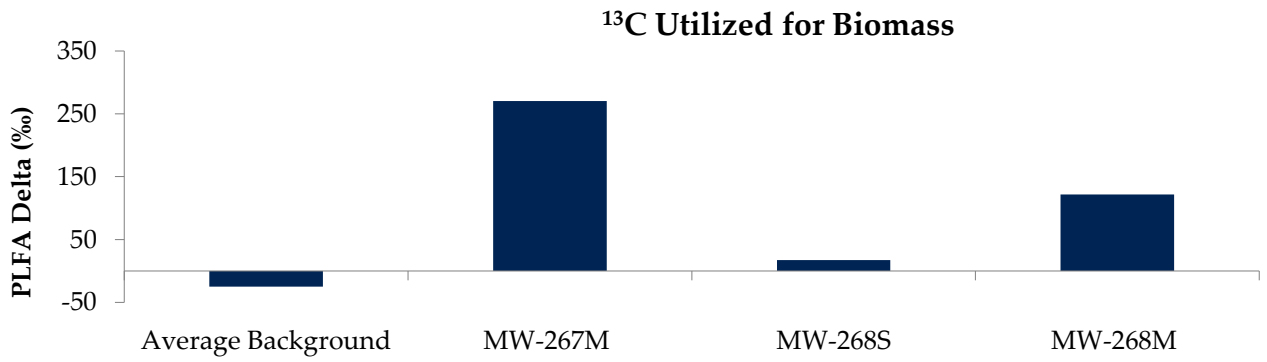

Figure 4. Comparison of the average Delta value obtained from PLFA biomarkers from each Bio-Trap® unit to the average background Delta observed in samples not exposed to ^{13}C enriched compounds.

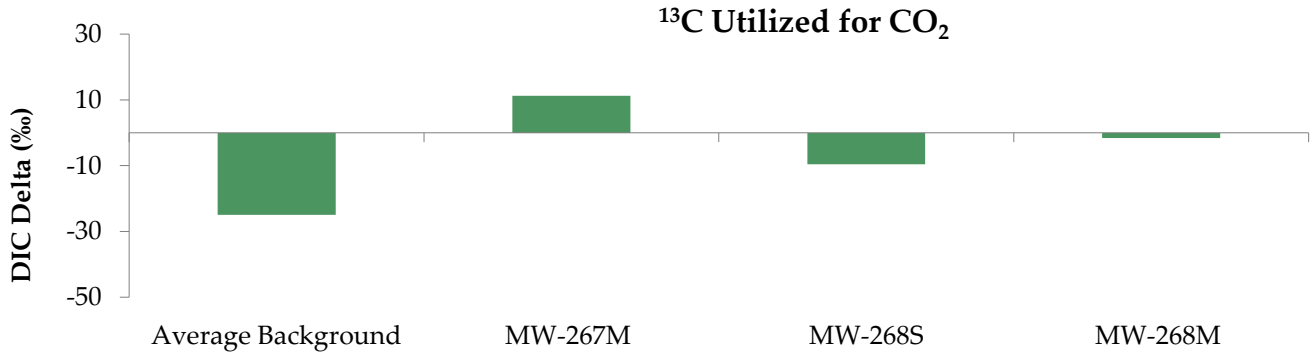

Figure 5. Comparison of the Delta value obtained from DIC from each Bio-Trap® unit to the average background Delta observed in samples not exposed to ^{13}C enriched compounds.

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Interpretation

Interpretation of the results of the SIP Bio-Trap® study must be performed with due consideration of site conditions, site activities, and the desired treatment mechanism. The following discussion describes interpretation of results in general terms and is meant to serve as a guide.

Contaminant Concentration: Bio-Traps® are baited with a ^{13}C labeled contaminant of concern and a pre-deployment concentration is determined prior to shipping. Following deployment, Bio-Traps® are recovered for analysis including measurement of the concentration of the ^{13}C labeled contaminant remaining. Pre- and post-deployment concentrations are used to calculate percent loss.

Biomass Concentrations: PLFA analysis is one of the most reliable and accurate methods available for the determination of viable (live) biomass. Phospholipids break down rapidly upon cell death (1,2), so biomass calculations based on PLFA content do not include "fossil" lipids from dead cells. Total biomass (cells/bead) is calculated from total PLFA using a conversion factor of 20,000 cells/pmole of PLFA. When making comparisons between wells, treatments, or over time, differences of one order of magnitude or more are considered significant.

Total Biomass		
Low	**Moderate**	**High**
10^3 to 10^4 cells	10^5 to 10^6 cells	10^7 to 10^8 cells

^{13}C Enriched Biomass: For SIP studies, ^{13}C enriched PLFA is determined to quantify ^{13}C incorporation into biomass as a line of evidence. The detection of ^{13}C enriched biomass provides conclusive evidence of contaminant biodegradation. However, biodegradation of a contaminant of concern is almost always performed by a small subset of the total microbial community. Therefore, the ^{13}C enriched biomass is typically several orders of magnitude lower than total biomass.

Average and Maximum PLFA Delta ^{13}C: Isotopic data is often reported as a delta value. The delta value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand or "per mill" and denoted ‰). R_{std} is the international standard Vienna PeeDee Belemnite (VPDB) with an anomalously high $^{13}C/^{12}C$ ratio of 0.011237. Due to the high value of the R_{std}, computed delta ^{13}C values for most natural compounds are negative on a per mill basis.

Under natural conditions, the background delta ^{13}C value for PLFA is between -20 and -30‰. For a SIP Bio-Trap® study, biodegradation and incorporation of the ^{13}C labeled compound into PLFA results in a larger $^{13}C/^{12}C$ ratio (R_x) and thus delta values greater than under natural conditions.

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Typical PLFA delta values are provided below.

Enriched PLFA Delta (‰)		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000

Dissolved Inorganic Carbon (DIC): Often, bacteria can utilize the ^{13}C labeled compound as both a carbon and energy source. The ^{13}C portion used as a carbon source for growth can be incorporated into PLFA as discussed above, while the ^{13}C used for energy is oxidized to $^{13}CO_2$ (mineralized).

^{13}C enriched CO_2 data is often reported as a delta value as described above for PLFA. Under natural conditions, the delta ^{13}C value for CO_2 is typically in the range of -25‰ to -10‰ (3). For an SIP Bio-Trap® study, mineralization of the ^{13}C labeled contaminant of concern (increased $^{13}CO_2$ production) would lead to a greater value of R_x and thus a positive delta value.

The detection of even low levels of ^{13}C enriched DIC provides conclusive evidence of contaminant biodegradation. However, delta values between 0 and 100‰ are generally considered relatively low, values between 100 and 1,000‰ are considered moderate, and values greater than 1,000‰ are considered high.

Dissolved Inorganic Carbon (DIC) Delta and %^{13}C		
Low	**Moderate**	**High**
0 to 100	100 to 1,000	>1,000

Community Structure (% total PLFA): Community structure data is presented as a percentage of PLFA structural groups normalized to the total PLFA biomass. The relative proportions of the PLFA structural groups provide a "fingerprint" of the types of microbial groups (e.g. anaerobes, sulfate reducers, etc.) present and therefore offer insight into the dominant metabolic processes occurring at the sample location. Thorough interpretation of the PLFA structural groups depends in part on an understanding of site conditions and the desired microbial biodegradation pathways. For example, an increase in mid chain branched saturated PLFA (MidBrSats), indicative of sulfate reducing bacteria (SRB) and Actinomycetes, may be desirable at a site where anaerobic BTEX biodegradation is the treatment mechanism, but would not be desirable for a corrective action promoting aerobic BTEX or MTBE biodegradation. The following table provides a brief summary of each PLFA structural group and its potential relevance to bioremediation.

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Description of PLFA structural groups.

PLFA Structural Group	General classification	Potential Relevance to Bioremediation Studies
Monoenoic (Monos)	Abundant in Proteobacteria (Gram negative bacteria), typically fast growing, utilize many carbon sources, and adapt quickly to a variety of environments.	Proteobacteria is one of the largest groups of bacteria and represents a wide variety of both aerobes and anaerobes. The majority of Hydrocarbon utilizing bacteria fall within the Proteobacteria
Terminally Branched Saturated (TerBrSats)	Characteristic of Firmicutes (Low G+C Gram-positive bacteria), and also found in Bacteriodes, and some Gram-negative bacteria (especially anaerobes).	Firmicutes are indicative of presence of anaerobic fermenting bacteria (mainly *Clostridia*/*Bacteriodes*-like), which produce the H_2 necessary for reductive dechlorination
Branched Monoenoic (BrMonos)	Found in the cell membranes of micro-aerophiles and anaerobes, such as sulfate- or iron-reducing bacteria	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Mid-Chain Branched Saturated (MidBrSats)	Common in sulfate reducing bacteria and also Actinobacteria (High G+C Gram-positive bacteria).	In contaminated environments high proportions are often associated with anaerobic sulfate and iron reducing bacteria
Normal Saturated (Nsats)	Found in all organisms.	High proportions often indicate less diverse populations.
Polyenoic	Found in higher plants, and animals.	Eukaryotic scavengers will often prey on contaminant utilizing bacteria.

Physiological Status (Proteobacteria): Some Proteobacteria modify specific PLFA as a strategy to adapt to stressful environmental conditions (4, 5). For example, *cis* monounsaturated fatty acids may be modified to cyclopropyl fatty acids during periods of slowed growth or modified to *trans* monounsaturated fatty acids to decrease membrane permeability in response to environmental stress. The ratio of product to substrate fatty acid thus provides an index of their health and metabolic activity. In general, status ratios greater than 0.25 indicate a response to unfavorable environmental conditions.

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Glossary

Delta (δ): A Delta value is the difference between the isotopic ratio ($^{13}C/^{12}C$) of the sample (R_x) and a standard (R_{std}) normalized to the isotopic ratio of the standard (R_{std}) and multiplied by 1,000 (units are parts per thousand denoted ‰).

$$\text{Delta} = (R_x - R_{std})/R_{std} \times 1000$$

References

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ANALYTICAL REPORT

Eurofins New England
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Tel: (413)789-9018

Laboratory Job ID: 620-2920-1
Client Project/Site: IDS Wayland

For:
Innovative Engineering Solutions, Inc
37 Pearl St
1
Braintree, Massachusetts 02184

Attn: Vicki Pariyar

Authorized for release by:
2/21/2022 11:49:47 AM

Becky Mason, Project Manager II
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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

MassDEP Analytical Protocol Certfication Form

Laboratory Name:	Eurofins New England	Project #:	620-2920-1
Project Location:	IDS Wayland	RTN:	

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
620-2920-1 through 620-2920-3

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below:)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No[1]

***Data User Note**: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☑ Yes ☐ No[1]

1 All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Project Manager II

Printed Name: Becky Mason **Date:** 02/21/2022

Job ID: 620-2920-1

Laboratory: Eurofins New England

Narrative

Job Narrative
620-2920-1

Receipt
The samples were received on 2/7/2022 1:49 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

Receipt Exceptions
The following sample was received at the laboratory without a sample collection time documented on the chain of custody: MW-267M (620-2920-3). The laboratory used the time that was listed on the sample label.

GC/MS VOA
Method 8260: The continuing calibration verification (CCV) associated with batch 8115 recovered above the upper control limit n-butylbenzene, 1,2,4-Trichlorobenzene, 1,3,5-Trichlorobenzene. The samples associated with this CCV were non-detects for the affected analytes and within control limits in the LCS/D; therefore, the data have been reported.

Method 8260: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 620-8115 recovered outside control limits for the following analyte(s): Acetone, Dichlorodifluoromethane, Bromomethane which have been identified as poor performing analytes when analyzed using this method; therefore, re-extraction/re-analysis was not performed.

Method 8260: The laboratory control sample (LCS) for 8115 recovered outside control limits for the following analytes: n-Butylbenzene. Since the affected target compounds were not detected in the samples, the data have been reported and qualified.

Method 8260: The large number of analytes included in the continuing calibration verification (CCVIS 620-8115/3) (CCV) gives a high probability that one or more analytes will be outside acceptance criteria. As indicated in the reference method, analysis may proceed as long as no more than 20% of the analytes of interest are outside the method-defined %D criteria. 1,2,3-Trichlorobenzene, 1,2,4-Trichlorobenzene, 1,2,4-Trimethylbenzene, 1,3,5-Trichlorobenzene, Acetone, Chloroethane and n-Butylbenzene

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Client Sample ID: MW-268M — Lab Sample ID: 620-2920-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.6		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	5.6		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	4.9		0.20		ug/L	1		8270D SIM ID	Total/NA

Client Sample ID: MW-268S — Lab Sample ID: 620-2920-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	66		1.0		ug/L	1		8260C	Total/NA
Toluene	1.3		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	7.9		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	12		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	26		1.0		ug/L	5		8270D SIM ID	Total/NA

Client Sample ID: MW-267M — Lab Sample ID: 620-2920-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	1.3		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	4.8		0.20		ug/L	1		8270D SIM ID	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Client Sample ID: MW-268M

Date Collected: 02/03/22 14:20
Date Received: 02/07/22 13:49

Lab Sample ID: 620-2920-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			02/12/22 16:18	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/12/22 16:18	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			02/12/22 16:18	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/12/22 16:18	1
1,1-Dichloroethane	ND		1.0		ug/L			02/12/22 16:18	1
1,1-Dichloroethene	ND		1.0		ug/L			02/12/22 16:18	1
1,1-Dichloropropene	ND		1.0		ug/L			02/12/22 16:18	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/12/22 16:18	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			02/12/22 16:18	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,2-Dichloroethane	ND		1.0		ug/L			02/12/22 16:18	1
1,2-Dichloropropane	ND		1.0		ug/L			02/12/22 16:18	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,3-Dichloropropane	ND		1.0		ug/L			02/12/22 16:18	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
1,4-Dioxane	ND		50		ug/L			02/12/22 16:18	1
2,2-Dichloropropane	ND		1.0		ug/L			02/12/22 16:18	1
2-Butanone (MEK)	ND		2.0		ug/L			02/12/22 16:18	1
2-Chlorotoluene	ND		1.0		ug/L			02/12/22 16:18	1
2-Hexanone	ND		2.0		ug/L			02/12/22 16:18	1
4-Chlorotoluene	ND		1.0		ug/L			02/12/22 16:18	1
4-Isopropyltoluene	ND		1.0		ug/L			02/12/22 16:18	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			02/12/22 16:18	1
Acetone	ND	*-	10		ug/L			02/12/22 16:18	1
Benzene	ND		1.0		ug/L			02/12/22 16:18	1
Bromobenzene	ND		1.0		ug/L			02/12/22 16:18	1
Bromoform	ND		1.0		ug/L			02/12/22 16:18	1
Bromomethane	ND	*-	2.0		ug/L			02/12/22 16:18	1
Carbon disulfide	ND		2.0		ug/L			02/12/22 16:18	1
Carbon tetrachloride	ND		1.0		ug/L			02/12/22 16:18	1
Chlorobenzene	ND		1.0		ug/L			02/12/22 16:18	1
Chlorobromomethane	ND		1.0		ug/L			02/12/22 16:18	1
Chlorodibromomethane	ND		0.50		ug/L			02/12/22 16:18	1
Chloroethane	ND		2.0		ug/L			02/12/22 16:18	1
Chloroform	ND		1.0		ug/L			02/12/22 16:18	1
Chloromethane	ND		2.0		ug/L			02/12/22 16:18	1
cis-1,2-Dichloroethene	**1.6**		1.0		ug/L			02/12/22 16:18	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 16:18	1
Dibromomethane	ND		1.0		ug/L			02/12/22 16:18	1
Dichlorobromomethane	ND		0.50		ug/L			02/12/22 16:18	1
Dichlorodifluoromethane	ND	*-	2.0		ug/L			02/12/22 16:18	1
Ethyl ether	ND		1.0		ug/L			02/12/22 16:18	1
Ethylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
Ethylene Dibromide	ND		0.50		ug/L			02/12/22 16:18	1
Hexachlorobutadiene	ND		1.0		ug/L			02/12/22 16:18	1

Client Sample ID: MW-268M

Lab Sample ID: 620-2920-1

Date Collected: 02/03/22 14:20
Matrix: Water
Date Received: 02/07/22 13:49

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		1.0		ug/L			02/12/22 16:18	1
Isopropylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/12/22 16:18	1
Methylene Chloride	ND		2.0		ug/L			02/12/22 16:18	1
m-Xylene & p-Xylene	ND		1.0		ug/L			02/12/22 16:18	1
Naphthalene	ND		2.0		ug/L			02/12/22 16:18	1
n-Butylbenzene	ND	*+	1.0		ug/L			02/12/22 16:18	1
N-Propylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
o-Xylene	ND		1.0		ug/L			02/12/22 16:18	1
sec-Butylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
Styrene	ND		1.0		ug/L			02/12/22 16:18	1
Tert-amyl methyl ether	ND		1.0		ug/L			02/12/22 16:18	1
Tert-butyl ethyl ether	ND		1.0		ug/L			02/12/22 16:18	1
tert-Butylbenzene	ND		1.0		ug/L			02/12/22 16:18	1
Tetrachloroethene	ND		1.0		ug/L			02/12/22 16:18	1
Tetrahydrofuran	ND		2.0		ug/L			02/12/22 16:18	1
Toluene	ND		1.0		ug/L			02/12/22 16:18	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 16:18	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 16:18	1
Trichloroethene	ND		1.0		ug/L			02/12/22 16:18	1
Trichlorofluoromethane	ND		1.0		ug/L			02/12/22 16:18	1
Vinyl chloride	**5.6**		1.0		ug/L			02/12/22 16:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*02/12/22 16:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*		*02/12/22 16:18*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*02/12/22 16:18*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.9**		0.20		ug/L		02/08/22 10:52	02/10/22 16:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*16*		*10 - 150*	*02/08/22 10:52*	*02/10/22 16:25*	*1*

Client Sample ID: MW-268S

Lab Sample ID: 620-2920-2

Date Collected: 02/03/22 12:10
Matrix: Water
Date Received: 02/07/22 13:49

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			02/12/22 16:43	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/12/22 16:43	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			02/12/22 16:43	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/12/22 16:43	1
1,1-Dichloroethane	ND		1.0		ug/L			02/12/22 16:43	1
1,1-Dichloroethene	ND		1.0		ug/L			02/12/22 16:43	1
1,1-Dichloropropene	ND		1.0		ug/L			02/12/22 16:43	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/12/22 16:43	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1

Client Sample ID: MW-268S

Date Collected: 02/03/22 12:10
Date Received: 02/07/22 13:49

Lab Sample ID: 620-2920-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			02/12/22 16:43	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,2-Dichloroethane	ND		1.0		ug/L			02/12/22 16:43	1
1,2-Dichloropropane	ND		1.0		ug/L			02/12/22 16:43	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,3-Dichloropropane	ND		1.0		ug/L			02/12/22 16:43	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1
1,4-Dioxane	ND		50		ug/L			02/12/22 16:43	1
2,2-Dichloropropane	ND		1.0		ug/L			02/12/22 16:43	1
2-Butanone (MEK)	ND		2.0		ug/L			02/12/22 16:43	1
2-Chlorotoluene	ND		1.0		ug/L			02/12/22 16:43	1
2-Hexanone	ND		2.0		ug/L			02/12/22 16:43	1
4-Chlorotoluene	ND		1.0		ug/L			02/12/22 16:43	1
4-Isopropyltoluene	ND		1.0		ug/L			02/12/22 16:43	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			02/12/22 16:43	1
Acetone	ND	*-	10		ug/L			02/12/22 16:43	1
Benzene	ND		1.0		ug/L			02/12/22 16:43	1
Bromobenzene	ND		1.0		ug/L			02/12/22 16:43	1
Bromoform	ND		1.0		ug/L			02/12/22 16:43	1
Bromomethane	ND	*-	2.0		ug/L			02/12/22 16:43	1
Carbon disulfide	ND		2.0		ug/L			02/12/22 16:43	1
Carbon tetrachloride	ND		1.0		ug/L			02/12/22 16:43	1
Chlorobenzene	ND		1.0		ug/L			02/12/22 16:43	1
Chlorobromomethane	ND		1.0		ug/L			02/12/22 16:43	1
Chlorodibromomethane	ND		0.50		ug/L			02/12/22 16:43	1
Chloroethane	ND		2.0		ug/L			02/12/22 16:43	1
Chloroform	ND		1.0		ug/L			02/12/22 16:43	1
Chloromethane	ND		2.0		ug/L			02/12/22 16:43	1
cis-1,2-Dichloroethene	**66**		1.0		ug/L			02/12/22 16:43	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 16:43	1
Dibromomethane	ND		1.0		ug/L			02/12/22 16:43	1
Dichlorobromomethane	ND		0.50		ug/L			02/12/22 16:43	1
Dichlorodifluoromethane	ND	*-	2.0		ug/L			02/12/22 16:43	1
Ethyl ether	ND		1.0		ug/L			02/12/22 16:43	1
Ethylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
Ethylene Dibromide	ND		0.50		ug/L			02/12/22 16:43	1
Hexachlorobutadiene	ND		1.0		ug/L			02/12/22 16:43	1
Isopropyl ether	ND		1.0		ug/L			02/12/22 16:43	1
Isopropylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/12/22 16:43	1
Methylene Chloride	ND		2.0		ug/L			02/12/22 16:43	1
m-Xylene & p-Xylene	ND		1.0		ug/L			02/12/22 16:43	1
Naphthalene	ND		2.0		ug/L			02/12/22 16:43	1
n-Butylbenzene	ND	*+	1.0		ug/L			02/12/22 16:43	1
N-Propylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
o-Xylene	ND		1.0		ug/L			02/12/22 16:43	1
sec-Butylbenzene	ND		1.0		ug/L			02/12/22 16:43	1

Client Sample ID: MW-268S

Lab Sample ID: 620-2920-2

Date Collected: 02/03/22 12:10
Matrix: Water
Date Received: 02/07/22 13:49

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0		ug/L			02/12/22 16:43	1
Tert-amyl methyl ether	ND		1.0		ug/L			02/12/22 16:43	1
Tert-butyl ethyl ether	ND		1.0		ug/L			02/12/22 16:43	1
tert-Butylbenzene	ND		1.0		ug/L			02/12/22 16:43	1
Tetrachloroethene	ND		1.0		ug/L			02/12/22 16:43	1
Tetrahydrofuran	ND		2.0		ug/L			02/12/22 16:43	1
Toluene	**1.3**		1.0		ug/L			02/12/22 16:43	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 16:43	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 16:43	1
Trichloroethene	**7.9**		1.0		ug/L			02/12/22 16:43	1
Trichlorofluoromethane	ND		1.0		ug/L			02/12/22 16:43	1
Vinyl chloride	**12**		1.0		ug/L			02/12/22 16:43	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*02/12/22 16:43*	*1*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*		*02/12/22 16:43*	*1*
4-Bromofluorobenzene (Surr)	*91*		*70 - 130*		*02/12/22 16:43*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**26**		1.0		ug/L		02/08/22 10:52	02/11/22 13:17	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*15*		*10 - 150*	*02/08/22 10:52*	*02/11/22 13:17*	*5*

Client Sample ID: MW-267M

Lab Sample ID: 620-2920-3

Date Collected: 02/03/22 10:40
Matrix: Water
Date Received: 02/07/22 13:49

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			02/12/22 17:07	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/12/22 17:07	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			02/12/22 17:07	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/12/22 17:07	1
1,1-Dichloroethane	**1.1**		1.0		ug/L			02/12/22 17:07	1
1,1-Dichloroethene	ND		1.0		ug/L			02/12/22 17:07	1
1,1-Dichloropropene	ND		1.0		ug/L			02/12/22 17:07	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/12/22 17:07	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			02/12/22 17:07	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,2-Dichloroethane	ND		1.0		ug/L			02/12/22 17:07	1
1,2-Dichloropropane	ND		1.0		ug/L			02/12/22 17:07	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,3-Dichloropropane	ND		1.0		ug/L			02/12/22 17:07	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
1,4-Dioxane	ND		50		ug/L			02/12/22 17:07	1

Client Sample ID: MW-267M

Date Collected: 02/03/22 10:40
Date Received: 02/07/22 13:49

Lab Sample ID: 620-2920-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		1.0		ug/L			02/12/22 17:07	1
2-Butanone (MEK)	ND		2.0		ug/L			02/12/22 17:07	1
2-Chlorotoluene	ND		1.0		ug/L			02/12/22 17:07	1
2-Hexanone	ND		2.0		ug/L			02/12/22 17:07	1
4-Chlorotoluene	ND		1.0		ug/L			02/12/22 17:07	1
4-Isopropyltoluene	ND		1.0		ug/L			02/12/22 17:07	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			02/12/22 17:07	1
Acetone	ND	*-	10		ug/L			02/12/22 17:07	1
Benzene	ND		1.0		ug/L			02/12/22 17:07	1
Bromobenzene	ND		1.0		ug/L			02/12/22 17:07	1
Bromoform	ND		1.0		ug/L			02/12/22 17:07	1
Bromomethane	ND	*-	2.0		ug/L			02/12/22 17:07	1
Carbon disulfide	ND		2.0		ug/L			02/12/22 17:07	1
Carbon tetrachloride	ND		1.0		ug/L			02/12/22 17:07	1
Chlorobenzene	ND		1.0		ug/L			02/12/22 17:07	1
Chlorobromomethane	ND		1.0		ug/L			02/12/22 17:07	1
Chlorodibromomethane	ND		0.50		ug/L			02/12/22 17:07	1
Chloroethane	ND		2.0		ug/L			02/12/22 17:07	1
Chloroform	ND		1.0		ug/L			02/12/22 17:07	1
Chloromethane	ND		2.0		ug/L			02/12/22 17:07	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 17:07	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 17:07	1
Dibromomethane	ND		1.0		ug/L			02/12/22 17:07	1
Dichlorobromomethane	ND		0.50		ug/L			02/12/22 17:07	1
Dichlorodifluoromethane	ND	*-	2.0		ug/L			02/12/22 17:07	1
Ethyl ether	ND		1.0		ug/L			02/12/22 17:07	1
Ethylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
Ethylene Dibromide	ND		0.50		ug/L			02/12/22 17:07	1
Hexachlorobutadiene	ND		1.0		ug/L			02/12/22 17:07	1
Isopropyl ether	ND		1.0		ug/L			02/12/22 17:07	1
Isopropylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/12/22 17:07	1
Methylene Chloride	ND		2.0		ug/L			02/12/22 17:07	1
m-Xylene & p-Xylene	**1.3**		1.0		ug/L			02/12/22 17:07	1
Naphthalene	ND		2.0		ug/L			02/12/22 17:07	1
n-Butylbenzene	ND	*+	1.0		ug/L			02/12/22 17:07	1
N-Propylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
o-Xylene	ND		1.0		ug/L			02/12/22 17:07	1
sec-Butylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
Styrene	ND		1.0		ug/L			02/12/22 17:07	1
Tert-amyl methyl ether	ND		1.0		ug/L			02/12/22 17:07	1
Tert-butyl ethyl ether	ND		1.0		ug/L			02/12/22 17:07	1
tert-Butylbenzene	ND		1.0		ug/L			02/12/22 17:07	1
Tetrachloroethene	ND		1.0		ug/L			02/12/22 17:07	1
Tetrahydrofuran	ND		2.0		ug/L			02/12/22 17:07	1
Toluene	ND		1.0		ug/L			02/12/22 17:07	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 17:07	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 17:07	1
Trichloroethene	ND		1.0		ug/L			02/12/22 17:07	1

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Client Sample ID: MW-267M

Date Collected: 02/03/22 10:40
Date Received: 02/07/22 13:49

Lab Sample ID: 620-2920-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0		ug/L			02/12/22 17:07	1
Vinyl chloride	ND		1.0		ug/L			02/12/22 17:07	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*02/12/22 17:07*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*02/12/22 17:07*	*1*
4-Bromofluorobenzene (Surr)	*94*		*70 - 130*		*02/12/22 17:07*	*1*

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.8**		0.20		ug/L		02/08/22 10:52	02/10/22 17:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*14*		*10 - 150*	*02/08/22 10:52*	*02/10/22 17:13*	*1*

Surrogate Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	**Client Sample ID**	**(70-130)**	**(70-130)**	**(70-130)**
620-2920-1	MW-268M	100	101	88
620-2920-2	MW-268S	100	100	91
620-2920-3	MW-267M	102	102	94
LCS 620-8115/4	Lab Control Sample	102	98	103
LCSD 620-8115/5	Lab Control Sample Dup	101	98	103
MB 620-8115/8	Method Blank	99	99	92

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Isotope Dilution Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (10-150)**							
620-2920-1	MW-268M	16							
620-2920-2	MW-268S	15							
620-2920-3	MW-267M	14							
LCS 620-7976/2-A	Lab Control Sample	27							
LCSD 620-7976/3-A	Lab Control Sample Dup	30							
MB 620-7976/1-A	Method Blank	26							

Surrogate Legend

DXE = 1,4-Dioxane-d8

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 620-8115/8
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			02/12/22 15:04	1
1,1,1-Trichloroethane	ND		1.0		ug/L			02/12/22 15:04	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			02/12/22 15:04	1
1,1,2-Trichloroethane	ND		1.0		ug/L			02/12/22 15:04	1
1,1-Dichloroethane	ND		1.0		ug/L			02/12/22 15:04	1
1,1-Dichloroethene	ND		1.0		ug/L			02/12/22 15:04	1
1,1-Dichloropropene	ND		1.0		ug/L			02/12/22 15:04	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,2,3-Trichloropropane	ND		1.0		ug/L			02/12/22 15:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			02/12/22 15:04	1
1,2-Dichlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,2-Dichloroethane	ND		1.0		ug/L			02/12/22 15:04	1
1,2-Dichloropropane	ND		1.0		ug/L			02/12/22 15:04	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,3-Dichlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,3-Dichloropropane	ND		1.0		ug/L			02/12/22 15:04	1
1,4-Dichlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
1,4-Dioxane	ND		50		ug/L			02/12/22 15:04	1
2,2-Dichloropropane	ND		1.0		ug/L			02/12/22 15:04	1
2-Butanone (MEK)	ND		2.0		ug/L			02/12/22 15:04	1
2-Chlorotoluene	ND		1.0		ug/L			02/12/22 15:04	1
2-Hexanone	ND		2.0		ug/L			02/12/22 15:04	1
4-Chlorotoluene	ND		1.0		ug/L			02/12/22 15:04	1
4-Isopropyltoluene	ND		1.0		ug/L			02/12/22 15:04	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			02/12/22 15:04	1
Acetone	ND		10		ug/L			02/12/22 15:04	1
Benzene	ND		1.0		ug/L			02/12/22 15:04	1
Bromobenzene	ND		1.0		ug/L			02/12/22 15:04	1
Bromoform	ND		1.0		ug/L			02/12/22 15:04	1
Bromomethane	ND		2.0		ug/L			02/12/22 15:04	1
Carbon disulfide	ND		2.0		ug/L			02/12/22 15:04	1
Carbon tetrachloride	ND		1.0		ug/L			02/12/22 15:04	1
Chlorobenzene	ND		1.0		ug/L			02/12/22 15:04	1
Chlorobromomethane	ND		1.0		ug/L			02/12/22 15:04	1
Chlorodibromomethane	ND		0.50		ug/L			02/12/22 15:04	1
Chloroethane	ND		2.0		ug/L			02/12/22 15:04	1
Chloroform	ND		1.0		ug/L			02/12/22 15:04	1
Chloromethane	ND		2.0		ug/L			02/12/22 15:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 15:04	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 15:04	1
Dibromomethane	ND		1.0		ug/L			02/12/22 15:04	1
Dichlorobromomethane	ND		0.50		ug/L			02/12/22 15:04	1
Dichlorodifluoromethane	ND		2.0		ug/L			02/12/22 15:04	1
Ethyl ether	ND		1.0		ug/L			02/12/22 15:04	1
Ethylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
Ethylene Dibromide	ND		0.50		ug/L			02/12/22 15:04	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-8115/8
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0		ug/L			02/12/22 15:04	1
Isopropyl ether	ND		1.0		ug/L			02/12/22 15:04	1
Isopropylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
Methyl tert-butyl ether	ND		1.0		ug/L			02/12/22 15:04	1
Methylene Chloride	ND		2.0		ug/L			02/12/22 15:04	1
m-Xylene & p-Xylene	ND		1.0		ug/L			02/12/22 15:04	1
Naphthalene	ND		2.0		ug/L			02/12/22 15:04	1
n-Butylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
N-Propylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
o-Xylene	ND		1.0		ug/L			02/12/22 15:04	1
sec-Butylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
Styrene	ND		1.0		ug/L			02/12/22 15:04	1
Tert-amyl methyl ether	ND		1.0		ug/L			02/12/22 15:04	1
Tert-butyl ethyl ether	ND		1.0		ug/L			02/12/22 15:04	1
tert-Butylbenzene	ND		1.0		ug/L			02/12/22 15:04	1
Tetrachloroethene	ND		1.0		ug/L			02/12/22 15:04	1
Tetrahydrofuran	ND		2.0		ug/L			02/12/22 15:04	1
Toluene	ND		1.0		ug/L			02/12/22 15:04	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			02/12/22 15:04	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			02/12/22 15:04	1
Trichloroethene	ND		1.0		ug/L			02/12/22 15:04	1
Trichlorofluoromethane	ND		1.0		ug/L			02/12/22 15:04	1
Vinyl chloride	ND		1.0		ug/L			02/12/22 15:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*02/12/22 15:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*99*		*70 - 130*		*02/12/22 15:04*	*1*
4-Bromofluorobenzene (Surr)	*92*		*70 - 130*		*02/12/22 15:04*	*1*

Lab Sample ID: LCS 620-8115/4
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	20.0	20.6		ug/L		103	70 - 130
1,1,1-Trichloroethane	20.0	20.5		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	20.0	21.7		ug/L		109	70 - 130
1,1,2-Trichloroethane	20.0	23.6		ug/L		118	70 - 130
1,1-Dichloroethane	20.0	21.1		ug/L		106	70 - 130
1,1-Dichloroethene	20.0	20.8		ug/L		104	70 - 130
1,1-Dichloropropene	20.0	18.6		ug/L		93	70 - 130
1,2,3-Trichlorobenzene	20.0	24.2		ug/L		121	70 - 130
1,2,3-Trichloropropane	20.0	22.1		ug/L		111	70 - 130
1,2,4-Trichlorobenzene	20.0	24.6		ug/L		123	70 - 130
1,2,4-Trimethylbenzene	20.0	23.2		ug/L		116	70 - 130
1,2-Dibromo-3-Chloropropane	20.0	20.5		ug/L		103	70 - 130
1,2-Dichlorobenzene	20.0	22.6		ug/L		113	70 - 130
1,2-Dichloroethane	20.0	21.0		ug/L		105	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-8115/4
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,2-Dichloropropane	20.0	22.8		ug/L		114	70 - 130
1,3,5-Trimethylbenzene	20.0	22.9		ug/L		114	70 - 130
1,3-Dichlorobenzene	20.0	22.3		ug/L		112	70 - 130
1,3-Dichloropropane	20.0	22.1		ug/L		110	70 - 130
1,4-Dichlorobenzene	20.0	20.7		ug/L		103	70 - 130
1,4-Dioxane	200	236		ug/L		118	70 - 130
2,2-Dichloropropane	20.0	21.2		ug/L		106	70 - 130
2-Butanone (MEK)	20.0	14.0		ug/L		70	70 - 130
2-Chlorotoluene	20.0	22.0		ug/L		110	70 - 130
2-Hexanone	20.0	18.4		ug/L		92	70 - 130
4-Chlorotoluene	20.0	22.6		ug/L		113	70 - 130
4-Isopropyltoluene	20.0	22.6		ug/L		113	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	21.4		ug/L		107	70 - 130
Acetone	20.0	13.7	*-	ug/L		68	70 - 130
Benzene	20.0	21.5		ug/L		108	70 - 130
Bromobenzene	20.0	21.3		ug/L		106	70 - 130
Bromoform	20.0	23.5		ug/L		118	70 - 130
Bromomethane	20.0	15.1		ug/L		75	70 - 130
Carbon disulfide	20.0	18.9		ug/L		94	70 - 130
Carbon tetrachloride	20.0	18.4		ug/L		92	70 - 130
Chlorobenzene	20.0	21.4		ug/L		107	70 - 130
Chlorobromomethane	20.0	20.7		ug/L		104	70 - 130
Chlorodibromomethane	20.0	22.6		ug/L		113	70 - 130
Chloroethane	20.0	17.2		ug/L		86	70 - 130
Chloroform	20.0	20.1		ug/L		100	70 - 130
Chloromethane	20.0	17.2		ug/L		86	70 - 130
cis-1,2-Dichloroethene	20.0	22.9		ug/L		115	70 - 130
cis-1,3-Dichloropropene	20.0	20.4		ug/L		102	70 - 130
Dibromomethane	20.0	21.6		ug/L		108	70 - 130
Dichlorobromomethane	20.0	22.8		ug/L		114	70 - 130
Dichlorodifluoromethane	20.0	11.7	*-	ug/L		59	70 - 130
Ethyl ether	20.0	21.3		ug/L		106	70 - 130
Ethylbenzene	20.0	22.5		ug/L		112	70 - 130
Ethylene Dibromide	20.0	22.1		ug/L		111	70 - 130
Hexachlorobutadiene	20.0	20.5		ug/L		103	70 - 130
Isopropyl ether	20.0	20.4		ug/L		102	70 - 130
Isopropylbenzene	20.0	21.5		ug/L		108	70 - 130
Methyl tert-butyl ether	20.0	21.5		ug/L		107	70 - 130
Methylene Chloride	20.0	22.4		ug/L		112	70 - 130
m-Xylene & p-Xylene	40.0	45.2		ug/L		113	70 - 130
Naphthalene	20.0	24.2		ug/L		121	70 - 130
n-Butylbenzene	20.0	26.0		ug/L		130	70 - 130
N-Propylbenzene	20.0	22.7		ug/L		113	70 - 130
o-Xylene	20.0	21.5		ug/L		108	70 - 130
sec-Butylbenzene	20.0	20.4		ug/L		102	70 - 130
Styrene	20.0	22.8		ug/L		114	70 - 130
Tert-amyl methyl ether	20.0	24.4		ug/L		122	70 - 130
Tert-butyl ethyl ether	20.0	23.2		ug/L		116	70 - 130
tert-Butylbenzene	20.0	22.7		ug/L		114	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-8115/4
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Tetrachloroethene	20.0	20.7		ug/L		103	70 - 130
Tetrahydrofuran	20.0	21.0		ug/L		105	70 - 130
Toluene	20.0	21.0		ug/L		105	70 - 130
trans-1,2-Dichloroethene	20.0	23.5		ug/L		117	70 - 130
trans-1,3-Dichloropropene	20.0	22.3		ug/L		112	70 - 130
Trichloroethene	20.0	17.3		ug/L		87	70 - 130
Trichlorofluoromethane	20.0	19.9		ug/L		100	70 - 130
Vinyl chloride	20.0	17.9		ug/L		89	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*102*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*

Lab Sample ID: LCSD 620-8115/5
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	20.1		ug/L		101	70 - 130	2	20
1,1,1-Trichloroethane	20.0	19.9		ug/L		99	70 - 130	3	20
1,1,2,2-Tetrachloroethane	20.0	21.2		ug/L		106	70 - 130	2	20
1,1,2-Trichloroethane	20.0	22.7		ug/L		113	70 - 130	4	20
1,1-Dichloroethane	20.0	20.9		ug/L		104	70 - 130	1	20
1,1-Dichloroethene	20.0	20.4		ug/L		102	70 - 130	1	20
1,1-Dichloropropene	20.0	18.7		ug/L		93	70 - 130	0	20
1,2,3-Trichlorobenzene	20.0	24.4		ug/L		122	70 - 130	1	20
1,2,3-Trichloropropane	20.0	21.5		ug/L		108	70 - 130	3	20
1,2,4-Trichlorobenzene	20.0	24.8		ug/L		124	70 - 130	1	20
1,2,4-Trimethylbenzene	20.0	22.7		ug/L		113	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	20.0	20.4		ug/L		102	70 - 130	1	20
1,2-Dichlorobenzene	20.0	22.2		ug/L		111	70 - 130	2	20
1,2-Dichloroethane	20.0	20.2		ug/L		101	70 - 130	3	20
1,2-Dichloropropane	20.0	22.1		ug/L		111	70 - 130	3	20
1,3,5-Trimethylbenzene	20.0	22.7		ug/L		113	70 - 130	1	20
1,3-Dichlorobenzene	20.0	21.2		ug/L		106	70 - 130	5	20
1,3-Dichloropropane	20.0	21.8		ug/L		109	70 - 130	1	20
1,4-Dichlorobenzene	20.0	20.3		ug/L		101	70 - 130	2	20
1,4-Dioxane	200	222		ug/L		111	70 - 130	6	20
2,2-Dichloropropane	20.0	20.6		ug/L		103	70 - 130	3	20
2-Butanone (MEK)	20.0	14.2		ug/L		71	70 - 130	1	20
2-Chlorotoluene	20.0	21.2		ug/L		106	70 - 130	3	20
2-Hexanone	20.0	17.4		ug/L		87	70 - 130	6	20
4-Chlorotoluene	20.0	21.6		ug/L		108	70 - 130	5	20
4-Isopropyltoluene	20.0	22.7		ug/L		113	70 - 130	0	20
4-Methyl-2-pentanone (MIBK)	20.0	20.8		ug/L		104	70 - 130	3	20
Acetone	20.0	12.8	*-	ug/L		64	70 - 130	7	20
Benzene	20.0	21.5		ug/L		107	70 - 130	0	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 620-8115/5
Matrix: Water
Analysis Batch: 8115

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Bromobenzene	20.0	20.6		ug/L		103	70 - 130	3	20
Bromoform	20.0	23.5		ug/L		117	70 - 130	0	20
Bromomethane	20.0	13.7	*-	ug/L		68	70 - 130	10	20
Carbon disulfide	20.0	18.1		ug/L		90	70 - 130	4	20
Carbon tetrachloride	20.0	18.1		ug/L		90	70 - 130	2	20
Chlorobenzene	20.0	21.0		ug/L		105	70 - 130	2	20
Chlorobromomethane	20.0	20.1		ug/L		100	70 - 130	3	20
Chlorodibromomethane	20.0	21.5		ug/L		108	70 - 130	5	20
Chloroethane	20.0	20.4		ug/L		102	70 - 130	17	20
Chloroform	20.0	19.6		ug/L		98	70 - 130	2	20
Chloromethane	20.0	17.1		ug/L		85	70 - 130	1	20
cis-1,2-Dichloroethene	20.0	23.0		ug/L		115	70 - 130	0	20
cis-1,3-Dichloropropene	20.0	20.4		ug/L		102	70 - 130	0	20
Dibromomethane	20.0	21.3		ug/L		107	70 - 130	1	20
Dichlorobromomethane	20.0	22.3		ug/L		111	70 - 130	2	20
Dichlorodifluoromethane	20.0	11.0	*-	ug/L		55	70 - 130	6	20
Ethyl ether	20.0	21.5		ug/L		107	70 - 130	1	20
Ethylbenzene	20.0	21.8		ug/L		109	70 - 130	3	20
Ethylene Dibromide	20.0	22.1		ug/L		110	70 - 130	0	20
Hexachlorobutadiene	20.0	20.1		ug/L		100	70 - 130	2	20
Isopropyl ether	20.0	20.6		ug/L		103	70 - 130	1	20
Isopropylbenzene	20.0	21.4		ug/L		107	70 - 130	1	20
Methyl tert-butyl ether	20.0	21.2		ug/L		106	70 - 130	1	20
Methylene Chloride	20.0	21.7		ug/L		109	70 - 130	3	20
m-Xylene & p-Xylene	40.0	44.4		ug/L		111	70 - 130	2	20
Naphthalene	20.0	25.9		ug/L		129	70 - 130	7	20
n-Butylbenzene	20.0	26.8	*+	ug/L		134	70 - 130	3	20
N-Propylbenzene	20.0	22.0		ug/L		110	70 - 130	3	20
o-Xylene	20.0	21.4		ug/L		107	70 - 130	1	20
sec-Butylbenzene	20.0	19.7		ug/L		99	70 - 130	3	20
Styrene	20.0	22.0		ug/L		110	70 - 130	4	20
Tert-amyl methyl ether	20.0	21.8		ug/L		109	70 - 130	11	20
Tert-butyl ethyl ether	20.0	21.9		ug/L		110	70 - 130	6	20
tert-Butylbenzene	20.0	21.8		ug/L		109	70 - 130	4	20
Tetrachloroethene	20.0	20.2		ug/L		101	70 - 130	3	20
Tetrahydrofuran	20.0	20.8		ug/L		104	70 - 130	1	20
Toluene	20.0	20.2		ug/L		101	70 - 130	4	20
trans-1,2-Dichloroethene	20.0	22.9		ug/L		115	70 - 130	2	20
trans-1,3-Dichloropropene	20.0	21.4		ug/L		107	70 - 130	4	20
Trichloroethene	20.0	17.0		ug/L		85	70 - 130	2	20
Trichlorofluoromethane	20.0	19.1		ug/L		95	70 - 130	4	20
Vinyl chloride	20.0	17.0		ug/L		85	70 - 130	5	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*98*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*

QC Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Method: 8270D SIM ID - Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)

Lab Sample ID: MB 620-7976/1-A
Matrix: Water
Analysis Batch: 8037

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 7976

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		02/08/22 10:52	02/10/22 14:46	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8	*26*		*10 - 150*	*02/08/22 10:52*	*02/10/22 14:46*	*1*

Lab Sample ID: LCS 620-7976/2-A
Matrix: Water
Analysis Batch: 8037

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 7976

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,4-Dioxane	2.00	2.44		ug/L		122	40 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8	*27*		*10 - 150*

Lab Sample ID: LCSD 620-7976/3-A
Matrix: Water
Analysis Batch: 8037

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 7976

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
1,4-Dioxane	2.00	2.25		ug/L		112	40 - 140	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
1,4-Dioxane-d8	*30*		*10 - 150*

QC Association Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

GC/MS VOA

Analysis Batch: 8115

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-2920-1	MW-268M	Total/NA	Water	8260C	
620-2920-2	MW-268S	Total/NA	Water	8260C	
620-2920-3	MW-267M	Total/NA	Water	8260C	
MB 620-8115/8	Method Blank	Total/NA	Water	8260C	
LCS 620-8115/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-8115/5	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 7976

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-2920-1	MW-268M	Total/NA	Water	3510C	
620-2920-2	MW-268S	Total/NA	Water	3510C	
620-2920-3	MW-267M	Total/NA	Water	3510C	
MB 620-7976/1-A	Method Blank	Total/NA	Water	3510C	
LCS 620-7976/2-A	Lab Control Sample	Total/NA	Water	3510C	
LCSD 620-7976/3-A	Lab Control Sample Dup	Total/NA	Water	3510C	

Analysis Batch: 8037

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-2920-1	MW-268M	Total/NA	Water	8270D SIM ID	7976
620-2920-3	MW-267M	Total/NA	Water	8270D SIM ID	7976
MB 620-7976/1-A	Method Blank	Total/NA	Water	8270D SIM ID	7976
LCS 620-7976/2-A	Lab Control Sample	Total/NA	Water	8270D SIM ID	7976
LCSD 620-7976/3-A	Lab Control Sample Dup	Total/NA	Water	8270D SIM ID	7976

Analysis Batch: 8095

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-2920-2	MW-268S	Total/NA	Water	8270D SIM ID	7976

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Client Sample ID: MW-268M

Lab Sample ID: 620-2920-1
Date Collected: 02/03/22 14:20
Matrix: Water
Date Received: 02/07/22 13:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	8115	02/12/22 16:18	MED	ENE
Total/NA	Prep	3510C			7976	02/08/22 10:52	PRB	ENE
Total/NA	Analysis	8270D SIM ID		1	8037	02/10/22 16:25	BJJ	ENE

Client Sample ID: MW-268S

Lab Sample ID: 620-2920-2
Date Collected: 02/03/22 12:10
Matrix: Water
Date Received: 02/07/22 13:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	8115	02/12/22 16:43	MED	ENE
Total/NA	Prep	3510C			7976	02/08/22 10:52	PRB	ENE
Total/NA	Analysis	8270D SIM ID		5	8095	02/11/22 13:17	BJJ	ENE

Client Sample ID: MW-267M

Lab Sample ID: 620-2920-3
Date Collected: 02/03/22 10:40
Matrix: Water
Date Received: 02/07/22 13:49

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	8115	02/12/22 17:07	MED	ENE
Total/NA	Prep	3510C			7976	02/08/22 10:52	PRB	ENE
Total/NA	Analysis	8270D SIM ID		1	8037	02/10/22 17:13	BJJ	ENE

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Accreditation/Certification Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Laboratory: Eurofins New England

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	<cert No.>	02-28-23
Connecticut	State	PH-0722	06-30-22
Maine	State	RI00100	04-17-23
Massachusetts	State	M-RI907	06-30-22
New Hampshire	NELAP	2240	08-03-22
New Jersey	NELAP	RI008	06-30-22
New York	NELAP	11393	04-01-22
USDA	US Federal Programs	P330-20-00109	04-15-23

Method Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	ENE
8270D SIM ID	Semivolatile Organic Compounds (GC/MS SIM / Isotope Dilution)	SW846	ENE
3510C	Liquid-Liquid Extraction (Separatory Funnel)	SW846	ENE
5030C	Purge and Trap	SW846	ENE

Protocol References:

MA DEP = Massachusetts Department Of Environmental Protection

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018

Sample Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-2920-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-2920-1	MW-268M	Water	02/03/22 14:20	02/07/22 13:49
620-2920-2	MW-268S	Water	02/03/22 12:10	02/07/22 13:49
620-2920-3	MW-267M	Water	02/03/22 10:40	02/07/22 13:49

620-2920 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing America

	Sampler: Ian Kosnik	Lab PM: Mason, Becky C	Carrier Tracking No(s).	COC No.: 480-167063-36615 1
Client Contact: Mr David Falatko	Phone: 207-997-9018	E-Mail: Becky Mason@Eurofinset.com	State of Origin: MA	Page: Page 1 of 1
Company: Innovative Engineering Solutions, Inc	PWSID:			Job #:
Address: 37 Pearl St # 1	Due Date Requested: 2/6/2022			
City: Braintree	TAT Requested (days):			
State, Zip: MA, 02184	Compliance Project: Δ Yes Δ No			
Phone: 508-623-1224(Tel)	PO #: RA-008			
Email: d.falatko@iesionline.com	WO #:			
Project Name: IDS Wayland	Project #: 48007343			
Site	SSOW#:			

Analysis Requested

Preservation Codes

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260MCP - MCP 8260 Analyte List	8270D_SIM_MS_ID - 1,4-Dioxane 8270SIM	Total Number of containers	Special Instructions/Note:
			Preservation Code				A	N		
MW-268M	2/3/22	14:20		Water			X	X		
MW-268S	2/3/22	12:10		Water			X	X		
MW-267M	2/3/22			Water			X	X		
				Water						
				Water						

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III, IV, Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by: | Date | Time | Method of Shipment.

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Ian Kosnik	2/3/22 17:45	IESI		2/3/22 1745	ETA
	2/7/22 1150	ENE		2/7/22 12:00	
	2/7/22 12:00			2/7/22 13:49	ENE

Custody Seals Intact: Δ Yes Δ No | Custody Seal No

Cooler Temperature(s) °C and Other Remarks. 1.5/+1/2.5 °C

Ver 06/08/2021

2/21/2022

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-2920-1

Login Number: 2920
List Number: 1
Creator: Makhoul, Elie

List Source: Eurofins New England

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

ANALYTICAL REPORT

Lab Number:	L2218559
Client:	Innovative Engineering Solutions, Inc. 37 Pearl Street Braintree, MA 02148
ATTN:	Dave Falatko
Phone:	(207) 767-7331
Project Name:	RA008
Project Number:	RA008
Report Date:	04/22/22

The original project report/data package is held by Alpha Analytical. This report/data package is paginated and should be reproduced only in its entirety. Alpha Analytical holds no responsibility for results and/or data that are not consistent with the original.

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: RA008
Project Number: RA008

Lab Number: L2218559
Report Date: 04/22/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2218559-01	MW-268S	WATER	WAYLAND	04/06/22 11:35	04/08/22
L2218559-02	MW-268M	WATER	WAYLAND	04/06/22 11:40	04/08/22
L2218559-03	MW-268D	WATER	WAYLAND	04/06/22 13:40	04/08/22
L2218559-04	MW-267S	WATER	WAYLAND	04/06/22 16:15	04/08/22
L2218559-05	MW-267M	WATER	WAYLAND	04/07/22 12:00	04/08/22
L2218559-06	MW-266MB	WATER	WAYLAND	04/07/22 12:15	04/08/22
L2218559-07	MW-264M	WATER	WAYLAND	04/07/22 16:50	04/08/22
L2218559-08	MW-553	WATER	WAYLAND	04/07/22 11:45	04/08/22

Project Name:	RA008	**Lab Number:**	L2218559
Project Number:	RA008	**Report Date:**	04/22/22

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

Project Name:	RA008	**Lab Number:**	L2218559
Project Number:	RA008	**Report Date:**	04/22/22

Case Narrative (continued)

Dissolved Gases

L2218559-01D, -02D, -05D, -06D, and -07D: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound(s) that exceeded the calibration range.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 04/22/22

ORGANICS

VOLATILES

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-01
Client ID: MW-268S
Sample Location: WAYLAND

Date Collected: 04/06/22 11:35
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 14:41
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	27900	E	ug/l	2.00	--	1	A
Ethene	12.1		ug/l	0.500	--	1	A
Ethane	10.6		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-01 D
Client ID: MW-268S
Sample Location: WAYLAND

Date Collected: 04/06/22 11:35
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 20:00
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	27000		ug/l	4.00	--	2	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-02
Client ID: MW-268M
Sample Location: WAYLAND

Date Collected: 04/06/22 11:40
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 14:59
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	43900	E	ug/l	2.00	--	1	A
Ethene	1.26		ug/l	0.500	--	1	A
Ethane	18.1		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-02 D
Client ID: MW-268M
Sample Location: WAYLAND

Date Collected: 04/06/22 11:40
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 21:08
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	36500		ug/l	10.0	--	5	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-03
Client ID: MW-268D
Sample Location: WAYLAND

Date Collected: 04/06/22 13:40
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 15:17
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	8940		ug/l	2.00	--	1	A
Ethene	2.36		ug/l	0.500	--	1	A
Ethane	1.55		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-04
Client ID: MW-267S
Sample Location: WAYLAND

Date Collected: 04/06/22 16:15
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/18/22 15:35
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15000		ug/l	2.00	--	1	A
Ethene	3.82		ug/l	0.500	--	1	A
Ethane	0.525		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-05
Client ID: MW-267M
Sample Location: WAYLAND

Date Collected: 04/07/22 12:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/19/22 15:30
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	45900	E	ug/l	2.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	56.2		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-05 D
Client ID: MW-267M
Sample Location: WAYLAND

Date Collected: 04/07/22 12:00
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/21/22 21:35
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31700		ug/l	10.0	--	5	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-06
Client ID: MW-266MB
Sample Location: WAYLAND

Date Collected: 04/07/22 12:15
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/19/22 15:48
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31000	E	ug/l	2.00	--	1	A
Ethene	ND		ug/l	0.500	--	1	A
Ethane	4.96		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-06 D
Client ID: MW-266MB
Sample Location: WAYLAND

Date Collected: 04/07/22 12:15
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/20/22 13:59
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	28200		ug/l	4.00	--	2	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-07
Client ID: MW-264M
Sample Location: WAYLAND

Date Collected: 04/07/22 16:50
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/19/22 19:52
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	31300	E	ug/l	2.00	--	1	A
Ethene	2.03		ug/l	0.500	--	1	A
Ethane	1.96		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-07 D
Client ID: MW-264M
Sample Location: WAYLAND

Date Collected: 04/07/22 16:50
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/20/22 14:15
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	20100		ug/l	4.00	--	2	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

SAMPLE RESULTS

Lab ID: L2218559-08
Client ID: MW-553
Sample Location: WAYLAND

Date Collected: 04/07/22 11:45
Date Received: 04/08/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 117,-
Analytical Date: 04/19/22 20:11
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor	Column
Dissolved Gases by GC - Mansfield Lab							
Methane	15100		ug/l	2.00	--	1	A
Ethene	0.764		ug/l	0.500	--	1	A
Ethane	1.00		ug/l	0.500	--	1	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 04/18/22 09:10
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 01-04 Batch: WG1628448-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 04/19/22 09:39
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 05-08 Batch: WG1629082-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 04/20/22 08:57
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 06-07 Batch: WG1629237-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Project Name: RA008 **Lab Number:** L2218559

Project Number: RA008 **Report Date:** 04/22/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 117,-
Analytical Date: 04/21/22 09:18
Analyst: BB

Parameter	Result	Qualifier	Units	RL	MDL	
Dissolved Gases by GC - Mansfield Lab for sample(s): 05 Batch: WG1629731-3						
Methane	ND		ug/l	2.00	--	A
Ethene	ND		ug/l	0.500	--	A
Ethane	ND		ug/l	0.500	--	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RA008
Project Number: RA008

Lab Number: L2218559
Report Date: 04/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-04 Batch: WG1628448-2									
Methane	105		-		80-120	-		25	A
Ethene	99		-		80-120	-		25	A
Ethane	99		-		80-120	-		25	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: RA008

Project Number: RA008

Lab Number: L2218559

Report Date: 04/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 05-08 Batch: WG1629082-2									
Methane	103		-		80-120	-		25	A
Ethene	98		-		80-120	-		25	A
Ethane	95		-		80-120	-		25	A

Lab Control Sample Analysis

Batch Quality Control

Project Name: RA008

Project Number: RA008

Lab Number: L2218559

Report Date: 04/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 06-07 Batch: WG1629237-2									
Methane	109		-		80-120	-		25	A
Ethene	103		-		80-120	-		25	A
Ethane	102		-		80-120	-		25	A

Lab Control Sample Analysis
Batch Quality Control

Project Name: RA008
Project Number: RA008

Lab Number: L2218559
Report Date: 04/22/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits	Column
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 05 Batch: WG1629731-2									
Methane	105		-		80-120	-		25	A
Ethene	99		-		80-120	-		25	A
Ethane	97		-		80-120	-		25	A

Lab Duplicate Analysis
Batch Quality Control

Project Name: RA008
Project Number: RA008

Lab Number: L2218559
Report Date: 04/22/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits	
Dissolved Gases by GC - Mansfield Lab Associated sample(s): 01-04 QC Batch ID: WG1628448-4 QC Sample: L2218559-04 Client ID: MW-267S							
Methane	15000	16400	ug/l	9		25	A
Ethene	3.82	4.15	ug/l	8		25	A
Ethane	0.525	0.511	ug/l	3		25	A

Project Name: RA008
Project Number: RA008

Lab Number: L2218559
Report Date: 04/22/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2218559-01A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-01B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-02A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-02B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-03A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-03B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-04A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-04B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-05A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-05B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-06A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-06B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-07A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-07B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-08A	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)
L2218559-08B	20ml Vial HCl preserved	A	NA		4.1	Y	Absent		DISSGAS(14)

*Values in parentheses indicate holding time in days

Project Name:	RA008	**Lab Number:**	L2218559
Project Number:	RA008	**Report Date:**	04/22/22

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	RA008	**Lab Number:**	L2218559
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Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

Project Name:	RA008	**Lab Number:**	L2218559
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Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

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Project Number:	RA008	**Report Date:**	04/22/22

REFERENCES

117 Technical Guidance for the Natural Attenuation Indicators: Methane, Ethane, and Ethene, EPA-NE, Revision 1, February 21, 2002 and Sample Preparation & Calculations for Dissolved Gas Analysis in Water Samples using a GC Headspace Equilibration Technique, EPA RSKSOP-175, Revision 2, May 2004.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 4/9/22

ALPHA Job #: L2218559

8 Walkup Drive
Westboro, MA 01581
Tel: 508-898-9220

320 Forbes Blvd
Mansfield, MA 02048
Tel: 508-822-9300

Client Information

Client: IESI

Address: 37 Pearl St #1
Braintree, MA 02184

Phone: 207-767-7331

Email: DaveFalatko@IESIonline.com

Additional Project Information:

Project Information

Project Name: RA 008

Project Location: Wayland

Project #: RA 008

Project Manager: Dave Falatko

ALPHA Quote #:

Turn-Around Time

☒ Standard ☐ RUSH (only confirmed if pre-approved)

Date Due:

Report Information - Data Deliverables

☐ ADEx ☒ EMAIL

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements & Project Information Requirements

☒ Yes ☐ No MA MCP Analytical Methods ☐ Yes ☐ No CT RCP Analytical Methods
☐ Yes ☐ No Matrix Spike Required on this SDG? (Required for MCP Inorganics)
☐ Yes ☐ No GW1 Standards (Info Required for Metals & EPH with Targets)
☐ Yes ☐ No NPDES RGP
☐ Other State /Fed Program _____ Criteria _____

ANALYSIS: VOC: ☐ 8260 ☐ 624 ☐ 524.2; SVOC: ☐ ABN ☐ PAH; METALS: ☐ MCP 13 ☐ MCP 14 ☐ RCP 15; METALS: ☐ RCRA5 ☐ RCRA8 ☐ PP13; EPH: ☐ Ranges & Targets ☐ Ranges Only; VPH: ☐ Ranges & Targets ☐ Ranges Only; ☐ PCB ☐ PEST; TPH: ☐ Quant Only ☐ Fingerprint; D:55 GS

SAMPLE INFO: Filtration ☐ Field ☒ Lab to do; Preservation ☐ Lab to do

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler Initials	D:55 GS	Sample Comments	Total # Bottles
18559-01	MW-268S	4/6	11:35	water	IK	X		2
-02	MW-268M	4/6	11:40	water	IK	X		2
-03	MW-268D	4/6	13:40	water	IK	X		2
-04	MW-267S	4/6	16:15	water	IK	X		2
-05	MW-267M	4/7	12:00	water	IK	X		2
-06	MW-266MD	4/7	12:15	water	IK	X		2
-07	MW-264M	4/7	16:50	water	IK	X		2
-08	MW-553	4/8	11:45	water	IK	X		2

Container Type	V
Preservative	B

Container Type
P= Plastic
A= Amber glass
V= Vial
G= Glass
B= Bacteria cup
C= Cube
O= Other
E= Encore
D= BOD Bottle

Preservative
A= None
B= HCl
C= HNO_3
D= H_2SO_4
E= NaOH
F= MeOH
G= $NaHSO_4$
H = $Na_2S_2O_3$
I= Ascorbic Acid
J = NH_4Cl
K= Zn Acetate
O= Other

Relinquished By:	Date/Time	Received By:	Date/Time
Ian Kosnik	4/8/22	[signature] AAL	4/8/22 15:37
[signature] AAL	4/8/22 16:21	[signature]	[signature]
[signature]	4/9/22 0000	[signature]	4/9/22 0000
[signature]	4/9/22 0142	[signature] AAL	4/9/22 0142

All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 12-Mar-2012)

eurofins | Environment Testing New England

ANALYTICAL REPORT

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Tel: (413)789-9018

Laboratory Job ID: 620-3810-1
Client Project/Site: IDS Wayland

For:
Innovative Engineering Solutions, Inc
37 Pearl St
1
Braintree, Massachusetts 02184

Attn: Vicki Pariyar

Authorized for release by:
4/22/2022 4:40:48 PM

Becky Mason, Project Manager II
(413)572-4000
Becky.Mason@et.eurofinsus.com

LINKS

Review your project results through TotalAccess

Have a Question? Ask The Expert

Visit us at:
www.eurofinsus.com/Env

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
S1-	Surrogate recovery exceeds control limits, low biased.

GC/MS Semi VOA

Qualifier	Qualifier Description
*3	ISTD response or retention time outside acceptable limits.
S1-	Surrogate recovery exceeds control limits, low biased.

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
F2	MS/MSD RPD exceeds control limits

General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
F1	MS and/or MSD recovery exceeds control limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

MassDEP Analytical Protocol Certfication Form

Laboratory Name:	Eurofins New England	Project #:	620-3810-1
Project Location:	IDS Wayland	RTN:	

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
620-3810-1 through 620-3810-10

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below:)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ☑ No[1]

***Data User Note**: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No[1]

1 All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Project Manager II

Printed Name: Becky Mason **Date:** 04/22/2022

Job ID: 620-3810-1

Laboratory: Eurofins New England

Narrative

Job Narrative
620-3810-1

Receipt
The samples were received on 4/7/2022 5:52 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6º C.

GC/MS VOA
Method 8260C: Due to the dilutions required, per question G on the MassDEP Analytical Protocol Certification Form, the CAM reporting limits specified in this CAM protocol could not be achieved for some or all samples/analytes.

Method 8260C: The following samples were diluted due to the nature of the sample matrix (foamy): MW-267S (620-3810-5) and DUP2 (620-3810-8). Elevated reporting limits (RLs) are provided.

Method 8260C: The continuing calibration verification (CCV) associated with batch 620-9758 exhibited % difference of > 20% for the following analytes: Methyl tert-butyl ether, Tert-amyl methyl ether and Tert-butyl ethyl ether; however, the results of the LCS were within the CCV acceptance limits. According to the laboratory standard operating procedure, the laboratory control sample is acceptable as the CCV if it meets the CCV acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
Method 522: Surrogate recovery for the following samples were outside control limits: MW-267S (620-3810-5) and DUP2 (620-3810-8). Evidence of matrix interference is present; therefore, re-extraction and/or re-analysis was not performed.

Method 522: Internal standard responses were outside of acceptance limits for the following sample: DUP2 (620-3810-8). The sample(s) shows evidence of matrix interference.

Method 522: The following sample required a dilution due to the nature of the sample matrix: MW-268S (620-3810-1). Because of this dilution, the surrogate spike concentration in the sample was reduced to a level where the recovery calculation does not provide useful information.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Metals
Method 6010: At the request of the client, an abbreviated MCP analyte list was reported for this job.

Method 6010: Due to the high concentration of Iron, the matrix spike / matrix spike duplicate (MS/MSD) for preparation batch 620-9792 and analytical batch 620-9839 could not be evaluated for accuracy and precision. The associated laboratory control sample (LCS) met acceptance criteria.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
Method 9060A: The reference method requires samples to be preserved to a pH of below 2. The following sample was received with insufficient preservation at a pH of above 2: MW-267S (620-3810-5). The sample(s) was preserved to the appropriate pH in the laboratory.

Method SM 2320B: The continuing calibration blank (CCB) for analytical batch 480-622057 contained Alkalinity above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 522: The reference method requires samples to be preserved to a pH of <2. The following samples were received with insufficient

Job ID: 620-3810-1 (Continued)

Laboratory: Eurofins New England (Continued)

preservation at a pH of 5-6: REW-11 (620-3810-4), MW-267S (620-3810-5) and DUP2 (620-3810-8). The sample(s) was preserved to the appropriate pH in the laboratory using HCl.

Method 522: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 200-178969. LCSD performed instead.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268S — Lab Sample ID: 620-3810-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.7		1.0		ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.3		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	22		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	29		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane - DL	1500		250		ug/L	5		8260C	Total/NA
cis-1,2-Dichloroethene - DL	96		5.0		ug/L	5		8260C	Total/NA
1,4-Dioxane	3500		100		ug/L	500		522	Total/NA
Iron	2.7		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	23		10		mg/L	1		410.4	Total/NA
Sulfate	22		5.0		mg/L	1		9038	Total/NA
TOC Result 1	3.5		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	3.7		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	3.6		1.0		mg/L	1		9060A	Total/NA
pH	7.2	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	92	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-268M — Lab Sample ID: 620-3810-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.8		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	2.6		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane - DL	1100		250		ug/L	5		8260C	Total/NA
1,4-Dioxane	2200		40		ug/L	200		522	Total/NA
Iron	4.7		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	25		10		mg/L	1		410.4	Total/NA
TOC Result 1	4.1		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	4.4		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	4.3		1.0		mg/L	1		9060A	Total/NA
pH	7.0	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	320	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-268D — Lab Sample ID: 620-3810-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.1		1.0		ug/L	1		8260C	Total/NA
Toluene	2.0		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	2.1		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	2.0		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	3.5		0.20		ug/L	1		522	Total/NA
Chemical Oxygen Demand	14		10		mg/L	1		410.4	Total/NA
Sulfate	25	F1	5.0		mg/L	1		9038	Total/NA
pH	8.0	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	81	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: REW-11 — Lab Sample ID: 620-3810-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Toluene	38		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	8.9		0.20		ug/L	1		522	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-267S — Lab Sample ID: 620-3810-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	230		40		ug/L	20		8260C	Total/NA
Acetone	230		200		ug/L	20		8260C	Total/NA
cis-1,2-Dichloroethene	28		20		ug/L	20		8260C	Total/NA
Toluene	51		20		ug/L	20		8260C	Total/NA
1,4-Dioxane	0.79		0.20		ug/L	1		522	Total/NA
Iron	840	F2	5.0		mg/L	100		6010D	Total/NA
Chemical Oxygen Demand	130		10		mg/L	1		410.4	Total/NA
TOC Result 1	4600		100		mg/L	100		9060A	Total/NA
TOC Result 2	4600		100		mg/L	100		9060A	Total/NA
Total Organic Carbon - Duplicates	4600		100		mg/L	100		9060A	Total/NA
pH	5.6	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	800	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: REW-6 — Lab Sample ID: 620-3810-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
m-Xylene & p-Xylene	2.7		1.0		ug/L	1		8260C	Total/NA
Toluene	6.9		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	4.0		0.20		ug/L	1		522	Total/NA

Client Sample ID: DUP1 — Lab Sample ID: 620-3810-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	6.3		1.0		ug/L	1		8260C	Total/NA
Toluene	1.9		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	2.1		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	1.9		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	0.33		0.20		ug/L	1		522	Total/NA

Client Sample ID: DUP2 — Lab Sample ID: 620-3810-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
2-Butanone (MEK)	210		100		ug/L	50		8260C	Total/NA
Toluene	51		50		ug/L	50		8260C	Total/NA

Client Sample ID: MW-563 — Lab Sample ID: 620-3810-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.22		0.20		ug/L	1		522	Total/NA

Client Sample ID: REW-7 — Lab Sample ID: 620-3810-10

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268S

Date Collected: 04/06/22 11:35
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 15:15	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 15:15	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 15:15	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 15:15	1
1,1-Dichloroethane	**1.7**		1.0		ug/L			04/11/22 15:15	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 15:15	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 15:15	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 15:15	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 15:15	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 15:15	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 15:15	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 15:15	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 15:15	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 15:15	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 15:15	1
2-Hexanone	ND		2.0		ug/L			04/11/22 15:15	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 15:15	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 15:15	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 15:15	1
Acetone	ND		10		ug/L			04/11/22 15:15	1
Benzene	ND		1.0		ug/L			04/11/22 15:15	1
Bromobenzene	ND		1.0		ug/L			04/11/22 15:15	1
Bromoform	ND		1.0		ug/L			04/11/22 15:15	1
Bromomethane	ND		2.0		ug/L			04/11/22 15:15	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 15:15	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 15:15	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 15:15	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 15:15	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 15:15	1
Chloroethane	ND		2.0		ug/L			04/11/22 15:15	1
Chloroform	ND		1.0		ug/L			04/11/22 15:15	1
Chloromethane	ND		2.0		ug/L			04/11/22 15:15	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 15:15	1
Dibromomethane	ND		1.0		ug/L			04/11/22 15:15	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 15:15	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 15:15	1
Ethyl ether	ND		1.0		ug/L			04/11/22 15:15	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 15:15	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 15:15	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 15:15	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 15:15	1

Client Sample ID: MW-268S

Date Collected: 04/06/22 11:35
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 15:15	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 15:15	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 15:15	1
Naphthalene	ND		2.0		ug/L			04/11/22 15:15	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
o-Xylene	ND		1.0		ug/L			04/11/22 15:15	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
Styrene	ND		1.0		ug/L			04/11/22 15:15	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 15:15	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 15:15	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 15:15	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 15:15	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 15:15	1
Toluene	ND		1.0		ug/L			04/11/22 15:15	1
trans-1,2-Dichloroethene	**1.3**		1.0		ug/L			04/11/22 15:15	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 15:15	1
Trichloroethene	**22**		1.0		ug/L			04/11/22 15:15	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 15:15	1
Vinyl chloride	**29**		1.0		ug/L			04/11/22 15:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/11/22 15:15*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*04/11/22 15:15*	*1*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*04/11/22 15:15*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**1500**		250		ug/L			04/13/22 14:38	5
cis-1,2-Dichloroethene	**96**		5.0		ug/L			04/13/22 14:38	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/13/22 14:38*	*5*
1,2-Dichloroethane-d4 (Surr)	*0*	*S1-*	*70 - 130*		*04/13/22 14:38*	*5*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*04/13/22 14:38*	*5*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**3500**		100		ug/L		04/20/22 14:00	04/22/22 10:44	500

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*0*	*S1-*	*46 - 130*	*04/20/22 14:00*	*04/22/22 10:44*	*500*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**2.7**		0.050		mg/L		04/12/22 16:55	04/14/22 14:38	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**			SU			04/12/22 15:57	1

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268S

Lab Sample ID: 620-3810-1

Date Collected: 04/06/22 11:35
Date Received: 04/07/22 17:52

Matrix: Water

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	23		10		mg/L			04/12/22 21:49	1
Sulfate	22		5.0		mg/L			04/14/22 16:47	1
TOC Result 1	3.5		1.0		mg/L			04/12/22 20:54	1
TOC Result 2	3.7		1.0		mg/L			04/12/22 20:54	1
Total Organic Carbon - Duplicates	3.6		1.0		mg/L			04/12/22 20:54	1
Alkalinity, Total	92	^2	5.0		mg/L			04/17/22 17:07	1

Client Sample ID: MW-268M

Lab Sample ID: 620-3810-2

Date Collected: 04/06/22 11:40
Date Received: 04/07/22 17:52

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 18:39	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 18:39	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 18:39	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 18:39	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 18:39	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 18:39	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 18:39	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 18:39	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 18:39	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 18:39	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 18:39	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 18:39	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 18:39	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 18:39	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 18:39	1
2-Hexanone	ND		2.0		ug/L			04/11/22 18:39	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 18:39	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 18:39	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 18:39	1
Acetone	ND		10		ug/L			04/11/22 18:39	1
Benzene	ND		1.0		ug/L			04/11/22 18:39	1
Bromobenzene	ND		1.0		ug/L			04/11/22 18:39	1
Bromoform	ND		1.0		ug/L			04/11/22 18:39	1
Bromomethane	ND		2.0		ug/L			04/11/22 18:39	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 18:39	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 18:39	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 18:39	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 18:39	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 18:39	1
Chloroethane	ND		2.0		ug/L			04/11/22 18:39	1
Chloroform	ND		1.0		ug/L			04/11/22 18:39	1

Client Sample ID: MW-268M

Date Collected: 04/06/22 11:40
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		2.0		ug/L			04/11/22 18:39	1
cis-1,2-Dichloroethene	**2.8**		1.0		ug/L			04/11/22 18:39	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 18:39	1
Dibromomethane	ND		1.0		ug/L			04/11/22 18:39	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 18:39	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 18:39	1
Ethyl ether	ND		1.0		ug/L			04/11/22 18:39	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 18:39	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 18:39	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 18:39	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 18:39	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 18:39	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 18:39	1
Naphthalene	ND		2.0		ug/L			04/11/22 18:39	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
o-Xylene	ND		1.0		ug/L			04/11/22 18:39	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
Styrene	ND		1.0		ug/L			04/11/22 18:39	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 18:39	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 18:39	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 18:39	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 18:39	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 18:39	1
Toluene	ND		1.0		ug/L			04/11/22 18:39	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 18:39	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 18:39	1
Trichloroethene	ND		1.0		ug/L			04/11/22 18:39	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 18:39	1
Vinyl chloride	**2.6**		1.0		ug/L			04/11/22 18:39	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/11/22 18:39*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*04/11/22 18:39*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*04/11/22 18:39*	*1*

Method: 8260C - Volatile Organic Compounds (GC/MS) - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**1100**		250		ug/L			04/13/22 15:04	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/13/22 15:04*	*5*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*04/13/22 15:04*	*5*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*04/13/22 15:04*	*5*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2200**		40		ug/L		04/20/22 14:00	04/22/22 10:04	200

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268M

Lab Sample ID: 620-3810-2
Date Collected: 04/06/22 11:40
Matrix: Water
Date Received: 04/07/22 17:52

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*	*04/20/22 14:00*	*04/22/22 10:04*	*200*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**4.7**		0.050		mg/L		04/12/22 16:55	04/14/22 14:45	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.0**	**HF**			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	**25**		10		mg/L			04/12/22 21:49	1
Sulfate	ND		5.0		mg/L			04/14/22 16:48	1
TOC Result 1	**4.1**		1.0		mg/L			04/12/22 21:50	1
TOC Result 2	**4.4**		1.0		mg/L			04/12/22 21:50	1
Total Organic Carbon - Duplicates	**4.3**		1.0		mg/L			04/12/22 21:50	1
Alkalinity, Total	**320**	**^2**	5.0		mg/L			04/17/22 17:12	1

Client Sample ID: MW-268D

Lab Sample ID: 620-3810-3
Date Collected: 04/06/22 13:40
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 19:05	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 19:05	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 19:05	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 19:05	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 19:05	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 19:05	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 19:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 19:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 19:05	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 19:05	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 19:05	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 19:05	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
1,4-Dioxane	ND		50		ug/L			04/11/22 19:05	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 19:05	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 19:05	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 19:05	1
2-Hexanone	ND		2.0		ug/L			04/11/22 19:05	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 19:05	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 19:05	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 19:05	1
Acetone	ND		10		ug/L			04/11/22 19:05	1

Client Sample ID: MW-268D

Date Collected: 04/06/22 13:40
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/11/22 19:05	1
Bromobenzene	ND		1.0		ug/L			04/11/22 19:05	1
Bromoform	ND		1.0		ug/L			04/11/22 19:05	1
Bromomethane	ND		2.0		ug/L			04/11/22 19:05	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 19:05	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 19:05	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 19:05	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 19:05	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 19:05	1
Chloroethane	ND		2.0		ug/L			04/11/22 19:05	1
Chloroform	ND		1.0		ug/L			04/11/22 19:05	1
Chloromethane	ND		2.0		ug/L			04/11/22 19:05	1
cis-1,2-Dichloroethene	**6.1**		1.0		ug/L			04/11/22 19:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 19:05	1
Dibromomethane	ND		1.0		ug/L			04/11/22 19:05	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 19:05	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 19:05	1
Ethyl ether	ND		1.0		ug/L			04/11/22 19:05	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 19:05	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 19:05	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 19:05	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 19:05	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 19:05	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 19:05	1
Naphthalene	ND		2.0		ug/L			04/11/22 19:05	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
o-Xylene	ND		1.0		ug/L			04/11/22 19:05	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
Styrene	ND		1.0		ug/L			04/11/22 19:05	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 19:05	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 19:05	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 19:05	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 19:05	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 19:05	1
Toluene	**2.0**		1.0		ug/L			04/11/22 19:05	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 19:05	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 19:05	1
Trichloroethene	**2.1**		1.0		ug/L			04/11/22 19:05	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 19:05	1
Vinyl chloride	**2.0**		1.0		ug/L			04/11/22 19:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/11/22 19:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*04/11/22 19:05*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*04/11/22 19:05*	*1*

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268D

Lab Sample ID: 620-3810-3
Date Collected: 04/06/22 13:40
Matrix: Water
Date Received: 04/07/22 17:52

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	3.5		0.20		ug/L		04/20/22 14:00	04/21/22 16:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*99*		*46 - 130*	*04/20/22 14:00*	*04/21/22 16:41*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		04/12/22 16:55	04/14/22 14:52	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	8.0	HF			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	14		10		mg/L			04/12/22 21:49	1
Sulfate	25	F1	5.0		mg/L			04/14/22 16:43	1
TOC Result 1	ND		1.0		mg/L			04/12/22 22:49	1
TOC Result 2	ND		1.0		mg/L			04/12/22 22:49	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			04/12/22 22:49	1
Alkalinity, Total	81	^2	5.0		mg/L			04/17/22 17:17	1

Client Sample ID: REW-11

Lab Sample ID: 620-3810-4
Date Collected: 04/06/22 13:55
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 19:35	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 19:35	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 19:35	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 19:35	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 19:35	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 19:35	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 19:35	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 19:35	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 19:35	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 19:35	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 19:35	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 19:35	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
1,4-Dioxane	ND		50		ug/L			04/11/22 19:35	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 19:35	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 19:35	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 19:35	1
2-Hexanone	ND		2.0		ug/L			04/11/22 19:35	1

Client Sample ID: REW-11

Date Collected: 04/06/22 13:55
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 19:35	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 19:35	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 19:35	1
Acetone	ND		10		ug/L			04/11/22 19:35	1
Benzene	ND		1.0		ug/L			04/11/22 19:35	1
Bromobenzene	ND		1.0		ug/L			04/11/22 19:35	1
Bromoform	ND		1.0		ug/L			04/11/22 19:35	1
Bromomethane	ND		2.0		ug/L			04/11/22 19:35	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 19:35	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 19:35	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 19:35	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 19:35	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 19:35	1
Chloroethane	ND		2.0		ug/L			04/11/22 19:35	1
Chloroform	ND		1.0		ug/L			04/11/22 19:35	1
Chloromethane	ND		2.0		ug/L			04/11/22 19:35	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 19:35	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 19:35	1
Dibromomethane	ND		1.0		ug/L			04/11/22 19:35	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 19:35	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 19:35	1
Ethyl ether	ND		1.0		ug/L			04/11/22 19:35	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 19:35	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 19:35	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 19:35	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 19:35	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 19:35	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 19:35	1
Naphthalene	ND		2.0		ug/L			04/11/22 19:35	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
o-Xylene	ND		1.0		ug/L			04/11/22 19:35	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
Styrene	ND		1.0		ug/L			04/11/22 19:35	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 19:35	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 19:35	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 19:35	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 19:35	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 19:35	1
Toluene	**38**		1.0		ug/L			04/11/22 19:35	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 19:35	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 19:35	1
Trichloroethene	ND		1.0		ug/L			04/11/22 19:35	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 19:35	1
Vinyl chloride	ND		1.0		ug/L			04/11/22 19:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/11/22 19:35*	*1*

Client Sample ID: REW-11

Lab Sample ID: 620-3810-4
Matrix: Water

Date Collected: 04/06/22 13:55
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*		*04/11/22 19:35*	*1*
4-Bromofluorobenzene (Surr)	*85*		*70 - 130*		*04/11/22 19:35*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**8.9**		0.20		ug/L		04/20/22 14:00	04/21/22 16:54	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*83*		*46 - 130*	*04/20/22 14:00*	*04/21/22 16:54*	*1*

Client Sample ID: MW-267S

Lab Sample ID: 620-3810-5
Matrix: Water

Date Collected: 04/06/22 16:15
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		20		ug/L			04/11/22 21:57	20
1,1,1-Trichloroethane	ND		20		ug/L			04/11/22 21:57	20
1,1,2,2-Tetrachloroethane	ND		10		ug/L			04/11/22 21:57	20
1,1,2-Trichloroethane	ND		20		ug/L			04/11/22 21:57	20
1,1-Dichloroethane	ND		20		ug/L			04/11/22 21:57	20
1,1-Dichloroethene	ND		20		ug/L			04/11/22 21:57	20
1,1-Dichloropropene	ND		20		ug/L			04/11/22 21:57	20
1,2,3-Trichlorobenzene	ND		20		ug/L			04/11/22 21:57	20
1,2,3-Trichloropropane	ND		20		ug/L			04/11/22 21:57	20
1,2,4-Trichlorobenzene	ND		20		ug/L			04/11/22 21:57	20
1,2,4-Trimethylbenzene	ND		20		ug/L			04/11/22 21:57	20
1,2-Dibromo-3-Chloropropane	ND		40		ug/L			04/11/22 21:57	20
1,2-Dichlorobenzene	ND		20		ug/L			04/11/22 21:57	20
1,2-Dichloroethane	ND		20		ug/L			04/11/22 21:57	20
1,2-Dichloropropane	ND		20		ug/L			04/11/22 21:57	20
1,3,5-Trimethylbenzene	ND		20		ug/L			04/11/22 21:57	20
1,3-Dichlorobenzene	ND		20		ug/L			04/11/22 21:57	20
1,3-Dichloropropane	ND		20		ug/L			04/11/22 21:57	20
1,4-Dichlorobenzene	ND		20		ug/L			04/11/22 21:57	20
1,4-Dioxane	ND		1000		ug/L			04/11/22 21:57	20
2,2-Dichloropropane	ND		20		ug/L			04/11/22 21:57	20
2-Butanone (MEK)	**230**		40		ug/L			04/11/22 21:57	20
2-Chlorotoluene	ND		20		ug/L			04/11/22 21:57	20
2-Hexanone	ND		40		ug/L			04/11/22 21:57	20
4-Chlorotoluene	ND		20		ug/L			04/11/22 21:57	20
4-Isopropyltoluene	ND		20		ug/L			04/11/22 21:57	20
4-Methyl-2-pentanone (MIBK)	ND		40		ug/L			04/11/22 21:57	20
Acetone	**230**		200		ug/L			04/11/22 21:57	20
Benzene	ND		20		ug/L			04/11/22 21:57	20
Bromobenzene	ND		20		ug/L			04/11/22 21:57	20
Bromoform	ND		20		ug/L			04/11/22 21:57	20
Bromomethane	ND		40		ug/L			04/11/22 21:57	20
Carbon disulfide	ND		40		ug/L			04/11/22 21:57	20
Carbon tetrachloride	ND		20		ug/L			04/11/22 21:57	20

Client Sample ID: MW-267S

Date Collected: 04/06/22 16:15
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chlorobenzene	ND		20		ug/L			04/11/22 21:57	20
Chlorobromomethane	ND		20		ug/L			04/11/22 21:57	20
Chlorodibromomethane	ND		10		ug/L			04/11/22 21:57	20
Chloroethane	ND		40		ug/L			04/11/22 21:57	20
Chloroform	ND		20		ug/L			04/11/22 21:57	20
Chloromethane	ND		40		ug/L			04/11/22 21:57	20
cis-1,2-Dichloroethene	**28**		20		ug/L			04/11/22 21:57	20
cis-1,3-Dichloropropene	ND		10		ug/L			04/11/22 21:57	20
Dibromomethane	ND		20		ug/L			04/11/22 21:57	20
Dichlorobromomethane	ND		10		ug/L			04/11/22 21:57	20
Dichlorodifluoromethane	ND		40		ug/L			04/11/22 21:57	20
Ethyl ether	ND		20		ug/L			04/11/22 21:57	20
Ethylbenzene	ND		20		ug/L			04/11/22 21:57	20
Ethylene Dibromide	ND		10		ug/L			04/11/22 21:57	20
Hexachlorobutadiene	ND		20		ug/L			04/11/22 21:57	20
Isopropyl ether	ND		20		ug/L			04/11/22 21:57	20
Isopropylbenzene	ND		20		ug/L			04/11/22 21:57	20
Methyl tert-butyl ether	ND		20		ug/L			04/11/22 21:57	20
Methylene Chloride	ND		40		ug/L			04/11/22 21:57	20
m-Xylene & p-Xylene	ND		20		ug/L			04/11/22 21:57	20
Naphthalene	ND		40		ug/L			04/11/22 21:57	20
n-Butylbenzene	ND		20		ug/L			04/11/22 21:57	20
N-Propylbenzene	ND		20		ug/L			04/11/22 21:57	20
o-Xylene	ND		20		ug/L			04/11/22 21:57	20
sec-Butylbenzene	ND		20		ug/L			04/11/22 21:57	20
Styrene	ND		20		ug/L			04/11/22 21:57	20
Tert-amyl methyl ether	ND		20		ug/L			04/11/22 21:57	20
Tert-butyl ethyl ether	ND		20		ug/L			04/11/22 21:57	20
tert-Butylbenzene	ND		20		ug/L			04/11/22 21:57	20
Tetrachloroethene	ND		20		ug/L			04/11/22 21:57	20
Tetrahydrofuran	ND		40		ug/L			04/11/22 21:57	20
Toluene	**51**		20		ug/L			04/11/22 21:57	20
trans-1,2-Dichloroethene	ND		20		ug/L			04/11/22 21:57	20
trans-1,3-Dichloropropene	ND		10		ug/L			04/11/22 21:57	20
Trichloroethene	ND		20		ug/L			04/11/22 21:57	20
Trichlorofluoromethane	ND		20		ug/L			04/11/22 21:57	20
Vinyl chloride	ND		20		ug/L			04/11/22 21:57	20

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*70 - 130*		*04/11/22 21:57*	*20*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*04/11/22 21:57*	*20*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*04/11/22 21:57*	*20*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.79**		0.20		ug/L		04/20/22 14:00	04/21/22 17:08	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*5*	*S1-*	*46 - 130*	*04/20/22 14:00*	*04/21/22 17:08*	*1*

Client Sample ID: MW-267S

Lab Sample ID: 620-3810-5
Matrix: Water

Date Collected: 04/06/22 16:15
Date Received: 04/07/22 17:52

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	840	F2	5.0		mg/L		04/13/22 16:37	04/15/22 11:38	100

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	5.6	HF			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	130		10		mg/L			04/12/22 21:49	1
Sulfate	ND		5.0		mg/L			04/14/22 17:05	1
TOC Result 1	4600		100		mg/L			04/15/22 21:26	100
TOC Result 2	4600		100		mg/L			04/15/22 21:26	100
Total Organic Carbon - Duplicates	4600		100		mg/L			04/15/22 21:26	100
Alkalinity, Total	800	^2	5.0		mg/L			04/17/22 17:26	1

Client Sample ID: REW-6

Lab Sample ID: 620-3810-6
Matrix: Water

Date Collected: 04/06/22 16:00
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 20:05	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 20:05	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 20:05	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 20:05	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 20:05	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 20:05	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 20:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 20:05	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 20:05	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 20:05	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 20:05	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 20:05	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
1,4-Dioxane	ND		50		ug/L			04/11/22 20:05	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 20:05	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 20:05	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 20:05	1
2-Hexanone	ND		2.0		ug/L			04/11/22 20:05	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 20:05	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 20:05	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 20:05	1
Acetone	ND		10		ug/L			04/11/22 20:05	1
Benzene	ND		1.0		ug/L			04/11/22 20:05	1
Bromobenzene	ND		1.0		ug/L			04/11/22 20:05	1
Bromoform	ND		1.0		ug/L			04/11/22 20:05	1

Client Sample ID: REW-6

Date Collected: 04/06/22 16:00
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromomethane	ND		2.0		ug/L			04/11/22 20:05	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 20:05	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 20:05	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 20:05	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 20:05	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 20:05	1
Chloroethane	ND		2.0		ug/L			04/11/22 20:05	1
Chloroform	ND		1.0		ug/L			04/11/22 20:05	1
Chloromethane	ND		2.0		ug/L			04/11/22 20:05	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 20:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 20:05	1
Dibromomethane	ND		1.0		ug/L			04/11/22 20:05	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 20:05	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 20:05	1
Ethyl ether	ND		1.0		ug/L			04/11/22 20:05	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 20:05	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 20:05	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 20:05	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 20:05	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 20:05	1
m-Xylene & p-Xylene	**2.7**		1.0		ug/L			04/11/22 20:05	1
Naphthalene	ND		2.0		ug/L			04/11/22 20:05	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
o-Xylene	ND		1.0		ug/L			04/11/22 20:05	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
Styrene	ND		1.0		ug/L			04/11/22 20:05	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 20:05	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 20:05	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 20:05	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 20:05	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 20:05	1
Toluene	**6.9**		1.0		ug/L			04/11/22 20:05	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 20:05	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 20:05	1
Trichloroethene	ND		1.0		ug/L			04/11/22 20:05	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 20:05	1
Vinyl chloride	ND		1.0		ug/L			04/11/22 20:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/11/22 20:05*	*1*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*		*04/11/22 20:05*	*1*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*04/11/22 20:05*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.0**		0.20		ug/L		04/20/22 14:00	04/21/22 17:21	1

Client Sample ID: REW-6

Lab Sample ID: 620-3810-6

Date Collected: 04/06/22 16:00
Matrix: Water
Date Received: 04/07/22 17:52

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*88*		*46 - 130*	*04/20/22 14:00*	*04/21/22 17:21*	*1*

Client Sample ID: DUP1

Lab Sample ID: 620-3810-7

Date Collected: 04/06/22 00:00
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 20:33	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 20:33	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 20:33	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 20:33	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 20:33	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 20:33	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 20:33	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 20:33	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 20:33	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 20:33	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 20:33	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 20:33	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
1,4-Dioxane	ND		50		ug/L			04/11/22 20:33	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 20:33	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 20:33	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 20:33	1
2-Hexanone	ND		2.0		ug/L			04/11/22 20:33	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 20:33	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 20:33	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 20:33	1
Acetone	ND		10		ug/L			04/11/22 20:33	1
Benzene	ND		1.0		ug/L			04/11/22 20:33	1
Bromobenzene	ND		1.0		ug/L			04/11/22 20:33	1
Bromoform	ND		1.0		ug/L			04/11/22 20:33	1
Bromomethane	ND		2.0		ug/L			04/11/22 20:33	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 20:33	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 20:33	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 20:33	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 20:33	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 20:33	1
Chloroethane	ND		2.0		ug/L			04/11/22 20:33	1
Chloroform	ND		1.0		ug/L			04/11/22 20:33	1
Chloromethane	ND		2.0		ug/L			04/11/22 20:33	1
cis-1,2-Dichloroethene	**6.3**		1.0		ug/L			04/11/22 20:33	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 20:33	1

Client Sample ID: DUP1

Lab Sample ID: 620-3810-7

Date Collected: 04/06/22 00:00
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Dibromomethane	ND		1.0		ug/L			04/11/22 20:33	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 20:33	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 20:33	1
Ethyl ether	ND		1.0		ug/L			04/11/22 20:33	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 20:33	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 20:33	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 20:33	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 20:33	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 20:33	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 20:33	1
Naphthalene	ND		2.0		ug/L			04/11/22 20:33	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
o-Xylene	ND		1.0		ug/L			04/11/22 20:33	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
Styrene	ND		1.0		ug/L			04/11/22 20:33	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 20:33	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 20:33	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 20:33	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 20:33	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 20:33	1
Toluene	**1.9**		1.0		ug/L			04/11/22 20:33	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 20:33	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 20:33	1
Trichloroethene	**2.1**		1.0		ug/L			04/11/22 20:33	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 20:33	1
Vinyl chloride	**1.9**		1.0		ug/L			04/11/22 20:33	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/11/22 20:33*	*1*
1,2-Dichloroethane-d4 (Surr)	*102*		*70 - 130*		*04/11/22 20:33*	*1*
4-Bromofluorobenzene (Surr)	*87*		*70 - 130*		*04/11/22 20:33*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.33**		0.20		ug/L		04/20/22 14:00	04/21/22 17:35	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*107*		*46 - 130*	*04/20/22 14:00*	*04/21/22 17:35*	*1*

Client Sample ID: DUP2

Lab Sample ID: 620-3810-8

Date Collected: 04/06/22 00:00
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		50		ug/L			04/11/22 22:24	50
1,1,1-Trichloroethane	ND		50		ug/L			04/11/22 22:24	50
1,1,2,2-Tetrachloroethane	ND		25		ug/L			04/11/22 22:24	50

Client Sample ID: DUP2

Date Collected: 04/06/22 00:00
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2-Trichloroethane	ND		50		ug/L			04/11/22 22:24	50
1,1-Dichloroethane	ND		50		ug/L			04/11/22 22:24	50
1,1-Dichloroethene	ND		50		ug/L			04/11/22 22:24	50
1,1-Dichloropropene	ND		50		ug/L			04/11/22 22:24	50
1,2,3-Trichlorobenzene	ND		50		ug/L			04/11/22 22:24	50
1,2,3-Trichloropropane	ND		50		ug/L			04/11/22 22:24	50
1,2,4-Trichlorobenzene	ND		50		ug/L			04/11/22 22:24	50
1,2,4-Trimethylbenzene	ND		50		ug/L			04/11/22 22:24	50
1,2-Dibromo-3-Chloropropane	ND		100		ug/L			04/11/22 22:24	50
1,2-Dichlorobenzene	ND		50		ug/L			04/11/22 22:24	50
1,2-Dichloroethane	ND		50		ug/L			04/11/22 22:24	50
1,2-Dichloropropane	ND		50		ug/L			04/11/22 22:24	50
1,3,5-Trimethylbenzene	ND		50		ug/L			04/11/22 22:24	50
1,3-Dichlorobenzene	ND		50		ug/L			04/11/22 22:24	50
1,3-Dichloropropane	ND		50		ug/L			04/11/22 22:24	50
1,4-Dichlorobenzene	ND		50		ug/L			04/11/22 22:24	50
1,4-Dioxane	ND		2500		ug/L			04/11/22 22:24	50
2,2-Dichloropropane	ND		50		ug/L			04/11/22 22:24	50
2-Butanone (MEK)	**210**		100		ug/L			04/11/22 22:24	50
2-Chlorotoluene	ND		50		ug/L			04/11/22 22:24	50
2-Hexanone	ND		100		ug/L			04/11/22 22:24	50
4-Chlorotoluene	ND		50		ug/L			04/11/22 22:24	50
4-Isopropyltoluene	ND		50		ug/L			04/11/22 22:24	50
4-Methyl-2-pentanone (MIBK)	ND		100		ug/L			04/11/22 22:24	50
Acetone	ND		500		ug/L			04/11/22 22:24	50
Benzene	ND		50		ug/L			04/11/22 22:24	50
Bromobenzene	ND		50		ug/L			04/11/22 22:24	50
Bromoform	ND		50		ug/L			04/11/22 22:24	50
Bromomethane	ND		100		ug/L			04/11/22 22:24	50
Carbon disulfide	ND		100		ug/L			04/11/22 22:24	50
Carbon tetrachloride	ND		50		ug/L			04/11/22 22:24	50
Chlorobenzene	ND		50		ug/L			04/11/22 22:24	50
Chlorobromomethane	ND		50		ug/L			04/11/22 22:24	50
Chlorodibromomethane	ND		25		ug/L			04/11/22 22:24	50
Chloroethane	ND		100		ug/L			04/11/22 22:24	50
Chloroform	ND		50		ug/L			04/11/22 22:24	50
Chloromethane	ND		100		ug/L			04/11/22 22:24	50
cis-1,2-Dichloroethene	ND		50		ug/L			04/11/22 22:24	50
cis-1,3-Dichloropropene	ND		25		ug/L			04/11/22 22:24	50
Dibromomethane	ND		50		ug/L			04/11/22 22:24	50
Dichlorobromomethane	ND		25		ug/L			04/11/22 22:24	50
Dichlorodifluoromethane	ND		100		ug/L			04/11/22 22:24	50
Ethyl ether	ND		50		ug/L			04/11/22 22:24	50
Ethylbenzene	ND		50		ug/L			04/11/22 22:24	50
Ethylene Dibromide	ND		25		ug/L			04/11/22 22:24	50
Hexachlorobutadiene	ND		50		ug/L			04/11/22 22:24	50
Isopropyl ether	ND		50		ug/L			04/11/22 22:24	50
Isopropylbenzene	ND		50		ug/L			04/11/22 22:24	50
Methyl tert-butyl ether	ND		50		ug/L			04/11/22 22:24	50

Client Sample ID: DUP2

Lab Sample ID: 620-3810-8

Date Collected: 04/06/22 00:00
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methylene Chloride	ND		100		ug/L			04/11/22 22:24	50
m-Xylene & p-Xylene	ND		50		ug/L			04/11/22 22:24	50
Naphthalene	ND		100		ug/L			04/11/22 22:24	50
n-Butylbenzene	ND		50		ug/L			04/11/22 22:24	50
N-Propylbenzene	ND		50		ug/L			04/11/22 22:24	50
o-Xylene	ND		50		ug/L			04/11/22 22:24	50
sec-Butylbenzene	ND		50		ug/L			04/11/22 22:24	50
Styrene	ND		50		ug/L			04/11/22 22:24	50
Tert-amyl methyl ether	ND		50		ug/L			04/11/22 22:24	50
Tert-butyl ethyl ether	ND		50		ug/L			04/11/22 22:24	50
tert-Butylbenzene	ND		50		ug/L			04/11/22 22:24	50
Tetrachloroethene	ND		50		ug/L			04/11/22 22:24	50
Tetrahydrofuran	ND		100		ug/L			04/11/22 22:24	50
Toluene	**51**		50		ug/L			04/11/22 22:24	50
trans-1,2-Dichloroethene	ND		50		ug/L			04/11/22 22:24	50
trans-1,3-Dichloropropene	ND		25		ug/L			04/11/22 22:24	50
Trichloroethene	ND		50		ug/L			04/11/22 22:24	50
Trichlorofluoromethane	ND		50		ug/L			04/11/22 22:24	50
Vinyl chloride	ND		50		ug/L			04/11/22 22:24	50

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/11/22 22:24*	*50*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*04/11/22 22:24*	*50*
4-Bromofluorobenzene (Surr)	*95*		*70 - 130*		*04/11/22 22:24*	*50*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND	*3	0.20		ug/L		04/20/22 14:00	04/22/22 10:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*6*	**3 S1-*	*46 - 130*	*04/20/22 14:00*	*04/22/22 10:17*	*1*

Client Sample ID: MW-563

Lab Sample ID: 620-3810-9

Date Collected: 04/07/22 10:30
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 17:48	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 17:48	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 17:48	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 17:48	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 17:48	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 17:48	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 17:48	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 17:48	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 17:48	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1

Client Sample ID: MW-563

Date Collected: 04/07/22 10:30
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 17:48	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 17:48	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 17:48	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1
1,4-Dioxane	ND		50		ug/L			04/11/22 17:48	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 17:48	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 17:48	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 17:48	1
2-Hexanone	ND		2.0		ug/L			04/11/22 17:48	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 17:48	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 17:48	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 17:48	1
Acetone	ND		10		ug/L			04/11/22 17:48	1
Benzene	ND		1.0		ug/L			04/11/22 17:48	1
Bromobenzene	ND		1.0		ug/L			04/11/22 17:48	1
Bromoform	ND		1.0		ug/L			04/11/22 17:48	1
Bromomethane	ND		2.0		ug/L			04/11/22 17:48	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 17:48	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 17:48	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 17:48	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 17:48	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 17:48	1
Chloroethane	ND		2.0		ug/L			04/11/22 17:48	1
Chloroform	ND		1.0		ug/L			04/11/22 17:48	1
Chloromethane	ND		2.0		ug/L			04/11/22 17:48	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 17:48	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 17:48	1
Dibromomethane	ND		1.0		ug/L			04/11/22 17:48	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 17:48	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 17:48	1
Ethyl ether	ND		1.0		ug/L			04/11/22 17:48	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 17:48	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 17:48	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 17:48	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 17:48	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 17:48	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 17:48	1
Naphthalene	ND		2.0		ug/L			04/11/22 17:48	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
o-Xylene	ND		1.0		ug/L			04/11/22 17:48	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
Styrene	ND		1.0		ug/L			04/11/22 17:48	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 17:48	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 17:48	1

Client Sample ID: MW-563

Lab Sample ID: 620-3810-9

Date Collected: 04/07/22 10:30
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 17:48	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 17:48	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 17:48	1
Toluene	ND		1.0		ug/L			04/11/22 17:48	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 17:48	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 17:48	1
Trichloroethene	ND		1.0		ug/L			04/11/22 17:48	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 17:48	1
Vinyl chloride	ND		1.0		ug/L			04/11/22 17:48	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/11/22 17:48*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*04/11/22 17:48*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*04/11/22 17:48*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.22**		0.20		ug/L		04/20/22 14:00	04/21/22 18:02	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*108*		*46 - 130*	*04/20/22 14:00*	*04/21/22 18:02*	*1*

Client Sample ID: REW-7

Lab Sample ID: 620-3810-10

Date Collected: 04/07/22 10:45
Matrix: Water
Date Received: 04/07/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 18:13	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 18:13	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 18:13	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 18:13	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 18:13	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 18:13	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 18:13	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 18:13	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 18:13	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 18:13	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 18:13	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 18:13	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
1,4-Dioxane	ND		50		ug/L			04/11/22 18:13	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 18:13	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 18:13	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 18:13	1

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: REW-7

Date Collected: 04/07/22 10:45
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2-Hexanone	ND		2.0		ug/L			04/11/22 18:13	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 18:13	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 18:13	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 18:13	1
Acetone	ND		10		ug/L			04/11/22 18:13	1
Benzene	ND		1.0		ug/L			04/11/22 18:13	1
Bromobenzene	ND		1.0		ug/L			04/11/22 18:13	1
Bromoform	ND		1.0		ug/L			04/11/22 18:13	1
Bromomethane	ND		2.0		ug/L			04/11/22 18:13	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 18:13	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 18:13	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 18:13	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 18:13	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 18:13	1
Chloroethane	ND		2.0		ug/L			04/11/22 18:13	1
Chloroform	ND		1.0		ug/L			04/11/22 18:13	1
Chloromethane	ND		2.0		ug/L			04/11/22 18:13	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 18:13	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 18:13	1
Dibromomethane	ND		1.0		ug/L			04/11/22 18:13	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 18:13	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 18:13	1
Ethyl ether	ND		1.0		ug/L			04/11/22 18:13	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 18:13	1
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 18:13	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 18:13	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 18:13	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 18:13	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 18:13	1
Naphthalene	ND		2.0		ug/L			04/11/22 18:13	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
o-Xylene	ND		1.0		ug/L			04/11/22 18:13	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
Styrene	ND		1.0		ug/L			04/11/22 18:13	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 18:13	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 18:13	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 18:13	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 18:13	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 18:13	1
Toluene	ND		1.0		ug/L			04/11/22 18:13	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 18:13	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 18:13	1
Trichloroethene	ND		1.0		ug/L			04/11/22 18:13	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 18:13	1
Vinyl chloride	ND		1.0		ug/L			04/11/22 18:13	1

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: REW-7

Date Collected: 04/07/22 10:45
Date Received: 04/07/22 17:52

Lab Sample ID: 620-3810-10

Matrix: Water

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/11/22 18:13*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*04/11/22 18:13*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*04/11/22 18:13*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/20/22 14:00	04/21/22 18:15	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*98*		*46 - 130*	*04/20/22 14:00*	*04/21/22 18:15*	*1*

Surrogate Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
620-3810-1	MW-268S	98	103	87
620-3810-1 - DL	MW-268S	98	0 S1-	85
620-3810-2	MW-268M	99	104	86
620-3810-2 - DL	MW-268M	98	107	88
620-3810-3	MW-268D	96	102	86
620-3810-4	REW-11	97	107	85
620-3810-5	MW-267S	101	108	100
620-3810-6	REW-6	97	103	87
620-3810-7	DUP1	96	102	87
620-3810-8	DUP2	100	106	95
620-3810-9	MW-563	98	105	86
620-3810-10	REW-7	98	104	88
LCS 620-9688/5	Lab Control Sample	97	103	102
LCS 620-9758/5	Lab Control Sample	98	101	99
LCSD 620-9688/6	Lab Control Sample Dup	96	100	101
LCSD 620-9758/6	Lab Control Sample Dup	98	103	102
MB 620-9688/10	Method Blank	96	104	88
MB 620-9758/10	Method Blank	98	106	86

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(46-130)
620-3810-1	MW-268S	0 S1-
620-3810-2	MW-268M	90
620-3810-3	MW-268D	99
620-3810-4	REW-11	83
620-3810-5	MW-267S	5 S1-
620-3810-6	REW-6	88
620-3810-7	DUP1	107
620-3810-8	DUP2	6 *3 S1-
620-3810-9	MW-563	108
620-3810-10	REW-7	98
LLCS 200-178969/2-A	Lab Control Sample	93
LLCSD 200-178969/3-A	Lab Control Sample Dup	90
MB 200-178969/1-A	Method Blank	86

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 620-9688/10
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/11/22 13:58	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/11/22 13:58	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/11/22 13:58	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/11/22 13:58	1
1,1-Dichloroethane	ND		1.0		ug/L			04/11/22 13:58	1
1,1-Dichloroethene	ND		1.0		ug/L			04/11/22 13:58	1
1,1-Dichloropropene	ND		1.0		ug/L			04/11/22 13:58	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/11/22 13:58	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/11/22 13:58	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,2-Dichloroethane	ND		1.0		ug/L			04/11/22 13:58	1
1,2-Dichloropropane	ND		1.0		ug/L			04/11/22 13:58	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,3-Dichloropropane	ND		1.0		ug/L			04/11/22 13:58	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
1,4-Dioxane	ND		50		ug/L			04/11/22 13:58	1
2,2-Dichloropropane	ND		1.0		ug/L			04/11/22 13:58	1
2-Butanone (MEK)	ND		2.0		ug/L			04/11/22 13:58	1
2-Chlorotoluene	ND		1.0		ug/L			04/11/22 13:58	1
2-Hexanone	ND		2.0		ug/L			04/11/22 13:58	1
4-Chlorotoluene	ND		1.0		ug/L			04/11/22 13:58	1
4-Isopropyltoluene	ND		1.0		ug/L			04/11/22 13:58	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/11/22 13:58	1
Acetone	ND		10		ug/L			04/11/22 13:58	1
Benzene	ND		1.0		ug/L			04/11/22 13:58	1
Bromobenzene	ND		1.0		ug/L			04/11/22 13:58	1
Bromoform	ND		1.0		ug/L			04/11/22 13:58	1
Bromomethane	ND		2.0		ug/L			04/11/22 13:58	1
Carbon disulfide	ND		2.0		ug/L			04/11/22 13:58	1
Carbon tetrachloride	ND		1.0		ug/L			04/11/22 13:58	1
Chlorobenzene	ND		1.0		ug/L			04/11/22 13:58	1
Chlorobromomethane	ND		1.0		ug/L			04/11/22 13:58	1
Chlorodibromomethane	ND		0.50		ug/L			04/11/22 13:58	1
Chloroethane	ND		2.0		ug/L			04/11/22 13:58	1
Chloroform	ND		1.0		ug/L			04/11/22 13:58	1
Chloromethane	ND		2.0		ug/L			04/11/22 13:58	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 13:58	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 13:58	1
Dibromomethane	ND		1.0		ug/L			04/11/22 13:58	1
Dichlorobromomethane	ND		0.50		ug/L			04/11/22 13:58	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/11/22 13:58	1
Ethyl ether	ND		1.0		ug/L			04/11/22 13:58	1
Ethylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
Ethylene Dibromide	ND		0.50		ug/L			04/11/22 13:58	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9688/10
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0		ug/L			04/11/22 13:58	1
Isopropyl ether	ND		1.0		ug/L			04/11/22 13:58	1
Isopropylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/11/22 13:58	1
Methylene Chloride	ND		2.0		ug/L			04/11/22 13:58	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/11/22 13:58	1
Naphthalene	ND		2.0		ug/L			04/11/22 13:58	1
n-Butylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
N-Propylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
o-Xylene	ND		1.0		ug/L			04/11/22 13:58	1
sec-Butylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
Styrene	ND		1.0		ug/L			04/11/22 13:58	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/11/22 13:58	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/11/22 13:58	1
tert-Butylbenzene	ND		1.0		ug/L			04/11/22 13:58	1
Tetrachloroethene	ND		1.0		ug/L			04/11/22 13:58	1
Tetrahydrofuran	ND		2.0		ug/L			04/11/22 13:58	1
Toluene	ND		1.0		ug/L			04/11/22 13:58	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/11/22 13:58	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/11/22 13:58	1
Trichloroethene	ND		1.0		ug/L			04/11/22 13:58	1
Trichlorofluoromethane	ND		1.0		ug/L			04/11/22 13:58	1
Vinyl chloride	ND		1.0		ug/L			04/11/22 13:58	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*96*		*70 - 130*		*04/11/22 13:58*	*1*
1,2-Dichloroethane-d4 (Surr)	*104*		*70 - 130*		*04/11/22 13:58*	*1*
4-Bromofluorobenzene (Surr)	*88*		*70 - 130*		*04/11/22 13:58*	*1*

Lab Sample ID: LCS 620-9688/5
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	21.3		ug/L		106	70 - 130
1,1,1-Trichloroethane	20.0	19.8		ug/L		99	70 - 130
1,1,2,2-Tetrachloroethane	20.0	20.8		ug/L		104	70 - 130
1,1,2-Trichloroethane	20.0	21.4		ug/L		107	70 - 130
1,1-Dichloroethane	20.0	19.5		ug/L		98	70 - 130
1,1-Dichloroethene	20.0	20.0		ug/L		100	70 - 130
1,1-Dichloropropene	20.0	18.2		ug/L		91	70 - 130
1,2,3-Trichlorobenzene	20.0	23.7		ug/L		118	70 - 130
1,2,3-Trichloropropane	20.0	21.5		ug/L		107	70 - 130
1,2,4-Trichlorobenzene	20.0	24.2		ug/L		121	70 - 130
1,2,4-Trimethylbenzene	20.0	23.5		ug/L		118	70 - 130
1,2-Dibromo-3-Chloropropane	20.0	22.2		ug/L		111	70 - 130
1,2-Dichlorobenzene	20.0	22.6		ug/L		113	70 - 130
1,2-Dichloroethane	20.0	19.5		ug/L		98	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-9688/5
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	20.0	19.7		ug/L		98	70 - 130
1,3,5-Trimethylbenzene	20.0	23.4		ug/L		117	70 - 130
1,3-Dichlorobenzene	20.0	21.7		ug/L		108	70 - 130
1,3-Dichloropropane	20.0	20.3		ug/L		101	70 - 130
1,4-Dichlorobenzene	20.0	21.0		ug/L		105	70 - 130
1,4-Dioxane	200	173		ug/L		87	70 - 130
2,2-Dichloropropane	20.0	21.0		ug/L		105	70 - 130
2-Butanone (MEK)	20.0	19.6		ug/L		98	70 - 130
2-Chlorotoluene	20.0	20.4		ug/L		102	70 - 130
2-Hexanone	20.0	17.2		ug/L		86	70 - 130
4-Chlorotoluene	20.0	22.8		ug/L		114	70 - 130
4-Isopropyltoluene	20.0	22.8		ug/L		114	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	18.8		ug/L		94	70 - 130
Acetone	20.0	16.3		ug/L		82	70 - 130
Benzene	20.0	20.1		ug/L		101	70 - 130
Bromobenzene	20.0	20.8		ug/L		104	70 - 130
Bromoform	20.0	22.8		ug/L		114	70 - 130
Bromomethane	20.0	17.9		ug/L		90	70 - 130
Carbon disulfide	20.0	19.5		ug/L		97	70 - 130
Carbon tetrachloride	20.0	21.1		ug/L		105	70 - 130
Chlorobenzene	20.0	20.5		ug/L		102	70 - 130
Chlorobromomethane	20.0	20.8		ug/L		104	70 - 130
Chlorodibromomethane	20.0	20.8		ug/L		104	70 - 130
Chloroethane	20.0	20.3		ug/L		101	70 - 130
Chloroform	20.0	20.1		ug/L		101	70 - 130
Chloromethane	20.0	18.0		ug/L		90	70 - 130
cis-1,2-Dichloroethene	20.0	19.1		ug/L		96	70 - 130
cis-1,3-Dichloropropene	20.0	19.5		ug/L		98	70 - 130
Dibromomethane	20.0	19.1		ug/L		96	70 - 130
Dichlorobromomethane	20.0	20.1		ug/L		100	70 - 130
Dichlorodifluoromethane	20.0	20.6		ug/L		103	70 - 130
Ethyl ether	20.0	20.0		ug/L		100	70 - 130
Ethylbenzene	20.0	21.8		ug/L		109	70 - 130
Ethylene Dibromide	20.0	20.2		ug/L		101	70 - 130
Hexachlorobutadiene	20.0	20.4		ug/L		102	70 - 130
Isopropyl ether	20.0	19.8		ug/L		99	70 - 130
Isopropylbenzene	20.0	22.0		ug/L		110	70 - 130
Methyl tert-butyl ether	20.0	19.7		ug/L		99	70 - 130
Methylene Chloride	20.0	19.2		ug/L		96	70 - 130
m-Xylene & p-Xylene	20.0	20.1		ug/L		101	70 - 130
Naphthalene	20.0	21.1		ug/L		105	70 - 130
n-Butylbenzene	20.0	24.7		ug/L		123	70 - 130
N-Propylbenzene	20.0	20.9		ug/L		104	70 - 130
o-Xylene	20.0	21.7		ug/L		108	70 - 130
sec-Butylbenzene	20.0	23.1		ug/L		116	70 - 130
Styrene	20.0	22.8		ug/L		114	70 - 130
Tert-amyl methyl ether	20.0	25.4		ug/L		127	70 - 130
Tert-butyl ethyl ether	20.0	22.2		ug/L		111	70 - 130
tert-Butylbenzene	20.0	21.7		ug/L		108	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-9688/5
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	20.0	19.6		ug/L		98	70 - 130
Tetrahydrofuran	20.0	20.3		ug/L		102	70 - 130
Toluene	20.0	19.5		ug/L		98	70 - 130
trans-1,2-Dichloroethene	20.0	19.5		ug/L		97	70 - 130
trans-1,3-Dichloropropene	20.0	21.3		ug/L		107	70 - 130
Trichloroethene	20.0	20.2		ug/L		101	70 - 130
Trichlorofluoromethane	20.0	21.3		ug/L		107	70 - 130
Vinyl chloride	20.0	19.5		ug/L		98	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*97*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Lab Sample ID: LCSD 620-9688/6
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	21.7		ug/L		108	70 - 130	2	20
1,1,1-Trichloroethane	20.0	19.5		ug/L		97	70 - 130	2	20
1,1,2,2-Tetrachloroethane	20.0	21.2		ug/L		106	70 - 130	2	20
1,1,2-Trichloroethane	20.0	21.1		ug/L		105	70 - 130	2	20
1,1-Dichloroethane	20.0	19.7		ug/L		98	70 - 130	1	20
1,1-Dichloroethene	20.0	19.9		ug/L		99	70 - 130	0	20
1,1-Dichloropropene	20.0	17.9		ug/L		90	70 - 130	1	20
1,2,3-Trichlorobenzene	20.0	26.0		ug/L		130	70 - 130	9	20
1,2,3-Trichloropropane	20.0	21.4		ug/L		107	70 - 130	0	20
1,2,4-Trichlorobenzene	20.0	25.5		ug/L		127	70 - 130	5	20
1,2,4-Trimethylbenzene	20.0	23.3		ug/L		116	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	20.0	21.8		ug/L		109	70 - 130	2	20
1,2-Dichlorobenzene	20.0	23.6		ug/L		118	70 - 130	5	20
1,2-Dichloroethane	20.0	19.5		ug/L		97	70 - 130	0	20
1,2-Dichloropropane	20.0	19.7		ug/L		98	70 - 130	0	20
1,3,5-Trimethylbenzene	20.0	23.7		ug/L		118	70 - 130	1	20
1,3-Dichlorobenzene	20.0	21.9		ug/L		110	70 - 130	1	20
1,3-Dichloropropane	20.0	20.5		ug/L		102	70 - 130	1	20
1,4-Dichlorobenzene	20.0	21.6		ug/L		108	70 - 130	3	20
1,4-Dioxane	200	183		ug/L		92	70 - 130	6	20
2,2-Dichloropropane	20.0	20.7		ug/L		103	70 - 130	1	20
2-Butanone (MEK)	20.0	20.0		ug/L		100	70 - 130	2	20
2-Chlorotoluene	20.0	20.7		ug/L		104	70 - 130	1	20
2-Hexanone	20.0	17.6		ug/L		88	70 - 130	2	20
4-Chlorotoluene	20.0	23.0		ug/L		115	70 - 130	1	20
4-Isopropyltoluene	20.0	23.3		ug/L		117	70 - 130	3	20
4-Methyl-2-pentanone (MIBK)	20.0	18.7		ug/L		94	70 - 130	1	20
Acetone	20.0	16.7		ug/L		84	70 - 130	2	20
Benzene	20.0	20.1		ug/L		101	70 - 130	0	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 620-9688/6
Matrix: Water
Analysis Batch: 9688

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromobenzene	20.0	21.4		ug/L		107	70 - 130	3	20
Bromoform	20.0	22.7		ug/L		114	70 - 130	0	20
Bromomethane	20.0	18.0		ug/L		90	70 - 130	0	20
Carbon disulfide	20.0	19.8		ug/L		99	70 - 130	1	20
Carbon tetrachloride	20.0	21.5		ug/L		108	70 - 130	2	20
Chlorobenzene	20.0	20.9		ug/L		104	70 - 130	2	20
Chlorobromomethane	20.0	20.6		ug/L		103	70 - 130	1	20
Chlorodibromomethane	20.0	20.3		ug/L		102	70 - 130	2	20
Chloroethane	20.0	19.4		ug/L		97	70 - 130	4	20
Chloroform	20.0	19.9		ug/L		100	70 - 130	1	20
Chloromethane	20.0	18.7		ug/L		94	70 - 130	4	20
cis-1,2-Dichloroethene	20.0	19.2		ug/L		96	70 - 130	1	20
cis-1,3-Dichloropropene	20.0	19.9		ug/L		99	70 - 130	2	20
Dibromomethane	20.0	19.6		ug/L		98	70 - 130	3	20
Dichlorobromomethane	20.0	20.4		ug/L		102	70 - 130	2	20
Dichlorodifluoromethane	20.0	20.6		ug/L		103	70 - 130	0	20
Ethyl ether	20.0	20.1		ug/L		100	70 - 130	0	20
Ethylbenzene	20.0	22.4		ug/L		112	70 - 130	3	20
Ethylene Dibromide	20.0	20.6		ug/L		103	70 - 130	2	20
Hexachlorobutadiene	20.0	21.1		ug/L		105	70 - 130	3	20
Isopropyl ether	20.0	19.9		ug/L		100	70 - 130	1	20
Isopropylbenzene	20.0	22.4		ug/L		112	70 - 130	2	20
Methyl tert-butyl ether	20.0	19.2		ug/L		96	70 - 130	3	20
Methylene Chloride	20.0	19.3		ug/L		97	70 - 130	1	20
m-Xylene & p-Xylene	20.0	20.7		ug/L		103	70 - 130	3	20
Naphthalene	20.0	23.6		ug/L		118	70 - 130	11	20
n-Butylbenzene	20.0	25.9		ug/L		130	70 - 130	5	20
N-Propylbenzene	20.0	21.0		ug/L		105	70 - 130	1	20
o-Xylene	20.0	22.0		ug/L		110	70 - 130	2	20
sec-Butylbenzene	20.0	23.0		ug/L		115	70 - 130	1	20
Styrene	20.0	23.2		ug/L		116	70 - 130	2	20
Tert-amyl methyl ether	20.0	21.7		ug/L		108	70 - 130	16	20
Tert-butyl ethyl ether	20.0	20.2		ug/L		101	70 - 130	10	20
tert-Butylbenzene	20.0	21.5		ug/L		108	70 - 130	1	20
Tetrachloroethene	20.0	19.7		ug/L		98	70 - 130	0	20
Tetrahydrofuran	20.0	18.9		ug/L		95	70 - 130	7	20
Toluene	20.0	19.6		ug/L		98	70 - 130	1	20
trans-1,2-Dichloroethene	20.0	19.5		ug/L		98	70 - 130	0	20
trans-1,3-Dichloropropene	20.0	21.2		ug/L		106	70 - 130	1	20
Trichloroethene	20.0	20.1		ug/L		100	70 - 130	1	20
Trichlorofluoromethane	20.0	20.9		ug/L		104	70 - 130	2	20
Vinyl chloride	20.0	19.6		ug/L		98	70 - 130	0	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*96*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*100*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9758/10
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/13/22 12:56	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/13/22 12:56	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/13/22 12:56	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/13/22 12:56	1
1,1-Dichloroethane	ND		1.0		ug/L			04/13/22 12:56	1
1,1-Dichloroethene	ND		1.0		ug/L			04/13/22 12:56	1
1,1-Dichloropropene	ND		1.0		ug/L			04/13/22 12:56	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/13/22 12:56	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/13/22 12:56	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,2-Dichloroethane	ND		1.0		ug/L			04/13/22 12:56	1
1,2-Dichloropropane	ND		1.0		ug/L			04/13/22 12:56	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,3-Dichloropropane	ND		1.0		ug/L			04/13/22 12:56	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
1,4-Dioxane	ND		50		ug/L			04/13/22 12:56	1
2,2-Dichloropropane	ND		1.0		ug/L			04/13/22 12:56	1
2-Butanone (MEK)	ND		2.0		ug/L			04/13/22 12:56	1
2-Chlorotoluene	ND		1.0		ug/L			04/13/22 12:56	1
2-Hexanone	ND		2.0		ug/L			04/13/22 12:56	1
4-Chlorotoluene	ND		1.0		ug/L			04/13/22 12:56	1
4-Isopropyltoluene	ND		1.0		ug/L			04/13/22 12:56	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/13/22 12:56	1
Acetone	ND		10		ug/L			04/13/22 12:56	1
Benzene	ND		1.0		ug/L			04/13/22 12:56	1
Bromobenzene	ND		1.0		ug/L			04/13/22 12:56	1
Bromoform	ND		1.0		ug/L			04/13/22 12:56	1
Bromomethane	ND		2.0		ug/L			04/13/22 12:56	1
Carbon disulfide	ND		2.0		ug/L			04/13/22 12:56	1
Carbon tetrachloride	ND		1.0		ug/L			04/13/22 12:56	1
Chlorobenzene	ND		1.0		ug/L			04/13/22 12:56	1
Chlorobromomethane	ND		1.0		ug/L			04/13/22 12:56	1
Chlorodibromomethane	ND		0.50		ug/L			04/13/22 12:56	1
Chloroethane	ND		2.0		ug/L			04/13/22 12:56	1
Chloroform	ND		1.0		ug/L			04/13/22 12:56	1
Chloromethane	ND		2.0		ug/L			04/13/22 12:56	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/13/22 12:56	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/13/22 12:56	1
Dibromomethane	ND		1.0		ug/L			04/13/22 12:56	1
Dichlorobromomethane	ND		0.50		ug/L			04/13/22 12:56	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/13/22 12:56	1
Ethyl ether	ND		1.0		ug/L			04/13/22 12:56	1
Ethylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
Ethylene Dibromide	ND		0.50		ug/L			04/13/22 12:56	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9758/10
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		1.0		ug/L			04/13/22 12:56	1
Isopropyl ether	ND		1.0		ug/L			04/13/22 12:56	1
Isopropylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/13/22 12:56	1
Methylene Chloride	ND		2.0		ug/L			04/13/22 12:56	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/13/22 12:56	1
Naphthalene	ND		2.0		ug/L			04/13/22 12:56	1
n-Butylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
N-Propylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
o-Xylene	ND		1.0		ug/L			04/13/22 12:56	1
sec-Butylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
Styrene	ND		1.0		ug/L			04/13/22 12:56	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/13/22 12:56	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/13/22 12:56	1
tert-Butylbenzene	ND		1.0		ug/L			04/13/22 12:56	1
Tetrachloroethene	ND		1.0		ug/L			04/13/22 12:56	1
Tetrahydrofuran	ND		2.0		ug/L			04/13/22 12:56	1
Toluene	ND		1.0		ug/L			04/13/22 12:56	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/13/22 12:56	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/13/22 12:56	1
Trichloroethene	ND		1.0		ug/L			04/13/22 12:56	1
Trichlorofluoromethane	ND		1.0		ug/L			04/13/22 12:56	1
Vinyl chloride	ND		1.0		ug/L			04/13/22 12:56	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/13/22 12:56*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*04/13/22 12:56*	*1*
4-Bromofluorobenzene (Surr)	*86*		*70 - 130*		*04/13/22 12:56*	*1*

Lab Sample ID: LCS 620-9758/5
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	22.9		ug/L		114	70 - 130
1,1,1-Trichloroethane	20.0	20.4		ug/L		102	70 - 130
1,1,2,2-Tetrachloroethane	20.0	22.8		ug/L		114	70 - 130
1,1,2-Trichloroethane	20.0	22.9		ug/L		114	70 - 130
1,1-Dichloroethane	20.0	20.0		ug/L		100	70 - 130
1,1-Dichloroethene	20.0	20.6		ug/L		103	70 - 130
1,1-Dichloropropene	20.0	18.4		ug/L		92	70 - 130
1,2,3-Trichlorobenzene	20.0	25.6		ug/L		128	70 - 130
1,2,3-Trichloropropane	20.0	23.5		ug/L		118	70 - 130
1,2,4-Trichlorobenzene	20.0	24.4		ug/L		122	70 - 130
1,2,4-Trimethylbenzene	20.0	23.2		ug/L		116	70 - 130
1,2-Dibromo-3-Chloropropane	20.0	22.0		ug/L		110	70 - 130
1,2-Dichlorobenzene	20.0	23.9		ug/L		119	70 - 130
1,2-Dichloroethane	20.0	20.2		ug/L		101	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-9758/5
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	20.0	20.3		ug/L		101	70 - 130
1,3,5-Trimethylbenzene	20.0	23.6		ug/L		118	70 - 130
1,3-Dichlorobenzene	20.0	22.4		ug/L		112	70 - 130
1,3-Dichloropropane	20.0	21.3		ug/L		107	70 - 130
1,4-Dichlorobenzene	20.0	22.5		ug/L		113	70 - 130
1,4-Dioxane	200	197		ug/L		98	70 - 130
2,2-Dichloropropane	20.0	20.7		ug/L		103	70 - 130
2-Butanone (MEK)	20.0	23.1		ug/L		116	70 - 130
2-Chlorotoluene	20.0	20.8		ug/L		104	70 - 130
2-Hexanone	20.0	20.9		ug/L		105	70 - 130
4-Chlorotoluene	20.0	23.0		ug/L		115	70 - 130
4-Isopropyltoluene	20.0	22.6		ug/L		113	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	21.5		ug/L		107	70 - 130
Acetone	20.0	20.1		ug/L		100	70 - 130
Benzene	20.0	20.4		ug/L		102	70 - 130
Bromobenzene	20.0	22.2		ug/L		111	70 - 130
Bromoform	20.0	24.1		ug/L		120	70 - 130
Bromomethane	20.0	18.9		ug/L		95	70 - 130
Carbon disulfide	20.0	20.9		ug/L		104	70 - 130
Carbon tetrachloride	20.0	22.2		ug/L		111	70 - 130
Chlorobenzene	20.0	22.0		ug/L		110	70 - 130
Chlorobromomethane	20.0	22.0		ug/L		110	70 - 130
Chlorodibromomethane	20.0	21.7		ug/L		108	70 - 130
Chloroethane	20.0	20.8		ug/L		104	70 - 130
Chloroform	20.0	20.7		ug/L		104	70 - 130
Chloromethane	20.0	19.7		ug/L		98	70 - 130
cis-1,2-Dichloroethene	20.0	18.9		ug/L		94	70 - 130
cis-1,3-Dichloropropene	20.0	19.5		ug/L		97	70 - 130
Dibromomethane	20.0	20.7		ug/L		103	70 - 130
Dichlorobromomethane	20.0	21.0		ug/L		105	70 - 130
Dichlorodifluoromethane	20.0	21.5		ug/L		108	70 - 130
Ethyl ether	20.0	20.6		ug/L		103	70 - 130
Ethylbenzene	20.0	23.1		ug/L		116	70 - 130
Ethylene Dibromide	20.0	21.7		ug/L		108	70 - 130
Hexachlorobutadiene	20.0	21.6		ug/L		108	70 - 130
Isopropyl ether	20.0	19.8		ug/L		99	70 - 130
Isopropylbenzene	20.0	22.4		ug/L		112	70 - 130
Methyl tert-butyl ether	20.0	17.8		ug/L		89	70 - 130
Methylene Chloride	20.0	20.6		ug/L		103	70 - 130
m-Xylene & p-Xylene	20.0	20.4		ug/L		102	70 - 130
Naphthalene	20.0	21.9		ug/L		110	70 - 130
n-Butylbenzene	20.0	25.2		ug/L		126	70 - 130
N-Propylbenzene	20.0	21.1		ug/L		106	70 - 130
o-Xylene	20.0	21.9		ug/L		109	70 - 130
sec-Butylbenzene	20.0	23.2		ug/L		116	70 - 130
Styrene	20.0	22.7		ug/L		114	70 - 130
Tert-amyl methyl ether	20.0	18.1		ug/L		91	70 - 130
Tert-butyl ethyl ether	20.0	16.6		ug/L		83	70 - 130
tert-Butylbenzene	20.0	21.5		ug/L		108	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-9758/5
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrachloroethene	20.0	20.8		ug/L		104	70 - 130
Tetrahydrofuran	20.0	19.5		ug/L		97	70 - 130
Toluene	20.0	20.8		ug/L		104	70 - 130
trans-1,2-Dichloroethene	20.0	19.8		ug/L		99	70 - 130
trans-1,3-Dichloropropene	20.0	21.6		ug/L		108	70 - 130
Trichloroethene	20.0	21.8		ug/L		109	70 - 130
Trichlorofluoromethane	20.0	20.4		ug/L		102	70 - 130
Vinyl chloride	20.0	21.4		ug/L		107	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*101*		*70 - 130*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*

Lab Sample ID: LCSD 620-9758/6
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	21.3		ug/L		107	70 - 130	7	20
1,1,1-Trichloroethane	20.0	19.6		ug/L		98	70 - 130	4	20
1,1,2,2-Tetrachloroethane	20.0	21.1		ug/L		106	70 - 130	8	20
1,1,2-Trichloroethane	20.0	21.0		ug/L		105	70 - 130	9	20
1,1-Dichloroethane	20.0	19.4		ug/L		97	70 - 130	3	20
1,1-Dichloroethene	20.0	19.6		ug/L		98	70 - 130	5	20
1,1-Dichloropropene	20.0	17.5		ug/L		88	70 - 130	5	20
1,2,3-Trichlorobenzene	20.0	25.5		ug/L		128	70 - 130	0	20
1,2,3-Trichloropropane	20.0	21.8		ug/L		109	70 - 130	8	20
1,2,4-Trichlorobenzene	20.0	24.6		ug/L		123	70 - 130	1	20
1,2,4-Trimethylbenzene	20.0	22.9		ug/L		115	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	20.0	20.9		ug/L		104	70 - 130	5	20
1,2-Dichlorobenzene	20.0	22.5		ug/L		113	70 - 130	6	20
1,2-Dichloroethane	20.0	19.4		ug/L		97	70 - 130	4	20
1,2-Dichloropropane	20.0	19.4		ug/L		97	70 - 130	5	20
1,3,5-Trimethylbenzene	20.0	23.3		ug/L		116	70 - 130	2	20
1,3-Dichlorobenzene	20.0	21.6		ug/L		108	70 - 130	3	20
1,3-Dichloropropane	20.0	20.3		ug/L		101	70 - 130	5	20
1,4-Dichlorobenzene	20.0	21.0		ug/L		105	70 - 130	7	20
1,4-Dioxane	200	187		ug/L		94	70 - 130	5	20
2,2-Dichloropropane	20.0	20.0		ug/L		100	70 - 130	4	20
2-Butanone (MEK)	20.0	20.3		ug/L		102	70 - 130	13	20
2-Chlorotoluene	20.0	20.2		ug/L		101	70 - 130	3	20
2-Hexanone	20.0	18.6		ug/L		93	70 - 130	12	20
4-Chlorotoluene	20.0	22.5		ug/L		113	70 - 130	2	20
4-Isopropyltoluene	20.0	22.1		ug/L		110	70 - 130	2	20
4-Methyl-2-pentanone (MIBK)	20.0	19.1		ug/L		96	70 - 130	12	20
Acetone	20.0	18.2		ug/L		91	70 - 130	10	20
Benzene	20.0	19.8		ug/L		99	70 - 130	3	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 620-9758/6
Matrix: Water
Analysis Batch: 9758

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromobenzene			20.0	21.3		ug/L		107	70 - 130	4	20
Bromoform			20.0	23.1		ug/L		115	70 - 130	4	20
Bromomethane			20.0	17.8		ug/L		89	70 - 130	6	20
Carbon disulfide			20.0	20.0		ug/L		100	70 - 130	5	20
Carbon tetrachloride			20.0	20.8		ug/L		104	70 - 130	7	20
Chlorobenzene			20.0	20.7		ug/L		103	70 - 130	6	20
Chlorobromomethane			20.0	20.4		ug/L		102	70 - 130	8	20
Chlorodibromomethane			20.0	20.3		ug/L		102	70 - 130	6	20
Chloroethane			20.0	23.2		ug/L		116	70 - 130	11	20
Chloroform			20.0	19.6		ug/L		98	70 - 130	5	20
Chloromethane			20.0	18.2		ug/L		91	70 - 130	8	20
cis-1,2-Dichloroethene			20.0	18.2		ug/L		91	70 - 130	3	20
cis-1,3-Dichloropropene			20.0	18.8		ug/L		94	70 - 130	4	20
Dibromomethane			20.0	19.4		ug/L		97	70 - 130	6	20
Dichlorobromomethane			20.0	19.8		ug/L		99	70 - 130	6	20
Dichlorodifluoromethane			20.0	20.3		ug/L		102	70 - 130	6	20
Ethyl ether			20.0	20.0		ug/L		100	70 - 130	3	20
Ethylbenzene			20.0	22.1		ug/L		111	70 - 130	4	20
Ethylene Dibromide			20.0	20.1		ug/L		101	70 - 130	8	20
Hexachlorobutadiene			20.0	20.6		ug/L		103	70 - 130	5	20
Isopropyl ether			20.0	19.1		ug/L		96	70 - 130	3	20
Isopropylbenzene			20.0	21.8		ug/L		109	70 - 130	3	20
Methyl tert-butyl ether			20.0	17.6		ug/L		88	70 - 130	1	20
Methylene Chloride			20.0	19.3		ug/L		97	70 - 130	6	20
m-Xylene & p-Xylene			20.0	19.7		ug/L		98	70 - 130	4	20
Naphthalene			20.0	21.8		ug/L		109	70 - 130	1	20
n-Butylbenzene			20.0	25.0		ug/L		125	70 - 130	1	20
N-Propylbenzene			20.0	20.7		ug/L		104	70 - 130	2	20
o-Xylene			20.0	21.1		ug/L		105	70 - 130	4	20
sec-Butylbenzene			20.0	22.9		ug/L		114	70 - 130	1	20
Styrene			20.0	22.2		ug/L		111	70 - 130	2	20
Tert-amyl methyl ether			20.0	20.0		ug/L		100	70 - 130	9	20
Tert-butyl ethyl ether			20.0	18.1		ug/L		91	70 - 130	9	20
tert-Butylbenzene			20.0	21.4		ug/L		107	70 - 130	1	20
Tetrachloroethene			20.0	19.9		ug/L		100	70 - 130	4	20
Tetrahydrofuran			20.0	19.4		ug/L		97	70 - 130	0	20
Toluene			20.0	19.6		ug/L		98	70 - 130	6	20
trans-1,2-Dichloroethene			20.0	18.9		ug/L		95	70 - 130	5	20
trans-1,3-Dichloropropene			20.0	21.0		ug/L		105	70 - 130	3	20
Trichloroethene			20.0	20.4		ug/L		102	70 - 130	6	20
Trichlorofluoromethane			20.0	19.0		ug/L		95	70 - 130	7	20
Vinyl chloride			20.0	19.5		ug/L		97	70 - 130	9	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*103*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: MB 200-178969/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179045 — **Prep Batch: 178969**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/20/22 14:00	04/21/22 16:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*86*		*46 - 130*	*04/20/22 14:00*	*04/21/22 16:00*	*1*

Lab Sample ID: LLCS 200-178969/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179045 — **Prep Batch: 178969**

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	0.200	0.224		ug/L		112	50 - 150

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*93*		*46 - 130*

Lab Sample ID: LLCSD 200-178969/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 179045 — **Prep Batch: 178969**

Analyte	Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	0.200	0.249		ug/L		124	50 - 150	11	50

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 620-9754/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9754**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		04/12/22 16:55	04/14/22 12:37	1

Lab Sample ID: LCS 620-9754/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9754**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.25	1.23		mg/L		99	85 - 115

Lab Sample ID: LCSD 620-9754/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9754**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.25	1.20		mg/L		96	85 - 115	3	20

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: MB 620-9792/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9792**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		04/13/22 16:37	04/14/22 17:00	1

Lab Sample ID: MB 620-9792/1-A — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9839 — **Prep Batch: 9792**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		04/13/22 16:37	04/15/22 11:17	1

Lab Sample ID: LCS 620-9792/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9792**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.25	1.17		mg/L		94	85 - 115

Lab Sample ID: LCS 620-9792/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9839 — **Prep Batch: 9792**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	1.25	1.26		mg/L		100	85 - 115

Lab Sample ID: LCSD 620-9792/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9792**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.25	1.21		mg/L		97	85 - 115	4	20

Lab Sample ID: LCSD 620-9792/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9839 — **Prep Batch: 9792**

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	1.25	1.32		mg/L		106	85 - 115	5	20

Lab Sample ID: 620-3810-J-5-C MS ^10 — **Client Sample ID: 620-3810-J-5-C MS ^10**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9839 — **Prep Batch: 9792**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Iron	840	F2	1.25	866	4	mg/L		2360	75 - 125

Lab Sample ID: 620-3810-J-5-D MSD ^1 — **Client Sample ID: 620-3810-J-5-D MSD ^1**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9839 — **Prep Batch: 9792**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron	840	F2	1.25	872	4	mg/L		2880	75 - 125	1	20

QC Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Method: 6010D - Metals (ICP)

Lab Sample ID: 620-3810-J-5-B DU ^10
Matrix: Water
Analysis Batch: 9839

Client Sample ID: 620-3810-J-5-B DU ^10
Prep Type: Total/NA
Prep Batch: 9792

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Iron	840	F2		820		mg/L				2	20

Method: 410.4 - COD

Lab Sample ID: MB 480-621602/76
Matrix: Water
Analysis Batch: 621602

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			04/12/22 21:49	1

Lab Sample ID: LCS 480-621602/77
Matrix: Water
Analysis Batch: 621602

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chemical Oxygen Demand			25.0	25.2		mg/L		101	90 - 110		

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 480-621828/108
Matrix: Water
Analysis Batch: 621828

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			04/14/22 16:50	1

Lab Sample ID: MB 480-621828/77
Matrix: Water
Analysis Batch: 621828

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			04/14/22 16:36	1

Lab Sample ID: LCS 480-621828/109
Matrix: Water
Analysis Batch: 621828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			30.0	30.8		mg/L		103	90 - 110		

Lab Sample ID: LCS 480-621828/78
Matrix: Water
Analysis Batch: 621828

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			30.0	30.4		mg/L		101	90 - 110		

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: 620-3810-3 MS — **Client Sample ID: MW-268D**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate	25	F1	40.0	43.7	F1	mg/L		47	60 - 128		

Lab Sample ID: 620-3810-3 MSD — **Client Sample ID: MW-268D**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Sulfate	25	F1	40.0	41.9	F1	mg/L		42	60 - 128	4	20

Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-621711/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0		mg/L			04/12/22 19:27	1
TOC Result 2	ND		1.0		mg/L			04/12/22 19:27	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			04/12/22 19:27	1

Lab Sample ID: LCS 480-621711/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
TOC Result 1			60.0	54.8		mg/L		91	90 - 110		
TOC Result 2			60.0	56.0		mg/L		93	90 - 110		
Total Organic Carbon - Duplicates			60.0	55.4		mg/L		92	90 - 110		

Lab Sample ID: 620-3810-2 MS — **Client Sample ID: MW-268M**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
TOC Result 1	4.1		23.3	31.5		mg/L		117	54 - 131		
TOC Result 2	4.4		23.3	31.7		mg/L		117	54 - 131		
Total Organic Carbon - Duplicates	4.3		23.3	31.6		mg/L		117	54 - 131		

Lab Sample ID: 620-3810-3 DU — **Client Sample ID: MW-268D**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
TOC Result 1	ND			ND		mg/L				NC	20
TOC Result 2	ND			ND		mg/L				NC	20
Total Organic Carbon - Duplicates	ND			ND		mg/L				NC	20

Method: 9060A - Organic Carbon, Total (TOC) (Continued)

Lab Sample ID: MB 480-622059/4
Matrix: Water
Analysis Batch: 622059

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0		mg/L			04/15/22 20:01	1
TOC Result 2	ND		1.0		mg/L			04/15/22 20:01	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			04/15/22 20:01	1

Lab Sample ID: LCS 480-622059/5
Matrix: Water
Analysis Batch: 622059

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	60.0	55.4		mg/L		92	90 - 110
TOC Result 2	60.0	55.8		mg/L		93	90 - 110
Total Organic Carbon - Duplicates	60.0	55.6		mg/L		93	90 - 110

Lab Sample ID: 620-3810-5 MS
Matrix: Water
Analysis Batch: 622059

Client Sample ID: MW-267S
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	4600		2330	6930		mg/L		101	54 - 131
TOC Result 2	4600		2330	7060		mg/L		104	54 - 131
Total Organic Carbon - Duplicates	4600		2330	7000		mg/L		102	54 - 131

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-622057/30
Matrix: Water
Analysis Batch: 622057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			04/17/22 16:00	1

Lab Sample ID: LCS 480-622057/31
Matrix: Water
Analysis Batch: 622057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity, Total	100	95.4		mg/L		95	90 - 110

QC Association Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

GC/MS VOA

Analysis Batch: 9688

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	8260C	
620-3810-2	MW-268M	Total/NA	Water	8260C	
620-3810-3	MW-268D	Total/NA	Water	8260C	
620-3810-4	REW-11	Total/NA	Water	8260C	
620-3810-5	MW-267S	Total/NA	Water	8260C	
620-3810-6	REW-6	Total/NA	Water	8260C	
620-3810-7	DUP1	Total/NA	Water	8260C	
620-3810-8	DUP2	Total/NA	Water	8260C	
620-3810-9	MW-563	Total/NA	Water	8260C	
620-3810-10	REW-7	Total/NA	Water	8260C	
MB 620-9688/10	Method Blank	Total/NA	Water	8260C	
LCS 620-9688/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-9688/6	Lab Control Sample Dup	Total/NA	Water	8260C	

Analysis Batch: 9758

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1 - DL	MW-268S	Total/NA	Water	8260C	
620-3810-2 - DL	MW-268M	Total/NA	Water	8260C	
MB 620-9758/10	Method Blank	Total/NA	Water	8260C	
LCS 620-9758/5	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-9758/6	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 178969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	522	
620-3810-2	MW-268M	Total/NA	Water	522	
620-3810-3	MW-268D	Total/NA	Water	522	
620-3810-4	REW-11	Total/NA	Water	522	
620-3810-5	MW-267S	Total/NA	Water	522	
620-3810-6	REW-6	Total/NA	Water	522	
620-3810-7	DUP1	Total/NA	Water	522	
620-3810-8	DUP2	Total/NA	Water	522	
620-3810-9	MW-563	Total/NA	Water	522	
620-3810-10	REW-7	Total/NA	Water	522	
MB 200-178969/1-A	Method Blank	Total/NA	Water	522	
LLCS 200-178969/2-A	Lab Control Sample	Total/NA	Water	522	
LLCSD 200-178969/3-A	Lab Control Sample Dup	Total/NA	Water	522	

Analysis Batch: 179045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	522	178969
620-3810-2	MW-268M	Total/NA	Water	522	178969
620-3810-3	MW-268D	Total/NA	Water	522	178969
620-3810-4	REW-11	Total/NA	Water	522	178969
620-3810-5	MW-267S	Total/NA	Water	522	178969
620-3810-6	REW-6	Total/NA	Water	522	178969
620-3810-7	DUP1	Total/NA	Water	522	178969
620-3810-8	DUP2	Total/NA	Water	522	178969
620-3810-9	MW-563	Total/NA	Water	522	178969

GC/MS Semi VOA (Continued)

Analysis Batch: 179045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-10	REW-7	Total/NA	Water	522	178969
MB 200-178969/1-A	Method Blank	Total/NA	Water	522	178969
LLCS 200-178969/2-A	Lab Control Sample	Total/NA	Water	522	178969
LLCSD 200-178969/3-A	Lab Control Sample Dup	Total/NA	Water	522	178969

Metals

Prep Batch: 9754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	3005A	
620-3810-2	MW-268M	Total/NA	Water	3005A	
620-3810-3	MW-268D	Total/NA	Water	3005A	
MB 620-9754/1-A	Method Blank	Total/NA	Water	3005A	
LCS 620-9754/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 620-9754/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Prep Batch: 9792

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-5	MW-267S	Total/NA	Water	3005A	
MB 620-9792/1-A	Method Blank	Total/NA	Water	3005A	
LCS 620-9792/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 620-9792/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	
620-3810-J-5-C MS ^10	620-3810-J-5-C MS ^10	Total/NA	Water	3005A	
620-3810-J-5-D MSD ^1	620-3810-J-5-D MSD ^1	Total/NA	Water	3005A	
620-3810-J-5-B DU ^10	620-3810-J-5-B DU ^10	Total/NA	Water	3005A	

Analysis Batch: 9808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	6010D	9754
620-3810-2	MW-268M	Total/NA	Water	6010D	9754
620-3810-3	MW-268D	Total/NA	Water	6010D	9754
MB 620-9754/1-A	Method Blank	Total/NA	Water	6010D	9754
MB 620-9792/1-A	Method Blank	Total/NA	Water	6010D	9792
LCS 620-9754/2-A	Lab Control Sample	Total/NA	Water	6010D	9754
LCS 620-9792/2-A	Lab Control Sample	Total/NA	Water	6010D	9792
LCSD 620-9754/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	9754
LCSD 620-9792/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	9792

Analysis Batch: 9839

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-5	MW-267S	Total/NA	Water	6010D	9792
MB 620-9792/1-A	Method Blank	Total/NA	Water	6010D	9792
LCS 620-9792/2-A	Lab Control Sample	Total/NA	Water	6010D	9792
LCSD 620-9792/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	9792
620-3810-J-5-C MS ^10	620-3810-J-5-C MS ^10	Total/NA	Water	6010D	9792
620-3810-J-5-D MSD ^1	620-3810-J-5-D MSD ^1	Total/NA	Water	6010D	9792
620-3810-J-5-B DU ^10	620-3810-J-5-B DU ^10	Total/NA	Water	6010D	9792

General Chemistry

Analysis Batch: 9746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	D1293-99B	
620-3810-2	MW-268M	Total/NA	Water	D1293-99B	
620-3810-3	MW-268D	Total/NA	Water	D1293-99B	
620-3810-5	MW-267S	Total/NA	Water	D1293-99B	
LCDSRM 620-9746/17	Lab Control Sample Dup	Total/NA	Water	D1293-99B	
LCSSRM 620-9746/1	Lab Control Sample	Total/NA	Water	D1293-99B	

Analysis Batch: 621602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	410.4	
620-3810-2	MW-268M	Total/NA	Water	410.4	
620-3810-3	MW-268D	Total/NA	Water	410.4	
620-3810-5	MW-267S	Total/NA	Water	410.4	
MB 480-621602/76	Method Blank	Total/NA	Water	410.4	
LCS 480-621602/77	Lab Control Sample	Total/NA	Water	410.4	

Analysis Batch: 621711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	9060A	
620-3810-2	MW-268M	Total/NA	Water	9060A	
620-3810-3	MW-268D	Total/NA	Water	9060A	
MB 480-621711/4	Method Blank	Total/NA	Water	9060A	
LCS 480-621711/5	Lab Control Sample	Total/NA	Water	9060A	
620-3810-2 MS	MW-268M	Total/NA	Water	9060A	
620-3810-3 DU	MW-268D	Total/NA	Water	9060A	

Analysis Batch: 621828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	9038	
620-3810-2	MW-268M	Total/NA	Water	9038	
620-3810-3	MW-268D	Total/NA	Water	9038	
620-3810-5	MW-267S	Total/NA	Water	9038	
MB 480-621828/108	Method Blank	Total/NA	Water	9038	
MB 480-621828/77	Method Blank	Total/NA	Water	9038	
LCS 480-621828/109	Lab Control Sample	Total/NA	Water	9038	
LCS 480-621828/78	Lab Control Sample	Total/NA	Water	9038	
620-3810-3 MS	MW-268D	Total/NA	Water	9038	
620-3810-3 MSD	MW-268D	Total/NA	Water	9038	

Analysis Batch: 622057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-1	MW-268S	Total/NA	Water	SM 2320B	
620-3810-2	MW-268M	Total/NA	Water	SM 2320B	
620-3810-3	MW-268D	Total/NA	Water	SM 2320B	
620-3810-5	MW-267S	Total/NA	Water	SM 2320B	
MB 480-622057/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-622057/31	Lab Control Sample	Total/NA	Water	SM 2320B	

Analysis Batch: 622059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3810-5	MW-267S	Total/NA	Water	9060A	

General Chemistry (Continued)

Analysis Batch: 622059 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 480-622059/4	Method Blank	Total/NA	Water	9060A	
LCS 480-622059/5	Lab Control Sample	Total/NA	Water	9060A	
620-3810-5 MS	MW-267S	Total/NA	Water	9060A	

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268S

Lab Sample ID: 620-3810-1
Date Collected: 04/06/22 11:35
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 15:15	CLR	ENE
Total/NA	Analysis	8260C	DL	5	9758	04/13/22 14:38	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		500	179045	04/22/22 10:44	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 14:38	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:47	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/12/22 20:54	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 15:57	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:07	KEB	TAL BUF

Client Sample ID: MW-268M

Lab Sample ID: 620-3810-2
Date Collected: 04/06/22 11:40
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 18:39	CLR	ENE
Total/NA	Analysis	8260C	DL	5	9758	04/13/22 15:04	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		200	179045	04/22/22 10:04	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 14:45	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:48	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/12/22 21:50	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:12	KEB	TAL BUF

Client Sample ID: MW-268D

Lab Sample ID: 620-3810-3
Date Collected: 04/06/22 13:40
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 19:05	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 16:41	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 14:52	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:43	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/12/22 22:49	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: MW-268D — Lab Sample ID: 620-3810-3

Date Collected: 04/06/22 13:40 — **Matrix: Water**
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:17	KEB	TAL BUF

Client Sample ID: REW-11 — Lab Sample ID: 620-3810-4

Date Collected: 04/06/22 13:55 — **Matrix: Water**
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 19:35	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 16:54	K1P	TAL BUR

Client Sample ID: MW-267S — Lab Sample ID: 620-3810-5

Date Collected: 04/06/22 16:15 — **Matrix: Water**
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		20	9688	04/11/22 21:57	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 17:08	K1P	TAL BUR
Total/NA	Prep	3005A			9792	04/13/22 16:37	CAJ	ENE
Total/NA	Analysis	6010D		100	9839	04/15/22 11:38	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 17:05	RDA	TAL BUF
Total/NA	Analysis	9060A		100	622059	04/15/22 21:26	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:26	KEB	TAL BUF

Client Sample ID: REW-6 — Lab Sample ID: 620-3810-6

Date Collected: 04/06/22 16:00 — **Matrix: Water**
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 20:05	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 17:21	K1P	TAL BUR

Client Sample ID: DUP1 — Lab Sample ID: 620-3810-7

Date Collected: 04/06/22 00:00 — **Matrix: Water**
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 20:33	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 17:35	K1P	TAL BUR

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Client Sample ID: DUP2

Lab Sample ID: 620-3810-8
Date Collected: 04/06/22 00:00
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		50	9688	04/11/22 22:24	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/22/22 10:17	K1P	TAL BUR

Client Sample ID: MW-563

Lab Sample ID: 620-3810-9
Date Collected: 04/07/22 10:30
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 17:48	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 18:02	K1P	TAL BUR

Client Sample ID: REW-7

Lab Sample ID: 620-3810-10
Date Collected: 04/07/22 10:45
Matrix: Water
Date Received: 04/07/22 17:52

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9688	04/11/22 18:13	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 18:15	K1P	TAL BUR

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Laboratory: Eurofins New England

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	<cert No.>	02-28-23
Connecticut	State	PH-0722	06-30-22
Maine	State	RI00100	04-17-23
Massachusetts	State	M-RI907	06-30-22
New Hampshire	NELAP	2240	08-03-22
New Jersey	NELAP	RI008	06-30-22
New York	NELAP	11393	04-01-23
Rhode Island	State	LAI00368	12-30-22
USDA	US Federal Programs	P330-20-00109	04-15-23

Laboratory: Eurofins Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-22
Connecticut	State	PH-0568	09-30-22
Florida	NELAP	E87672	06-30-22
Georgia	State	10026 (NY)	04-01-23
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	03-31-22 *
Illinois	NELAP	200003	09-30-22
Iowa	State	374	03-01-23
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	01-31-23
Kentucky (DW)	State	90029	12-31-22
Kentucky (UST)	State	30	04-01-22 *
Kentucky (WW)	State	KY90029	12-31-22
Louisiana	NELAP	02031	06-30-22
Maine	State	NY00044	12-04-22
Maryland	State	294	03-31-23
Massachusetts	State	M-NY044	06-30-22
Michigan	State	9937	04-01-22 *
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-22
New Jersey	NELAP	NY455	06-30-22
New York	NELAP	10026	03-31-23
Oregon	NELAP	NY200003	06-12-22
Pennsylvania	NELAP	68-00281	07-31-22
Rhode Island	State	LAO00328	12-30-22
Tennessee	State	02970	04-01-23
Texas	NELAP	T104704412-18-10	07-31-22
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-22
Washington	State	C784	02-10-23
Wisconsin	State	998310390	08-31-22

Laboratory: Eurofins Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Burlington (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2336	02-25-23
Connecticut	State	PH-0751	09-30-21 *
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	05-17-22
Florida	NELAP	E87467	06-30-22
Minnesota	NELAP	050-999-436	12-31-22
New Hampshire	NELAP	2006	12-18-22
New Jersey	NELAP	VT972	06-30-22
New York	NELAP	10391	04-01-23
Pennsylvania	NELAP	68-00489	04-30-23
Rhode Island	State	LAO00298	12-30-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00272	10-30-23
Vermont	State	VT4000	02-10-23
Virginia	NELAP	460209	12-14-22
Wisconsin	State	399133350	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	ENE
522	1,4 Dioxane (GC/MS SIM)	EPA	TAL BUR
6010D	Metals (ICP)	SW846	ENE
410.4	COD	MCAWW	TAL BUF
9038	Sulfate, Turbidimetric	SW846	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
D1293-99B	pH	ASTM	ENE
SM 2320B	Alkalinity	SM	TAL BUF
3005A	Preparation, Total Metals	SW846	ENE
5030C	Purge and Trap	SW846	ENE
522	Solid-Phase Extraction (SPE)	EPA	TAL BUR

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
MA DEP = Massachusetts Department Of Environmental Protection
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3810-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-3810-1	MW-268S	Water	04/06/22 11:35	04/07/22 17:52
620-3810-2	MW-268M	Water	04/06/22 11:40	04/07/22 17:52
620-3810-3	MW-268D	Water	04/06/22 13:40	04/07/22 17:52
620-3810-4	REW-11	Water	04/06/22 13:55	04/07/22 17:52
620-3810-5	MW-267S	Water	04/06/22 16:15	04/07/22 17:52
620-3810-6	REW-6	Water	04/06/22 16:00	04/07/22 17:52
620-3810-7	DUP1	Water	04/06/22 00:00	04/07/22 17:52
620-3810-8	DUP2	Water	04/06/22 00:00	04/07/22 17:52
620-3810-9	MW-563	Water	04/07/22 10:30	04/07/22 17:52
620-3810-10	REW-7	Water	04/07/22 10:45	04/07/22 17:52

620-3810 Chain of Custody

Chain of Custody Record

Boston #215

eurofins | Environment Testing America

Sampler: Ian Kosnik	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-2963-332.3
Client Contact: Vicki Pariyar	Phone: 207-999-9018	E-Mail: Becky Mason@Eurofinset.com	State of Origin: MA	Page: Page 3 of 3
Company: Innovative Engineering Solutions, Inc	PWSID:		Job #:
Address: 37 Pearl St # 1	Due Date Requested:		
City: Braintree	TAT Requested (days): 5		
State, Zip: MA, 02184	Compliance Project: Δ Yes Δ No		
Phone: 508-623-1224(Tel)	PO #: RA-008		
Email: vicki@iesionline.com, Dave.Falatko@JESinc.com	WO #:		
Project Name: IDS Wayland	Project #: 62001080		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522 1,4 Dioxane (GC/MS SIM)	8260MCP MCP 8260 Analyte List	9060A TOC	410.4 COD	2320B Alkalinity	D1293_99B pH	6010MCP Iron	9038 Sulfate						Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	S	N	N	D	N							
MW-268S	4/6/22	11:35	C	Water			X	X	X	X	X	X	X	X						11	
MW-268M	4/6/22	11:40	C	Water			X	X	X	X	X	X	X	X						11	
MW-268D	4/6/22	13:40	C	Water			X	X	X	X	X	X	X	X						11	
REW-11	4/6/22	13:55	C	Water			X	X												4	
MW-267S	4/6/22	16:15	C	Water			X	X	X	X	X	X	X	X						11	
REW-6	4/6/22	16:00	C	Water			X	X												4	
Dup 1	4/6/22	NA	C	Water			X	X												4	
Dup 2	4/6/22	NA	C	Water			X	X												4	
MW-563	4/7/22	10:30	C	water			X	X												4	
REW-7	4/7/22	10:45	C	water			X	X												4	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I II, III IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Ian Kosnik	Date/Time: 4/7/22	Company: IESI	Received by: [signature]	Date/Time: 4/7/22 2:23	Company: EA
Relinquished by: [signature]	Date/Time: 4/8/22 1420	Company:	Received by: [signature]	Date/Time: 4/8/22 15:12	Company: EVE
Relinquished by: [signature]	Date/Time: 4/8/22 17:52	Company: EVE	Received by: [signature]	Date/Time: 4/8/22 17:52	Company: EVE
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.		Cooler Temperature(s) °C and Other Remarks: 24 +0 22 6 #6		

Ver: 06/08/2021

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4/22/2022

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Phone 413-789-9018

Chain of Custody Record

620-3810 Chain of Custody

Eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	592 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Becky Mason@et.eurofinsus.com	Massachusetts	Page 1 of 2
Company: TestAmerica Laboratories, Inc		Accreditations Required (See note)	Job #: 620-3810-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 4/14/2022		
City: South Burlington	TAT Requested (days):		
State, Zip: VT, 05403			
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:		
Email	WO #:		
Project Name: IDS Wayland	Project #: 62001080		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522/522_CWA_Prep 1,4 Dioxane (GC/MS SIM)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-268S (620-3810-1)	4/6/22	11.35 Eastern		Water			X	1	
MW-268M (620-3810-2)	4/6/22	11·40 Eastern		Water			X	1	
MW-268D (620-3810-3)	4/6/22	13.40 Eastern		Water			X	1	
REW-11 (620-3810-4)	4/6/22	13 55 Eastern		Water			X	1	
MW-267S (620-3810-5)	4/6/22	16 15 Eastern		Water			X	1	
REW-6 (620-3810-6)	4/6/22	16.00 Eastern		Water			X	1	
DUP1 (620-3810-7)	4/6/22	Eastern		Water			X	1	
DUP2 (620-3810-8)	4/6/22	Eastern		Water			X	1	
MW-563 (620-3810-9)	4/7/22	10 30 Eastern		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date.	Time	Method of Shipment:

Relinquished by:	Date/Time	Company	Received by:	Date/Time.	Company
	4/11/22 17:32	ENE			
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company
Relinquished by:	Date/Time	Company	Received by:	Date/Time 4/13/22	Company 1100

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

ORIGIN ID:EHTA (413) 789-9018
JAIME FLORES
EUROFINS SPECTRUM ANALYTICAL
11 ALMGREN DRIVE

AGAWAM, MA 01001
UNITED STATES US

SHIP DATE: 11APR22
ACTWGT: 50.00 LB
CAD: 108821262/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
TEST AMERICA - BURLINGTON, VT
30 COMMUNITY DR
STE 11
SOUTH BURLINGTON VT 05403

(802) 660-1990 REF WORKSHARE 4 11
INV
PO: DEPT

56DJ2/BDF9/FE4A

FedEx Express

J221022010601uu

TUE - 12 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7765 5154 5512**

NL BTVA

05403
VT-US **BTV**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Phone: 413-789-9018

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-3593.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Becky.Mason@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note):		Job #: 620-3810-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 4/14/2022			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: IDS Wayland	Project #: 62001080			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ Alkalinity	9060A/ TOC	410.4/ COD	9038/ Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-268S (620-3810-1)	4/6/22	11:35 Eastern		Water			X	X	X	X	5	
MW-268M (620-3810-2)	4/6/22	11:40 Eastern		Water			X	X	X	X	5	
MW-268D (620-3810-3)	4/6/22	13:40 Eastern		Water			X	X	X	X	5	
MW-267S (620-3810-5)	4/6/22	16:15 Eastern		Water			X	X	X	X	5	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification	Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
Unconfirmed	☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	4/11/22 17:32	GNG	[signature]	4-12-22 1000	TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 2.4 ICE

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3810-1

Login Number: 3810
List Number: 1
Creator: Makhoul, Elie

List Source: Eurofins New England

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3810-1

Login Number: 3810
List Number: 2
Creator: Yeager, Brian A

List Source: Eurofins Buffalo
List Creation: 04/12/22 11:42 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 ICE IR GUN #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3810-1

Login Number: 3810
List Number: 3
Creator: Cunningham, Caroline R

List Source: Eurofins Burlington
List Creation: 04/13/22 12:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

eurofins | Environment Testing New England

ANALYTICAL REPORT

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Tel: (413)789-9018

Laboratory Job ID: 620-3854-1
Client Project/Site: IDS Wayland

For:
Innovative Engineering Solutions, Inc
37 Pearl St
1
Braintree, Massachusetts 02184

Attn: Vicki Pariyar

Authorized for release by:
4/29/2022 12:08:11 PM

Becky Mason, Project Manager II
(413)572-4000
Becky.Mason@et.eurofinsus.com

LINKS

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This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.

General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
HF	Field parameter with a holding time of 15 minutes. Test performed by laboratory at client's request.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

MassDEP Analytical Protocol Certfication Form

Laboratory Name:	Eurofins New England	Project #:	620-3854-1
Project Location:	IDS Wayland	RTN:	

This Form provides certifications for the following data set: list Laboratory Sample ID Number(s):
620-3854-1 through 620-3854-12

Matrices: ☑ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocol (check all that apply below:)

8260 VOC CAM II A ☑	7470/7471 Hg CAM III B ☐	MassDEP VPH (GC/PID/FID) CAM IV A ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	MassDEP VPH (GC/MS) CAM IV C ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	MassDEP APH CAM IX A ☐
6010 Metals CAM III A ☑	6020 Metals CAM III D ☐	MassDEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding times?	☑ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	☑ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	☑ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	☑ Yes ☐ No
E	VPH, EPH, APH, and TO-15 only a. VPH, EPH, and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	☑ Yes ☐ No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☑ Yes ☐ No[1]

***Data User Note**: Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WSC-07-350.*

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ☑ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s)?	☐ Yes ☑ No[1]

1 All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: _____ **Position:** Project Manager II

Printed Name: Becky Mason **Date:** 04/29/2022

Job ID: 620-3854-1

Laboratory: Eurofins New England

Narrative

Job Narrative
620-3854-1

Receipt
The samples were received on 4/8/2022 5:52 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.4º C.

GC/MS VOA
Method 8260C: The laboratory control sample and/or the laboratory control sample duplicate (LCS/LCSD) for analytical batch 620-9727 recovered outside control limits for the following analytes: Acetone and 2-Butanone (MEK) which have been identified as poor performing analytes when analyzed using this method; therefore, re-extraction/re-analysis was not performed. These results have been reported and qualified.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Metals
Method 6010: At the request of the client, an abbreviated MCP analyte list was reported for this job.

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

General Chemistry
Method SM 2320B: The continuing calibration blank (CCB) for analytical batch 480-622057 contained Alkalinity above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 522: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 200-178969. LCSD performed instead.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-266Mb — Lab Sample ID: 620-3854-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	7.0		1.0		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	26		1.0		ug/L	1		8260C	Total/NA
o-Xylene	5.5		1.0		ug/L	1		8260C	Total/NA
Tetrahydrofuran	6.0		2.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	5.0		0.20		ug/L	1		522	Total/NA
Iron	48		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	48		10		mg/L	1		410.4	Total/NA
TOC Result 1	6.7		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	7.6		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	7.1		1.0		mg/L	1		9060A	Total/NA
pH	6.4	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	520	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-267M — Lab Sample ID: 620-3854-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.1		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	86		2.0		ug/L	10		522	Total/NA
Iron	62		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	30		10		mg/L	1		410.4	Total/NA
TOC Result 1	2.0		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	2.3		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	2.1		1.0		mg/L	1		9060A	Total/NA
pH	6.6	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	98	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: REW-12 — Lab Sample ID: 620-3854-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Ethylbenzene	1.5		1.0		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	2.4		1.0		ug/L	1		8260C	Total/NA
o-Xylene	1.7		1.0		ug/L	1		8260C	Total/NA
Tetrahydrofuran	3.4		2.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	4.2		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-266Ma — Lab Sample ID: 620-3854-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.3		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-265M — Lab Sample ID: 620-3854-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.1		1.0		ug/L	1		8260C	Total/NA
Ethylbenzene	1.5		1.0		ug/L	1		8260C	Total/NA
m-Xylene & p-Xylene	1.2		1.0		ug/L	1		8260C	Total/NA
Tetrahydrofuran	5.6		2.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	2.4		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-264M — Lab Sample ID: 620-3854-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	23		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-264M (Continued) — Lab Sample ID: 620-3854-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	2.0		1.0		ug/L	1		8260C	Total/NA
Vinyl chloride	16		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	3.5		0.20		ug/L	1		522	Total/NA
Iron	14		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	20		10		mg/L	1		410.4	Total/NA
Sulfate	23		5.0		mg/L	1		9038	Total/NA
TOC Result 1	2.3		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	2.8		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	2.5		1.0		mg/L	1		9060A	Total/NA
pH	6.7	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	320	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-551 — Lab Sample ID: 620-3854-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	1.1		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	0.42		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-261S — Lab Sample ID: 620-3854-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.58		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-552 — Lab Sample ID: 620-3854-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.49		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-553 — Lab Sample ID: 620-3854-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Vinyl chloride	2.0		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	0.61		0.20		ug/L	1		522	Total/NA
Iron	16		0.050		mg/L	1		6010D	Total/NA
Chemical Oxygen Demand	12		10		mg/L	1		410.4	Total/NA
TOC Result 1	2.3		1.0		mg/L	1		9060A	Total/NA
TOC Result 2	3.2		1.0		mg/L	1		9060A	Total/NA
Total Organic Carbon - Duplicates	2.8		1.0		mg/L	1		9060A	Total/NA
pH	7.2	HF			SU	1		D1293-99B	Total/NA
Alkalinity, Total	720	^2	5.0		mg/L	1		SM 2320B	Total/NA

Client Sample ID: MW-269Ma — Lab Sample ID: 620-3854-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	2.6		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	3.1		1.0		ug/L	1		8260C	Total/NA
1,4-Dioxane	0.63		0.20		ug/L	1		522	Total/NA

Client Sample ID: DEP-21 — Lab Sample ID: 620-3854-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	3.5		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-266Mb

Date Collected: 04/07/22 12:15
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 16:23	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 16:23	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 16:23	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 16:23	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 16:23	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 16:23	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 16:23	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 16:23	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 16:23	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 16:23	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 16:23	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 16:23	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
1,4-Dioxane	ND		50		ug/L			04/12/22 16:23	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 16:23	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 16:23	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 16:23	1
2-Hexanone	ND		2.0		ug/L			04/12/22 16:23	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 16:23	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 16:23	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 16:23	1
Acetone	ND	*-	10		ug/L			04/12/22 16:23	1
Benzene	ND		1.0		ug/L			04/12/22 16:23	1
Bromobenzene	ND		1.0		ug/L			04/12/22 16:23	1
Bromoform	ND		1.0		ug/L			04/12/22 16:23	1
Bromomethane	ND		2.0		ug/L			04/12/22 16:23	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 16:23	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 16:23	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 16:23	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 16:23	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 16:23	1
Chloroethane	ND		2.0		ug/L			04/12/22 16:23	1
Chloroform	ND		1.0		ug/L			04/12/22 16:23	1
Chloromethane	ND		2.0		ug/L			04/12/22 16:23	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 16:23	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 16:23	1
Dibromomethane	ND		1.0		ug/L			04/12/22 16:23	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 16:23	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 16:23	1
Ethyl ether	ND		1.0		ug/L			04/12/22 16:23	1
Ethylbenzene	**7.0**		1.0		ug/L			04/12/22 16:23	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 16:23	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 16:23	1

Client Sample ID: MW-266Mb

Date Collected: 04/07/22 12:15
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-1

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		1.0		ug/L			04/12/22 16:23	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 16:23	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 16:23	1
m-Xylene & p-Xylene	**26**		1.0		ug/L			04/12/22 16:23	1
Naphthalene	ND		2.0		ug/L			04/12/22 16:23	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
o-Xylene	**5.5**		1.0		ug/L			04/12/22 16:23	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
Styrene	ND		1.0		ug/L			04/12/22 16:23	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 16:23	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 16:23	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 16:23	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 16:23	1
Tetrahydrofuran	**6.0**		2.0		ug/L			04/12/22 16:23	1
Toluene	ND		1.0		ug/L			04/12/22 16:23	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 16:23	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 16:23	1
Trichloroethene	ND		1.0		ug/L			04/12/22 16:23	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 16:23	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 16:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/12/22 16:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*04/12/22 16:23*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*04/12/22 16:23*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**5.0**		0.20		ug/L		04/20/22 14:00	04/21/22 18:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*103*		*46 - 130*	*04/20/22 14:00*	*04/21/22 18:42*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**48**		0.050		mg/L		04/12/22 16:55	04/14/22 13:34	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.4**	**HF**			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	**48**		10		mg/L			04/12/22 21:49	1
Sulfate	ND		5.0		mg/L			04/14/22 16:44	1
TOC Result 1	**6.7**		1.0		mg/L			04/13/22 04:35	1
TOC Result 2	**7.6**		1.0		mg/L			04/13/22 04:35	1
Total Organic Carbon - Duplicates	**7.1**		1.0		mg/L			04/13/22 04:35	1
Alkalinity, Total	**520**	**^2**	5.0		mg/L			04/17/22 17:33	1

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-267M

Date Collected: 04/07/22 12:00
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 16:50	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 16:50	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 16:50	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 16:50	1
1,1-Dichloroethane	**1.1**		1.0		ug/L			04/12/22 16:50	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 16:50	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 16:50	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 16:50	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 16:50	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 16:50	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 16:50	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 16:50	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
1,4-Dioxane	ND		50		ug/L			04/12/22 16:50	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 16:50	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 16:50	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 16:50	1
2-Hexanone	ND		2.0		ug/L			04/12/22 16:50	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 16:50	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 16:50	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 16:50	1
Acetone	ND	*-	10		ug/L			04/12/22 16:50	1
Benzene	ND		1.0		ug/L			04/12/22 16:50	1
Bromobenzene	ND		1.0		ug/L			04/12/22 16:50	1
Bromoform	ND		1.0		ug/L			04/12/22 16:50	1
Bromomethane	ND		2.0		ug/L			04/12/22 16:50	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 16:50	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 16:50	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 16:50	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 16:50	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 16:50	1
Chloroethane	ND		2.0		ug/L			04/12/22 16:50	1
Chloroform	ND		1.0		ug/L			04/12/22 16:50	1
Chloromethane	ND		2.0		ug/L			04/12/22 16:50	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 16:50	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 16:50	1
Dibromomethane	ND		1.0		ug/L			04/12/22 16:50	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 16:50	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 16:50	1
Ethyl ether	ND		1.0		ug/L			04/12/22 16:50	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 16:50	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 16:50	1

Client Sample ID: MW-267M

Date Collected: 04/07/22 12:00
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-2

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		1.0		ug/L			04/12/22 16:50	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 16:50	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 16:50	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 16:50	1
Naphthalene	ND		2.0		ug/L			04/12/22 16:50	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
o-Xylene	ND		1.0		ug/L			04/12/22 16:50	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
Styrene	ND		1.0		ug/L			04/12/22 16:50	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 16:50	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 16:50	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 16:50	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 16:50	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 16:50	1
Toluene	ND		1.0		ug/L			04/12/22 16:50	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 16:50	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 16:50	1
Trichloroethene	ND		1.0		ug/L			04/12/22 16:50	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 16:50	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 16:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*04/12/22 16:50*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*04/12/22 16:50*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**86**		2.0		ug/L		04/20/22 14:00	04/22/22 10:30	10

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*111*		*46 - 130*	*04/20/22 14:00*	*04/22/22 10:30*	*10*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**62**		0.050		mg/L		04/12/22 16:55	04/14/22 13:41	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**6.6**	**HF**			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	**30**		10		mg/L			04/12/22 21:49	1
Sulfate	ND		5.0		mg/L			04/14/22 16:45	1
TOC Result 1	**2.0**		1.0		mg/L			04/13/22 05:04	1
TOC Result 2	**2.3**		1.0		mg/L			04/13/22 05:04	1
Total Organic Carbon - Duplicates	**2.1**		1.0		mg/L			04/13/22 05:04	1
Alkalinity, Total	**98**	**^2**	5.0		mg/L			04/17/22 17:37	1

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: REW-12

Date Collected: 04/07/22 15:05
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-3

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 17:18	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 17:18	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 17:18	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 17:18	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 17:18	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 17:18	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 17:18	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 17:18	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 17:18	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 17:18	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 17:18	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 17:18	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
1,4-Dioxane	ND		50		ug/L			04/12/22 17:18	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 17:18	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 17:18	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 17:18	1
2-Hexanone	ND		2.0		ug/L			04/12/22 17:18	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 17:18	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 17:18	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 17:18	1
Acetone	ND	*-	10		ug/L			04/12/22 17:18	1
Benzene	ND		1.0		ug/L			04/12/22 17:18	1
Bromobenzene	ND		1.0		ug/L			04/12/22 17:18	1
Bromoform	ND		1.0		ug/L			04/12/22 17:18	1
Bromomethane	ND		2.0		ug/L			04/12/22 17:18	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 17:18	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 17:18	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 17:18	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 17:18	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 17:18	1
Chloroethane	ND		2.0		ug/L			04/12/22 17:18	1
Chloroform	ND		1.0		ug/L			04/12/22 17:18	1
Chloromethane	ND		2.0		ug/L			04/12/22 17:18	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 17:18	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 17:18	1
Dibromomethane	ND		1.0		ug/L			04/12/22 17:18	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 17:18	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 17:18	1
Ethyl ether	ND		1.0		ug/L			04/12/22 17:18	1
Ethylbenzene	**1.5**		1.0		ug/L			04/12/22 17:18	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 17:18	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 17:18	1

Client Sample ID: REW-12

Lab Sample ID: 620-3854-3

Date Collected: 04/07/22 15:05
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		1.0		ug/L			04/12/22 17:18	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 17:18	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 17:18	1
m-Xylene & p-Xylene	**2.4**		1.0		ug/L			04/12/22 17:18	1
Naphthalene	ND		2.0		ug/L			04/12/22 17:18	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
o-Xylene	**1.7**		1.0		ug/L			04/12/22 17:18	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
Styrene	ND		1.0		ug/L			04/12/22 17:18	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 17:18	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 17:18	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 17:18	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 17:18	1
Tetrahydrofuran	**3.4**		2.0		ug/L			04/12/22 17:18	1
Toluene	ND		1.0		ug/L			04/12/22 17:18	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 17:18	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 17:18	1
Trichloroethene	ND		1.0		ug/L			04/12/22 17:18	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 17:18	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 17:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 17:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*04/12/22 17:18*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*04/12/22 17:18*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**4.2**		0.20		ug/L		04/20/22 14:00	04/21/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*102*		*46 - 130*	*04/20/22 14:00*	*04/21/22 19:09*	*1*

Client Sample ID: MW-266Ma

Lab Sample ID: 620-3854-4

Date Collected: 04/07/22 15:20
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 17:46	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 17:46	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 17:46	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 17:46	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 17:46	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 17:46	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 17:46	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 17:46	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1

Client Sample ID: MW-266Ma

Date Collected: 04/07/22 15:20
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-4

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 17:46	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 17:46	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 17:46	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 17:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1
1,4-Dioxane	ND		50		ug/L			04/12/22 17:46	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 17:46	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 17:46	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 17:46	1
2-Hexanone	ND		2.0		ug/L			04/12/22 17:46	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 17:46	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 17:46	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 17:46	1
Acetone	ND	*-	10		ug/L			04/12/22 17:46	1
Benzene	ND		1.0		ug/L			04/12/22 17:46	1
Bromobenzene	ND		1.0		ug/L			04/12/22 17:46	1
Bromoform	ND		1.0		ug/L			04/12/22 17:46	1
Bromomethane	ND		2.0		ug/L			04/12/22 17:46	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 17:46	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 17:46	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 17:46	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 17:46	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 17:46	1
Chloroethane	ND		2.0		ug/L			04/12/22 17:46	1
Chloroform	ND		1.0		ug/L			04/12/22 17:46	1
Chloromethane	ND		2.0		ug/L			04/12/22 17:46	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 17:46	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 17:46	1
Dibromomethane	ND		1.0		ug/L			04/12/22 17:46	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 17:46	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 17:46	1
Ethyl ether	ND		1.0		ug/L			04/12/22 17:46	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 17:46	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 17:46	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 17:46	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 17:46	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 17:46	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 17:46	1
Naphthalene	ND		2.0		ug/L			04/12/22 17:46	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
o-Xylene	ND		1.0		ug/L			04/12/22 17:46	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 17:46	1

Client Sample ID: MW-266Ma

Lab Sample ID: 620-3854-4

Date Collected: 04/07/22 15:20
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0		ug/L			04/12/22 17:46	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 17:46	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 17:46	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 17:46	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 17:46	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 17:46	1
Toluene	ND		1.0		ug/L			04/12/22 17:46	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 17:46	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 17:46	1
Trichloroethene	ND		1.0		ug/L			04/12/22 17:46	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 17:46	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 17:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*04/12/22 17:46*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 17:46*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**1.3**		0.20		ug/L		04/20/22 14:00	04/21/22 19:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*97*		*46 - 130*	*04/20/22 14:00*	*04/21/22 19:23*	*1*

Client Sample ID: MW-265M

Lab Sample ID: 620-3854-5

Date Collected: 04/07/22 16:35
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 18:14	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 18:14	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 18:14	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 18:14	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 18:14	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 18:14	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 18:14	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 18:14	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 18:14	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 18:14	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 18:14	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 18:14	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
1,4-Dioxane	ND		50		ug/L			04/12/22 18:14	1

Client Sample ID: MW-265M

Date Collected: 04/07/22 16:35
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-5

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 18:14	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 18:14	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 18:14	1
2-Hexanone	ND		2.0		ug/L			04/12/22 18:14	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 18:14	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 18:14	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 18:14	1
Acetone	ND	*-	10		ug/L			04/12/22 18:14	1
Benzene	ND		1.0		ug/L			04/12/22 18:14	1
Bromobenzene	ND		1.0		ug/L			04/12/22 18:14	1
Bromoform	ND		1.0		ug/L			04/12/22 18:14	1
Bromomethane	ND		2.0		ug/L			04/12/22 18:14	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 18:14	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 18:14	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 18:14	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 18:14	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 18:14	1
Chloroethane	ND		2.0		ug/L			04/12/22 18:14	1
Chloroform	ND		1.0		ug/L			04/12/22 18:14	1
Chloromethane	ND		2.0		ug/L			04/12/22 18:14	1
cis-1,2-Dichloroethene	**2.1**		1.0		ug/L			04/12/22 18:14	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 18:14	1
Dibromomethane	ND		1.0		ug/L			04/12/22 18:14	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 18:14	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 18:14	1
Ethyl ether	ND		1.0		ug/L			04/12/22 18:14	1
Ethylbenzene	**1.5**		1.0		ug/L			04/12/22 18:14	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 18:14	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 18:14	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 18:14	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 18:14	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 18:14	1
m-Xylene & p-Xylene	**1.2**		1.0		ug/L			04/12/22 18:14	1
Naphthalene	ND		2.0		ug/L			04/12/22 18:14	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
o-Xylene	ND		1.0		ug/L			04/12/22 18:14	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
Styrene	ND		1.0		ug/L			04/12/22 18:14	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 18:14	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 18:14	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 18:14	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 18:14	1
Tetrahydrofuran	**5.6**		2.0		ug/L			04/12/22 18:14	1
Toluene	ND		1.0		ug/L			04/12/22 18:14	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 18:14	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 18:14	1
Trichloroethene	ND		1.0		ug/L			04/12/22 18:14	1

Client Sample ID: MW-265M

Lab Sample ID: 620-3854-5
Matrix: Water

Date Collected: 04/07/22 16:35
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 18:14	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 18:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 18:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*04/12/22 18:14*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*04/12/22 18:14*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**2.4**		0.20		ug/L		04/20/22 14:00	04/21/22 19:36	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*92*		*46 - 130*	*04/20/22 14:00*	*04/21/22 19:36*	*1*

Client Sample ID: MW-264M

Lab Sample ID: 620-3854-6
Matrix: Water

Date Collected: 04/07/22 16:50
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 18:41	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 18:41	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 18:41	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 18:41	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 18:41	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 18:41	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 18:41	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 18:41	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 18:41	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 18:41	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 18:41	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 18:41	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
1,4-Dioxane	ND		50		ug/L			04/12/22 18:41	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 18:41	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 18:41	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 18:41	1
2-Hexanone	ND		2.0		ug/L			04/12/22 18:41	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 18:41	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 18:41	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 18:41	1
Acetone	ND	*-	10		ug/L			04/12/22 18:41	1
Benzene	ND		1.0		ug/L			04/12/22 18:41	1
Bromobenzene	ND		1.0		ug/L			04/12/22 18:41	1

Client Sample ID: MW-264M

Date Collected: 04/07/22 16:50
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-6

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromoform	ND		1.0		ug/L			04/12/22 18:41	1
Bromomethane	ND		2.0		ug/L			04/12/22 18:41	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 18:41	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 18:41	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 18:41	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 18:41	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 18:41	1
Chloroethane	ND		2.0		ug/L			04/12/22 18:41	1
Chloroform	ND		1.0		ug/L			04/12/22 18:41	1
Chloromethane	ND		2.0		ug/L			04/12/22 18:41	1
cis-1,2-Dichloroethene	**23**		1.0		ug/L			04/12/22 18:41	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 18:41	1
Dibromomethane	ND		1.0		ug/L			04/12/22 18:41	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 18:41	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 18:41	1
Ethyl ether	ND		1.0		ug/L			04/12/22 18:41	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 18:41	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 18:41	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 18:41	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 18:41	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 18:41	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 18:41	1
Naphthalene	ND		2.0		ug/L			04/12/22 18:41	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
o-Xylene	ND		1.0		ug/L			04/12/22 18:41	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
Styrene	ND		1.0		ug/L			04/12/22 18:41	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 18:41	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 18:41	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 18:41	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 18:41	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 18:41	1
Toluene	ND		1.0		ug/L			04/12/22 18:41	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 18:41	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 18:41	1
Trichloroethene	**2.0**		1.0		ug/L			04/12/22 18:41	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 18:41	1
Vinyl chloride	**16**		1.0		ug/L			04/12/22 18:41	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 18:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*04/12/22 18:41*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 18:41*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**3.5**		0.20		ug/L		04/20/22 14:00	04/21/22 19:50	1

Client Sample ID: MW-264M

Lab Sample ID: 620-3854-6

Date Collected: 04/07/22 16:50
Matrix: Water
Date Received: 04/08/22 17:52

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*96*		*46 - 130*	*04/20/22 14:00*	*04/21/22 19:50*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	14		0.050		mg/L		04/12/22 16:55	04/14/22 14:02	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	6.7	HF			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	20		10		mg/L			04/12/22 21:49	1
Sulfate	23		5.0		mg/L			04/14/22 16:46	1
TOC Result 1	2.3		1.0		mg/L			04/13/22 05:32	1
TOC Result 2	2.8		1.0		mg/L			04/13/22 05:32	1
Total Organic Carbon - Duplicates	2.5		1.0		mg/L			04/13/22 05:32	1
Alkalinity, Total	320	^2	5.0		mg/L			04/17/22 17:43	1

Client Sample ID: MW-551

Lab Sample ID: 620-3854-7

Date Collected: 04/08/22 10:05
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 19:09	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 19:09	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 19:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 19:09	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 19:09	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 19:09	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 19:09	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 19:09	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 19:09	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 19:09	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 19:09	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 19:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
1,4-Dioxane	ND		50		ug/L			04/12/22 19:09	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 19:09	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 19:09	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 19:09	1
2-Hexanone	ND		2.0		ug/L			04/12/22 19:09	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 19:09	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 19:09	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 19:09	1
Acetone	ND	*-	10		ug/L			04/12/22 19:09	1

Client Sample ID: MW-551

Date Collected: 04/08/22 10:05
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-7

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		1.0		ug/L			04/12/22 19:09	1
Bromobenzene	ND		1.0		ug/L			04/12/22 19:09	1
Bromoform	ND		1.0		ug/L			04/12/22 19:09	1
Bromomethane	ND		2.0		ug/L			04/12/22 19:09	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 19:09	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 19:09	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 19:09	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 19:09	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 19:09	1
Chloroethane	ND		2.0		ug/L			04/12/22 19:09	1
Chloroform	ND		1.0		ug/L			04/12/22 19:09	1
Chloromethane	ND		2.0		ug/L			04/12/22 19:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 19:09	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 19:09	1
Dibromomethane	ND		1.0		ug/L			04/12/22 19:09	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 19:09	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 19:09	1
Ethyl ether	ND		1.0		ug/L			04/12/22 19:09	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 19:09	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 19:09	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 19:09	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 19:09	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 19:09	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 19:09	1
Naphthalene	ND		2.0		ug/L			04/12/22 19:09	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
o-Xylene	ND		1.0		ug/L			04/12/22 19:09	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
Styrene	ND		1.0		ug/L			04/12/22 19:09	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 19:09	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 19:09	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 19:09	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 19:09	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 19:09	1
Toluene	ND		1.0		ug/L			04/12/22 19:09	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 19:09	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 19:09	1
Trichloroethene	ND		1.0		ug/L			04/12/22 19:09	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 19:09	1
Vinyl chloride	**1.1**		1.0		ug/L			04/12/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/12/22 19:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*04/12/22 19:09*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 19:09*	*1*

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-551

Lab Sample ID: 620-3854-7
Date Collected: 04/08/22 10:05
Matrix: Water
Date Received: 04/08/22 17:52

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.42		0.20		ug/L		04/20/22 14:00	04/21/22 20:03	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*101*		*46 - 130*	*04/20/22 14:00*	*04/21/22 20:03*	*1*

Client Sample ID: MW-261S

Lab Sample ID: 620-3854-8
Date Collected: 04/08/22 10:20
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 19:37	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 19:37	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 19:37	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 19:37	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 19:37	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 19:37	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 19:37	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 19:37	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 19:37	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 19:37	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 19:37	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 19:37	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
1,4-Dioxane	ND		50		ug/L			04/12/22 19:37	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 19:37	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 19:37	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 19:37	1
2-Hexanone	ND		2.0		ug/L			04/12/22 19:37	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 19:37	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 19:37	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 19:37	1
Acetone	ND	*-	10		ug/L			04/12/22 19:37	1
Benzene	ND		1.0		ug/L			04/12/22 19:37	1
Bromobenzene	ND		1.0		ug/L			04/12/22 19:37	1
Bromoform	ND		1.0		ug/L			04/12/22 19:37	1
Bromomethane	ND		2.0		ug/L			04/12/22 19:37	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 19:37	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 19:37	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 19:37	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 19:37	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 19:37	1
Chloroethane	ND		2.0		ug/L			04/12/22 19:37	1
Chloroform	ND		1.0		ug/L			04/12/22 19:37	1

Client Sample ID: MW-261S

Date Collected: 04/08/22 10:20
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-8

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloromethane	ND		2.0		ug/L			04/12/22 19:37	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 19:37	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 19:37	1
Dibromomethane	ND		1.0		ug/L			04/12/22 19:37	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 19:37	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 19:37	1
Ethyl ether	ND		1.0		ug/L			04/12/22 19:37	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 19:37	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 19:37	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 19:37	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 19:37	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 19:37	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 19:37	1
Naphthalene	ND		2.0		ug/L			04/12/22 19:37	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
o-Xylene	ND		1.0		ug/L			04/12/22 19:37	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
Styrene	ND		1.0		ug/L			04/12/22 19:37	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 19:37	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 19:37	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 19:37	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 19:37	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 19:37	1
Toluene	ND		1.0		ug/L			04/12/22 19:37	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 19:37	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 19:37	1
Trichloroethene	ND		1.0		ug/L			04/12/22 19:37	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 19:37	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 19:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 19:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*04/12/22 19:37*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 19:37*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.58**		0.20		ug/L		04/20/22 14:00	04/21/22 20:17	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*101*		*46 - 130*	*04/20/22 14:00*	*04/21/22 20:17*	*1*

Client Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-552

Date Collected: 04/08/22 11:30
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-9

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 20:04	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 20:04	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 20:04	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 20:04	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 20:04	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 20:04	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 20:04	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 20:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 20:04	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 20:04	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:04	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 20:04	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
1,4-Dioxane	ND		50		ug/L			04/12/22 20:04	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:04	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 20:04	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:04	1
2-Hexanone	ND		2.0		ug/L			04/12/22 20:04	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:04	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 20:04	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 20:04	1
Acetone	ND	*-	10		ug/L			04/12/22 20:04	1
Benzene	ND		1.0		ug/L			04/12/22 20:04	1
Bromobenzene	ND		1.0		ug/L			04/12/22 20:04	1
Bromoform	ND		1.0		ug/L			04/12/22 20:04	1
Bromomethane	ND		2.0		ug/L			04/12/22 20:04	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 20:04	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 20:04	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 20:04	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 20:04	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 20:04	1
Chloroethane	ND		2.0		ug/L			04/12/22 20:04	1
Chloroform	ND		1.0		ug/L			04/12/22 20:04	1
Chloromethane	ND		2.0		ug/L			04/12/22 20:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 20:04	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:04	1
Dibromomethane	ND		1.0		ug/L			04/12/22 20:04	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 20:04	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 20:04	1
Ethyl ether	ND		1.0		ug/L			04/12/22 20:04	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 20:04	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 20:04	1

Client Sample ID: MW-552

Lab Sample ID: 620-3854-9

Date Collected: 04/08/22 11:30
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		1.0		ug/L			04/12/22 20:04	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 20:04	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 20:04	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 20:04	1
Naphthalene	ND		2.0		ug/L			04/12/22 20:04	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
o-Xylene	ND		1.0		ug/L			04/12/22 20:04	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
Styrene	ND		1.0		ug/L			04/12/22 20:04	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 20:04	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 20:04	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 20:04	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 20:04	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 20:04	1
Toluene	ND		1.0		ug/L			04/12/22 20:04	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 20:04	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:04	1
Trichloroethene	ND		1.0		ug/L			04/12/22 20:04	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 20:04	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 20:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/12/22 20:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*115*		*70 - 130*		*04/12/22 20:04*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 20:04*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.49**		0.20		ug/L		04/20/22 14:00	04/21/22 20:30	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*99*		*46 - 130*	*04/20/22 14:00*	*04/21/22 20:30*	*1*

Client Sample ID: MW-553

Lab Sample ID: 620-3854-10

Date Collected: 04/08/22 11:45
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 20:32	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 20:32	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 20:32	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 20:32	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 20:32	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 20:32	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 20:32	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 20:32	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1

Client Sample ID: MW-553

Date Collected: 04/08/22 11:45
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 20:32	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 20:32	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:32	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 20:32	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1
1,4-Dioxane	ND		50		ug/L			04/12/22 20:32	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:32	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 20:32	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:32	1
2-Hexanone	ND		2.0		ug/L			04/12/22 20:32	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:32	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 20:32	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 20:32	1
Acetone	ND	*-	10		ug/L			04/12/22 20:32	1
Benzene	ND		1.0		ug/L			04/12/22 20:32	1
Bromobenzene	ND		1.0		ug/L			04/12/22 20:32	1
Bromoform	ND		1.0		ug/L			04/12/22 20:32	1
Bromomethane	ND		2.0		ug/L			04/12/22 20:32	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 20:32	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 20:32	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 20:32	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 20:32	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 20:32	1
Chloroethane	ND		2.0		ug/L			04/12/22 20:32	1
Chloroform	ND		1.0		ug/L			04/12/22 20:32	1
Chloromethane	ND		2.0		ug/L			04/12/22 20:32	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 20:32	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:32	1
Dibromomethane	ND		1.0		ug/L			04/12/22 20:32	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 20:32	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 20:32	1
Ethyl ether	ND		1.0		ug/L			04/12/22 20:32	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 20:32	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 20:32	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 20:32	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 20:32	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 20:32	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 20:32	1
Naphthalene	ND		2.0		ug/L			04/12/22 20:32	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
o-Xylene	ND		1.0		ug/L			04/12/22 20:32	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 20:32	1

Client Sample ID: MW-553

Lab Sample ID: 620-3854-10

Date Collected: 04/08/22 11:45
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		1.0		ug/L			04/12/22 20:32	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 20:32	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 20:32	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 20:32	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 20:32	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 20:32	1
Toluene	ND		1.0		ug/L			04/12/22 20:32	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 20:32	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:32	1
Trichloroethene	ND		1.0		ug/L			04/12/22 20:32	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 20:32	1
Vinyl chloride	**2.0**		1.0		ug/L			04/12/22 20:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*97*		*70 - 130*		*04/12/22 20:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*04/12/22 20:32*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*04/12/22 20:32*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.61**		0.20		ug/L		04/20/22 14:00	04/21/22 20:44	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*99*		*46 - 130*	*04/20/22 14:00*	*04/21/22 20:44*	*1*

Method: 6010D - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	**16**		0.050		mg/L		04/12/22 16:55	04/14/22 14:09	1

General Chemistry

Analyte	Result	Qualifier	NONE	NONE	Unit	D	Prepared	Analyzed	Dil Fac
pH	**7.2**	**HF**			SU			04/12/22 14:05	1

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	**12**		10		mg/L			04/12/22 21:49	1
Sulfate	ND		5.0		mg/L			04/14/22 16:46	1
TOC Result 1	**2.3**		1.0		mg/L			04/13/22 09:21	1
TOC Result 2	**3.2**		1.0		mg/L			04/13/22 09:21	1
Total Organic Carbon - Duplicates	**2.8**		1.0		mg/L			04/13/22 09:21	1
Alkalinity, Total	**720**	**^2**	5.0		mg/L			04/17/22 17:50	1

Client Sample ID: MW-269Ma

Lab Sample ID: 620-3854-11

Date Collected: 04/08/22 13:30
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 20:59	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 20:59	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 20:59	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 20:59	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 20:59	1

Client Sample ID: MW-269Ma

Date Collected: 04/08/22 13:30
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-11

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 20:59	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 20:59	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 20:59	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 20:59	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 20:59	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:59	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 20:59	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
1,4-Dioxane	ND		50		ug/L			04/12/22 20:59	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 20:59	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 20:59	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:59	1
2-Hexanone	ND		2.0		ug/L			04/12/22 20:59	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 20:59	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 20:59	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 20:59	1
Acetone	ND	*-	10		ug/L			04/12/22 20:59	1
Benzene	ND		1.0		ug/L			04/12/22 20:59	1
Bromobenzene	ND		1.0		ug/L			04/12/22 20:59	1
Bromoform	ND		1.0		ug/L			04/12/22 20:59	1
Bromomethane	ND		2.0		ug/L			04/12/22 20:59	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 20:59	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 20:59	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 20:59	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 20:59	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 20:59	1
Chloroethane	ND		2.0		ug/L			04/12/22 20:59	1
Chloroform	ND		1.0		ug/L			04/12/22 20:59	1
Chloromethane	ND		2.0		ug/L			04/12/22 20:59	1
cis-1,2-Dichloroethene	**2.6**		1.0		ug/L			04/12/22 20:59	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:59	1
Dibromomethane	ND		1.0		ug/L			04/12/22 20:59	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 20:59	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 20:59	1
Ethyl ether	ND		1.0		ug/L			04/12/22 20:59	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 20:59	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 20:59	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 20:59	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 20:59	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 20:59	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 20:59	1

Client Sample ID: MW-269Ma

Lab Sample ID: 620-3854-11

Date Collected: 04/08/22 13:30
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Naphthalene	ND		2.0		ug/L			04/12/22 20:59	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
o-Xylene	ND		1.0		ug/L			04/12/22 20:59	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
Styrene	ND		1.0		ug/L			04/12/22 20:59	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 20:59	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 20:59	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 20:59	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 20:59	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 20:59	1
Toluene	ND		1.0		ug/L			04/12/22 20:59	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 20:59	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 20:59	1
Trichloroethene	**3.1**		1.0		ug/L			04/12/22 20:59	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 20:59	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 20:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 20:59*	*1*
1,2-Dichloroethane-d4 (Surr)	*116*		*70 - 130*		*04/12/22 20:59*	*1*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*		*04/12/22 20:59*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	**0.63**		0.20		ug/L		04/26/22 13:00	04/28/22 13:42	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*86*		*46 - 130*	*04/26/22 13:00*	*04/28/22 13:42*	*1*

Client Sample ID: DEP-21

Lab Sample ID: 620-3854-12

Date Collected: 04/08/22 14:40
Matrix: Water
Date Received: 04/08/22 17:52

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 21:27	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 21:27	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 21:27	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 21:27	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 21:27	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 21:27	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 21:27	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 21:27	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 21:27	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 21:27	1
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 21:27	1

Client Sample ID: DEP-21

Date Collected: 04/08/22 14:40
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 21:27	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
1,4-Dioxane	ND		50		ug/L			04/12/22 21:27	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 21:27	1
2-Butanone (MEK)	ND	*-	2.0		ug/L			04/12/22 21:27	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 21:27	1
2-Hexanone	ND		2.0		ug/L			04/12/22 21:27	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 21:27	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 21:27	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 21:27	1
Acetone	ND	*-	10		ug/L			04/12/22 21:27	1
Benzene	ND		1.0		ug/L			04/12/22 21:27	1
Bromobenzene	ND		1.0		ug/L			04/12/22 21:27	1
Bromoform	ND		1.0		ug/L			04/12/22 21:27	1
Bromomethane	ND		2.0		ug/L			04/12/22 21:27	1
Carbon disulfide	ND	*+	2.0		ug/L			04/12/22 21:27	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 21:27	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 21:27	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 21:27	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 21:27	1
Chloroethane	ND		2.0		ug/L			04/12/22 21:27	1
Chloroform	ND		1.0		ug/L			04/12/22 21:27	1
Chloromethane	ND		2.0		ug/L			04/12/22 21:27	1
cis-1,2-Dichloroethene	**3.5**		1.0		ug/L			04/12/22 21:27	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 21:27	1
Dibromomethane	ND		1.0		ug/L			04/12/22 21:27	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 21:27	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 21:27	1
Ethyl ether	ND		1.0		ug/L			04/12/22 21:27	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 21:27	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 21:27	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 21:27	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 21:27	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 21:27	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 21:27	1
Naphthalene	ND		2.0		ug/L			04/12/22 21:27	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
o-Xylene	ND		1.0		ug/L			04/12/22 21:27	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
Styrene	ND		1.0		ug/L			04/12/22 21:27	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 21:27	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 21:27	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 21:27	1
Tetrachloroethene	ND		1.0		ug/L			04/12/22 21:27	1

Client Sample ID: DEP-21

Date Collected: 04/08/22 14:40
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-12

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 21:27	1
Toluene	ND		1.0		ug/L			04/12/22 21:27	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 21:27	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 21:27	1
Trichloroethene	ND		1.0		ug/L			04/12/22 21:27	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 21:27	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 21:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/12/22 21:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*119*		*70 - 130*		*04/12/22 21:27*	*1*
4-Bromofluorobenzene (Surr)	*104*		*70 - 130*		*04/12/22 21:27*	*1*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/26/22 13:00	04/28/22 13:56	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*89*		*46 - 130*	*04/26/22 13:00*	*04/28/22 13:56*	*1*

Surrogate Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
620-3854-1	MW-266Mb	99	116	104
620-3854-2	MW-267M	98	115	102
620-3854-3	REW-12	98	114	104
620-3854-4	MW-266Ma	98	115	103
620-3854-5	MW-265M	98	115	104
620-3854-6	MW-264M	98	116	103
620-3854-7	MW-551	99	116	103
620-3854-8	MW-261S	98	115	103
620-3854-9	MW-552	97	115	103
620-3854-10	MW-553	97	116	104
620-3854-11	MW-269Ma	98	116	103
620-3854-12	DEP-21	99	119	104
LCS 620-9727/4	Lab Control Sample	101	113	103
LCSD 620-9727/5	Lab Control Sample Dup	100	110	102
MB 620-9676/1-A	Method Blank	98	111	99
MB 620-9727/7	Method Blank	99	113	101

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)
		DXE
Lab Sample ID	Client Sample ID	(46-130)
620-3854-1	MW-266Mb	103
620-3854-2	MW-267M	111
620-3854-3	REW-12	102
620-3854-4	MW-266Ma	97
620-3854-5	MW-265M	92
620-3854-6	MW-264M	96
620-3854-7	MW-551	101
620-3854-8	MW-261S	101
620-3854-9	MW-552	99
620-3854-10	MW-553	99
620-3854-11	MW-269Ma	86
620-3854-12	DEP-21	89
LCS 200-179184/2-A	Lab Control Sample	88
LLCS 200-178969/2-A	Lab Control Sample	93
LLCSD 200-178969/3-A	Lab Control Sample Dup	90
MB 200-178969/1-A	Method Blank	86
MB 200-179184/1-A	Method Blank	84

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 620-9676/1-A
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		10		ug/L			04/12/22 12:53	10
1,1,1-Trichloroethane	ND		10		ug/L			04/12/22 12:53	10
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			04/12/22 12:53	10
1,1,2-Trichloroethane	ND		10		ug/L			04/12/22 12:53	10
1,1-Dichloroethane	ND		10		ug/L			04/12/22 12:53	10
1,1-Dichloroethene	ND		10		ug/L			04/12/22 12:53	10
1,1-Dichloropropene	ND		10		ug/L			04/12/22 12:53	10
1,2,3-Trichlorobenzene	ND		10		ug/L			04/12/22 12:53	10
1,2,3-Trichloropropane	ND		10		ug/L			04/12/22 12:53	10
1,2,4-Trichlorobenzene	ND		10		ug/L			04/12/22 12:53	10
1,2,4-Trimethylbenzene	ND		10		ug/L			04/12/22 12:53	10
1,2-Dibromo-3-Chloropropane	ND		20		ug/L			04/12/22 12:53	10
1,2-Dichlorobenzene	ND		10		ug/L			04/12/22 12:53	10
1,2-Dichloroethane	ND		10		ug/L			04/12/22 12:53	10
1,2-Dichloropropane	ND		10		ug/L			04/12/22 12:53	10
1,3,5-Trimethylbenzene	ND		10		ug/L			04/12/22 12:53	10
1,3-Dichlorobenzene	ND		10		ug/L			04/12/22 12:53	10
1,3-Dichloropropane	ND		10		ug/L			04/12/22 12:53	10
1,4-Dichlorobenzene	ND		10		ug/L			04/12/22 12:53	10
1,4-Dioxane	ND		500		ug/L			04/12/22 12:53	10
2,2-Dichloropropane	ND		10		ug/L			04/12/22 12:53	10
2-Butanone (MEK)	ND		20		ug/L			04/12/22 12:53	10
2-Chlorotoluene	ND		10		ug/L			04/12/22 12:53	10
2-Hexanone	ND		20		ug/L			04/12/22 12:53	10
4-Chlorotoluene	ND		10		ug/L			04/12/22 12:53	10
4-Isopropyltoluene	ND		10		ug/L			04/12/22 12:53	10
4-Methyl-2-pentanone (MIBK)	ND		20		ug/L			04/12/22 12:53	10
Acetone	123		100		ug/L			04/12/22 12:53	10
Benzene	ND		10		ug/L			04/12/22 12:53	10
Bromobenzene	ND		10		ug/L			04/12/22 12:53	10
Bromoform	ND		10		ug/L			04/12/22 12:53	10
Bromomethane	ND		20		ug/L			04/12/22 12:53	10
Carbon disulfide	ND		20		ug/L			04/12/22 12:53	10
Carbon tetrachloride	ND		10		ug/L			04/12/22 12:53	10
Chlorobenzene	ND		10		ug/L			04/12/22 12:53	10
Chlorobromomethane	ND		10		ug/L			04/12/22 12:53	10
Chlorodibromomethane	ND		5.0		ug/L			04/12/22 12:53	10
Chloroethane	ND		20		ug/L			04/12/22 12:53	10
Chloroform	ND		10		ug/L			04/12/22 12:53	10
Chloromethane	ND		20		ug/L			04/12/22 12:53	10
cis-1,2-Dichloroethene	ND		10		ug/L			04/12/22 12:53	10
cis-1,3-Dichloropropene	ND		5.0		ug/L			04/12/22 12:53	10
Dibromomethane	ND		10		ug/L			04/12/22 12:53	10
Dichlorobromomethane	ND		5.0		ug/L			04/12/22 12:53	10
Dichlorodifluoromethane	ND		20		ug/L			04/12/22 12:53	10
Ethyl ether	ND		10		ug/L			04/12/22 12:53	10
Ethylbenzene	ND		10		ug/L			04/12/22 12:53	10
Ethylene Dibromide	ND		5.0		ug/L			04/12/22 12:53	10

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9676/1-A
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hexachlorobutadiene	ND		10		ug/L			04/12/22 12:53	10
Isopropyl ether	ND		10		ug/L			04/12/22 12:53	10
Isopropylbenzene	ND		10		ug/L			04/12/22 12:53	10
Methyl tert-butyl ether	ND		10		ug/L			04/12/22 12:53	10
Methylene Chloride	ND		20		ug/L			04/12/22 12:53	10
m-Xylene & p-Xylene	ND		10		ug/L			04/12/22 12:53	10
Naphthalene	ND		20		ug/L			04/12/22 12:53	10
n-Butylbenzene	ND		10		ug/L			04/12/22 12:53	10
N-Propylbenzene	ND		10		ug/L			04/12/22 12:53	10
o-Xylene	ND		10		ug/L			04/12/22 12:53	10
sec-Butylbenzene	ND		10		ug/L			04/12/22 12:53	10
Styrene	ND		10		ug/L			04/12/22 12:53	10
Tert-amyl methyl ether	ND		10		ug/L			04/12/22 12:53	10
Tert-butyl ethyl ether	ND		10		ug/L			04/12/22 12:53	10
tert-Butylbenzene	ND		10		ug/L			04/12/22 12:53	10
Tetrachloroethene	ND		10		ug/L			04/12/22 12:53	10
Tetrahydrofuran	ND		20		ug/L			04/12/22 12:53	10
Toluene	ND		10		ug/L			04/12/22 12:53	10
trans-1,2-Dichloroethene	ND		10		ug/L			04/12/22 12:53	10
trans-1,3-Dichloropropene	ND		5.0		ug/L			04/12/22 12:53	10
Trichloroethene	ND		10		ug/L			04/12/22 12:53	10
Trichlorofluoromethane	ND		10		ug/L			04/12/22 12:53	10
Vinyl chloride	ND		10		ug/L			04/12/22 12:53	10

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/12/22 12:53*	*10*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*04/12/22 12:53*	*10*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/12/22 12:53*	*10*

Lab Sample ID: MB 620-9727/7
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/12/22 12:25	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/12/22 12:25	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/12/22 12:25	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/12/22 12:25	1
1,1-Dichloroethane	ND		1.0		ug/L			04/12/22 12:25	1
1,1-Dichloroethene	ND		1.0		ug/L			04/12/22 12:25	1
1,1-Dichloropropene	ND		1.0		ug/L			04/12/22 12:25	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/12/22 12:25	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,2-Dibromo-3-Chloropropane	ND		2.0		ug/L			04/12/22 12:25	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,2-Dichloroethane	ND		1.0		ug/L			04/12/22 12:25	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9727/7
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloropropane	ND		1.0		ug/L			04/12/22 12:25	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,3-Dichloropropane	ND		1.0		ug/L			04/12/22 12:25	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
1,4-Dioxane	ND		50		ug/L			04/12/22 12:25	1
2,2-Dichloropropane	ND		1.0		ug/L			04/12/22 12:25	1
2-Butanone (MEK)	ND		2.0		ug/L			04/12/22 12:25	1
2-Chlorotoluene	ND		1.0		ug/L			04/12/22 12:25	1
2-Hexanone	ND		2.0		ug/L			04/12/22 12:25	1
4-Chlorotoluene	ND		1.0		ug/L			04/12/22 12:25	1
4-Isopropyltoluene	ND		1.0		ug/L			04/12/22 12:25	1
4-Methyl-2-pentanone (MIBK)	ND		2.0		ug/L			04/12/22 12:25	1
Acetone	ND		10		ug/L			04/12/22 12:25	1
Benzene	ND		1.0		ug/L			04/12/22 12:25	1
Bromobenzene	ND		1.0		ug/L			04/12/22 12:25	1
Bromoform	ND		1.0		ug/L			04/12/22 12:25	1
Bromomethane	ND		2.0		ug/L			04/12/22 12:25	1
Carbon disulfide	ND		2.0		ug/L			04/12/22 12:25	1
Carbon tetrachloride	ND		1.0		ug/L			04/12/22 12:25	1
Chlorobenzene	ND		1.0		ug/L			04/12/22 12:25	1
Chlorobromomethane	ND		1.0		ug/L			04/12/22 12:25	1
Chlorodibromomethane	ND		0.50		ug/L			04/12/22 12:25	1
Chloroethane	ND		2.0		ug/L			04/12/22 12:25	1
Chloroform	ND		1.0		ug/L			04/12/22 12:25	1
Chloromethane	ND		2.0		ug/L			04/12/22 12:25	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 12:25	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 12:25	1
Dibromomethane	ND		1.0		ug/L			04/12/22 12:25	1
Dichlorobromomethane	ND		0.50		ug/L			04/12/22 12:25	1
Dichlorodifluoromethane	ND		2.0		ug/L			04/12/22 12:25	1
Ethyl ether	ND		1.0		ug/L			04/12/22 12:25	1
Ethylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
Ethylene Dibromide	ND		0.50		ug/L			04/12/22 12:25	1
Hexachlorobutadiene	ND		1.0		ug/L			04/12/22 12:25	1
Isopropyl ether	ND		1.0		ug/L			04/12/22 12:25	1
Isopropylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/12/22 12:25	1
Methylene Chloride	ND		2.0		ug/L			04/12/22 12:25	1
m-Xylene & p-Xylene	ND		1.0		ug/L			04/12/22 12:25	1
Naphthalene	ND		2.0		ug/L			04/12/22 12:25	1
n-Butylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
N-Propylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
o-Xylene	ND		1.0		ug/L			04/12/22 12:25	1
sec-Butylbenzene	ND		1.0		ug/L			04/12/22 12:25	1
Styrene	ND		1.0		ug/L			04/12/22 12:25	1
Tert-amyl methyl ether	ND		1.0		ug/L			04/12/22 12:25	1
Tert-butyl ethyl ether	ND		1.0		ug/L			04/12/22 12:25	1
tert-Butylbenzene	ND		1.0		ug/L			04/12/22 12:25	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 620-9727/7
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Tetrachloroethene	ND		1.0		ug/L			04/12/22 12:25	1
Tetrahydrofuran	ND		2.0		ug/L			04/12/22 12:25	1
Toluene	ND		1.0		ug/L			04/12/22 12:25	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/12/22 12:25	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			04/12/22 12:25	1
Trichloroethene	ND		1.0		ug/L			04/12/22 12:25	1
Trichlorofluoromethane	ND		1.0		ug/L			04/12/22 12:25	1
Vinyl chloride	ND		1.0		ug/L			04/12/22 12:25	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/12/22 12:25*	*1*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*		*04/12/22 12:25*	*1*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*		*04/12/22 12:25*	*1*

Lab Sample ID: LCS 620-9727/4
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	20.0	22.1		ug/L		110	70 - 130
1,1,1-Trichloroethane	20.0	22.5		ug/L		112	70 - 130
1,1,2,2-Tetrachloroethane	20.0	22.8		ug/L		114	70 - 130
1,1,2-Trichloroethane	20.0	23.6		ug/L		118	70 - 130
1,1-Dichloroethane	20.0	22.2		ug/L		111	70 - 130
1,1-Dichloroethene	20.0	20.9		ug/L		104	70 - 130
1,1-Dichloropropene	20.0	21.5		ug/L		107	70 - 130
1,2,3-Trichlorobenzene	20.0	19.8		ug/L		99	70 - 130
1,2,3-Trichloropropane	20.0	22.4		ug/L		112	70 - 130
1,2,4-Trichlorobenzene	20.0	20.4		ug/L		102	70 - 130
1,2,4-Trimethylbenzene	20.0	23.2		ug/L		116	70 - 130
1,2-Dibromo-3-Chloropropane	20.0	25.4		ug/L		127	70 - 130
1,2-Dichlorobenzene	20.0	21.5		ug/L		108	70 - 130
1,2-Dichloroethane	20.0	22.2		ug/L		111	70 - 130
1,2-Dichloropropane	20.0	23.0		ug/L		115	70 - 130
1,3,5-Trimethylbenzene	20.0	22.9		ug/L		114	70 - 130
1,3-Dichlorobenzene	20.0	20.7		ug/L		104	70 - 130
1,3-Dichloropropane	20.0	21.8		ug/L		109	70 - 130
1,4-Dichlorobenzene	20.0	21.4		ug/L		107	70 - 130
1,4-Dioxane	200	221		ug/L		110	70 - 130
2,2-Dichloropropane	20.0	22.2		ug/L		111	70 - 130
2-Butanone (MEK)	20.0	11.8	*-	ug/L		59	70 - 130
2-Chlorotoluene	20.0	21.8		ug/L		109	70 - 130
2-Hexanone	20.0	16.4		ug/L		82	70 - 130
4-Chlorotoluene	20.0	22.8		ug/L		114	70 - 130
4-Isopropyltoluene	20.0	22.4		ug/L		112	70 - 130
4-Methyl-2-pentanone (MIBK)	20.0	20.6		ug/L		103	70 - 130
Acetone	20.0	11.1	*-	ug/L		55	70 - 130
Benzene	20.0	20.0		ug/L		100	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 620-9727/4
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Bromobenzene	20.0	20.6		ug/L		103	70 - 130
Bromoform	20.0	21.6		ug/L		108	70 - 130
Bromomethane	20.0	16.3		ug/L		82	70 - 130
Carbon disulfide	20.0	26.9	*+	ug/L		135	70 - 130
Carbon tetrachloride	20.0	22.7		ug/L		114	70 - 130
Chlorobenzene	20.0	21.5		ug/L		108	70 - 130
Chlorobromomethane	20.0	21.9		ug/L		110	70 - 130
Chlorodibromomethane	20.0	24.3		ug/L		122	70 - 130
Chloroethane	20.0	20.0		ug/L		100	70 - 130
Chloroform	20.0	21.8		ug/L		109	70 - 130
Chloromethane	20.0	18.2		ug/L		91	70 - 130
cis-1,2-Dichloroethene	20.0	22.1		ug/L		110	70 - 130
cis-1,3-Dichloropropene	20.0	22.0		ug/L		110	70 - 130
Dibromomethane	20.0	22.8		ug/L		114	70 - 130
Dichlorobromomethane	20.0	25.5		ug/L		128	70 - 130
Dichlorodifluoromethane	20.0	15.5		ug/L		77	70 - 130
Ethyl ether	20.0	20.2		ug/L		101	70 - 130
Ethylbenzene	20.0	21.6		ug/L		108	70 - 130
Ethylene Dibromide	20.0	22.7		ug/L		113	70 - 130
Hexachlorobutadiene	20.0	21.0		ug/L		105	70 - 130
Isopropyl ether	20.0	22.5		ug/L		112	70 - 130
Isopropylbenzene	20.0	20.8		ug/L		104	70 - 130
Methyl tert-butyl ether	20.0	21.7		ug/L		108	70 - 130
Methylene Chloride	20.0	20.6		ug/L		103	70 - 130
m-Xylene & p-Xylene	40.0	46.2		ug/L		115	70 - 130
Naphthalene	20.0	19.5		ug/L		97	70 - 130
n-Butylbenzene	20.0	23.6		ug/L		118	70 - 130
N-Propylbenzene	20.0	20.8		ug/L		104	70 - 130
o-Xylene	20.0	22.0		ug/L		110	70 - 130
sec-Butylbenzene	20.0	19.9		ug/L		99	70 - 130
Styrene	20.0	21.4		ug/L		107	70 - 130
Tert-amyl methyl ether	20.0	19.4		ug/L		97	70 - 130
Tert-butyl ethyl ether	20.0	21.2		ug/L		106	70 - 130
tert-Butylbenzene	20.0	22.4		ug/L		112	70 - 130
Tetrachloroethene	20.0	20.1		ug/L		101	70 - 130
Tetrahydrofuran	20.0	22.6		ug/L		113	70 - 130
Toluene	20.0	20.5		ug/L		102	70 - 130
trans-1,2-Dichloroethene	20.0	22.6		ug/L		113	70 - 130
trans-1,3-Dichloropropene	20.0	21.9		ug/L		109	70 - 130
Trichloroethene	20.0	20.7		ug/L		103	70 - 130
Trichlorofluoromethane	20.0	23.2		ug/L		116	70 - 130
Vinyl chloride	20.0	20.7		ug/L		103	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*113*		*70 - 130*
4-Bromofluorobenzene (Surr)	*103*		*70 - 130*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 620-9727/5
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	20.0	22.6		ug/L		113	70 - 130	2	20
1,1,1-Trichloroethane	20.0	22.6		ug/L		113	70 - 130	1	20
1,1,2,2-Tetrachloroethane	20.0	23.1		ug/L		115	70 - 130	1	20
1,1,2-Trichloroethane	20.0	24.0		ug/L		120	70 - 130	1	20
1,1-Dichloroethane	20.0	22.4		ug/L		112	70 - 130	1	20
1,1-Dichloroethene	20.0	21.7		ug/L		109	70 - 130	4	20
1,1-Dichloropropene	20.0	21.6		ug/L		108	70 - 130	1	20
1,2,3-Trichlorobenzene	20.0	19.9		ug/L		99	70 - 130	0	20
1,2,3-Trichloropropane	20.0	22.4		ug/L		112	70 - 130	0	20
1,2,4-Trichlorobenzene	20.0	20.1		ug/L		101	70 - 130	1	20
1,2,4-Trimethylbenzene	20.0	23.4		ug/L		117	70 - 130	1	20
1,2-Dibromo-3-Chloropropane	20.0	24.7		ug/L		123	70 - 130	3	20
1,2-Dichlorobenzene	20.0	21.9		ug/L		110	70 - 130	2	20
1,2-Dichloroethane	20.0	22.7		ug/L		114	70 - 130	2	20
1,2-Dichloropropane	20.0	23.3		ug/L		116	70 - 130	1	20
1,3,5-Trimethylbenzene	20.0	23.3		ug/L		116	70 - 130	2	20
1,3-Dichlorobenzene	20.0	21.3		ug/L		106	70 - 130	3	20
1,3-Dichloropropane	20.0	21.7		ug/L		108	70 - 130	0	20
1,4-Dichlorobenzene	20.0	21.8		ug/L		109	70 - 130	2	20
1,4-Dioxane	200	220		ug/L		110	70 - 130	0	20
2,2-Dichloropropane	20.0	22.4		ug/L		112	70 - 130	1	20
2-Butanone (MEK)	20.0	11.7	*-	ug/L		59	70 - 130	1	20
2-Chlorotoluene	20.0	22.2		ug/L		111	70 - 130	2	20
2-Hexanone	20.0	15.7		ug/L		79	70 - 130	5	20
4-Chlorotoluene	20.0	23.1		ug/L		116	70 - 130	1	20
4-Isopropyltoluene	20.0	22.8		ug/L		114	70 - 130	2	20
4-Methyl-2-pentanone (MIBK)	20.0	20.2		ug/L		101	70 - 130	2	20
Acetone	20.0	11.0	*-	ug/L		55	70 - 130	1	20
Benzene	20.0	20.7		ug/L		104	70 - 130	3	20
Bromobenzene	20.0	20.9		ug/L		105	70 - 130	2	20
Bromoform	20.0	22.3		ug/L		111	70 - 130	3	20
Bromomethane	20.0	17.0		ug/L		85	70 - 130	4	20
Carbon disulfide	20.0	27.2	*+	ug/L		136	70 - 130	1	20
Carbon tetrachloride	20.0	22.8		ug/L		114	70 - 130	0	20
Chlorobenzene	20.0	22.0		ug/L		110	70 - 130	2	20
Chlorobromomethane	20.0	22.1		ug/L		110	70 - 130	1	20
Chlorodibromomethane	20.0	24.6		ug/L		123	70 - 130	1	20
Chloroethane	20.0	20.4		ug/L		102	70 - 130	2	20
Chloroform	20.0	22.1		ug/L		111	70 - 130	2	20
Chloromethane	20.0	19.1		ug/L		95	70 - 130	5	20
cis-1,2-Dichloroethene	20.0	22.3		ug/L		111	70 - 130	1	20
cis-1,3-Dichloropropene	20.0	22.2		ug/L		111	70 - 130	1	20
Dibromomethane	20.0	23.4		ug/L		117	70 - 130	3	20
Dichlorobromomethane	20.0	25.2		ug/L		126	70 - 130	1	20
Dichlorodifluoromethane	20.0	15.5		ug/L		77	70 - 130	0	20
Ethyl ether	20.0	21.6		ug/L		108	70 - 130	7	20
Ethylbenzene	20.0	22.2		ug/L		111	70 - 130	2	20
Ethylene Dibromide	20.0	23.1		ug/L		116	70 - 130	2	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 620-9727/5
Matrix: Water
Analysis Batch: 9727

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Hexachlorobutadiene	20.0	21.0		ug/L		105	70 - 130	0	20
Isopropyl ether	20.0	22.7		ug/L		113	70 - 130	1	20
Isopropylbenzene	20.0	21.1		ug/L		106	70 - 130	2	20
Methyl tert-butyl ether	20.0	22.0		ug/L		110	70 - 130	1	20
Methylene Chloride	20.0	20.7		ug/L		104	70 - 130	1	20
m-Xylene & p-Xylene	40.0	47.1		ug/L		118	70 - 130	2	20
Naphthalene	20.0	19.2		ug/L		96	70 - 130	1	20
n-Butylbenzene	20.0	23.8		ug/L		119	70 - 130	1	20
N-Propylbenzene	20.0	21.1		ug/L		106	70 - 130	2	20
o-Xylene	20.0	22.6		ug/L		113	70 - 130	3	20
sec-Butylbenzene	20.0	20.2		ug/L		101	70 - 130	1	20
Styrene	20.0	22.0		ug/L		110	70 - 130	3	20
Tert-amyl methyl ether	20.0	19.8		ug/L		99	70 - 130	2	20
Tert-butyl ethyl ether	20.0	21.7		ug/L		109	70 - 130	2	20
tert-Butylbenzene	20.0	22.6		ug/L		113	70 - 130	1	20
Tetrachloroethene	20.0	20.0		ug/L		100	70 - 130	0	20
Tetrahydrofuran	20.0	23.3		ug/L		117	70 - 130	3	20
Toluene	20.0	20.7		ug/L		104	70 - 130	1	20
trans-1,2-Dichloroethene	20.0	22.8		ug/L		114	70 - 130	1	20
trans-1,3-Dichloropropene	20.0	21.9		ug/L		109	70 - 130	0	20
Trichloroethene	20.0	20.7		ug/L		103	70 - 130	0	20
Trichlorofluoromethane	20.0	22.9		ug/L		114	70 - 130	1	20
Vinyl chloride	20.0	20.8		ug/L		104	70 - 130	1	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: MB 200-178969/1-A
Matrix: Water
Analysis Batch: 179045

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 178969

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/20/22 14:00	04/21/22 16:00	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*86*		*46 - 130*	*04/20/22 14:00*	*04/21/22 16:00*	*1*

Lab Sample ID: LLCS 200-178969/2-A
Matrix: Water
Analysis Batch: 179045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178969

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	0.200	0.224		ug/L		112	50 - 150

Method: 522 - 1,4 Dioxane (GC/MS SIM) (Continued)

Lab Sample ID: LLCS 200-178969/2-A
Matrix: Water
Analysis Batch: 179045

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 178969

Surrogate	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*93*		*46 - 130*

Lab Sample ID: LLCSD 200-178969/3-A
Matrix: Water
Analysis Batch: 179045

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 178969

Analyte			Spike Added	LLCSD Result	LLCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane			0.200	0.249		ug/L		124	50 - 150	11	50

Surrogate	*LLCSD %Recovery*	*LLCSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*

Lab Sample ID: MB 200-179184/1-A
Matrix: Water
Analysis Batch: 179283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/26/22 13:00	04/28/22 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*84*		*46 - 130*	*04/26/22 13:00*	*04/28/22 13:29*	*1*

Lab Sample ID: LCS 200-179184/2-A
Matrix: Water
Analysis Batch: 179283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179184

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
1,4-Dioxane			2.00	2.20		ug/L		110	70 - 130		

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*88*		*46 - 130*

Method: 6010D - Metals (ICP)

Lab Sample ID: MB 620-9754/1-A
Matrix: Water
Analysis Batch: 9808

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 9754

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Iron	ND		0.050		mg/L		04/12/22 16:55	04/14/22 12:37	1

Lab Sample ID: LCS 620-9754/2-A
Matrix: Water
Analysis Batch: 9808

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 9754

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Iron			1.25	1.23		mg/L		99	85 - 115		

Method: 6010D - Metals (ICP) (Continued)

Lab Sample ID: LCSD 620-9754/3-A — **Client Sample ID: Lab Control Sample Dup**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9808 — **Prep Batch: 9754**

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Iron			1.25	1.20		mg/L		96	85 - 115	3	20

Method: 410.4 - COD

Lab Sample ID: MB 480-621602/76 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621602

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10		mg/L			04/12/22 21:49	1

Lab Sample ID: LCS 480-621602/77 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621602

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Chemical Oxygen Demand			25.0	25.2		mg/L		101	90 - 110		

Lab Sample ID: 620-3854-6 MS — **Client Sample ID: MW-264M**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621602

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits		
Chemical Oxygen Demand	20		50.0	62.7		mg/L		85	75 - 125		

Method: 9038 - Sulfate, Turbidimetric

Lab Sample ID: MB 480-621828/45 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			04/14/22 16:20	1

Lab Sample ID: MB 480-621828/77 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		5.0		mg/L			04/14/22 16:36	1

Lab Sample ID: LCS 480-621828/46 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Sulfate			30.0	29.8		mg/L		99	90 - 110		

Method: 9038 - Sulfate, Turbidimetric (Continued)

Lab Sample ID: LCS 480-621828/78 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621828

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	30.0	30.4		mg/L		101	90 - 110

Method: 9060A - Organic Carbon, Total (TOC)

Lab Sample ID: MB 480-621711/28 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0		mg/L			04/13/22 07:01	1
TOC Result 2	ND		1.0		mg/L			04/13/22 07:01	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			04/13/22 07:01	1

Lab Sample ID: MB 480-621711/4 — **Client Sample ID: Method Blank**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
TOC Result 1	ND		1.0		mg/L			04/12/22 19:27	1
TOC Result 2	ND		1.0		mg/L			04/12/22 19:27	1
Total Organic Carbon - Duplicates	ND		1.0		mg/L			04/12/22 19:27	1

Lab Sample ID: LCS 480-621711/29 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	60.0	55.3		mg/L		92	90 - 110
TOC Result 2	60.0	54.9		mg/L		91	90 - 110
Total Organic Carbon - Duplicates	60.0	55.1		mg/L		92	90 - 110

Lab Sample ID: LCS 480-621711/5 — **Client Sample ID: Lab Control Sample**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 621711

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
TOC Result 1	60.0	54.8		mg/L		91	90 - 110
TOC Result 2	60.0	56.0		mg/L		93	90 - 110
Total Organic Carbon - Duplicates	60.0	55.4		mg/L		92	90 - 110

Method: D1293-99B - pH

Lab Sample ID: 620-3854-10 DU — **Client Sample ID: MW-553**
Matrix: Water — **Prep Type: Total/NA**
Analysis Batch: 9746

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	7.2	HF	7.20		SU		0.4	5

QC Sample Results

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Method: SM 2320B - Alkalinity

Lab Sample ID: MB 480-622057/30
Matrix: Water
Analysis Batch: 622057

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity, Total	ND		5.0		mg/L			04/17/22 16:00	1

Lab Sample ID: LCS 480-622057/31
Matrix: Water
Analysis Batch: 622057

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
Alkalinity, Total			100	95.4		mg/L		95	90 - 110		

QC Association Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

GC/MS VOA

Leach Batch: 9676

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 620-9676/1-A	Method Blank	Total/NA	Water	1311	

Analysis Batch: 9727

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	8260C	
620-3854-2	MW-267M	Total/NA	Water	8260C	
620-3854-3	REW-12	Total/NA	Water	8260C	
620-3854-4	MW-266Ma	Total/NA	Water	8260C	
620-3854-5	MW-265M	Total/NA	Water	8260C	
620-3854-6	MW-264M	Total/NA	Water	8260C	
620-3854-7	MW-551	Total/NA	Water	8260C	
620-3854-8	MW-261S	Total/NA	Water	8260C	
620-3854-9	MW-552	Total/NA	Water	8260C	
620-3854-10	MW-553	Total/NA	Water	8260C	
620-3854-11	MW-269Ma	Total/NA	Water	8260C	
620-3854-12	DEP-21	Total/NA	Water	8260C	
MB 620-9676/1-A	Method Blank	Total/NA	Water	8260C	9676
MB 620-9727/7	Method Blank	Total/NA	Water	8260C	
LCS 620-9727/4	Lab Control Sample	Total/NA	Water	8260C	
LCSD 620-9727/5	Lab Control Sample Dup	Total/NA	Water	8260C	

GC/MS Semi VOA

Prep Batch: 178969

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	522	
620-3854-2	MW-267M	Total/NA	Water	522	
620-3854-3	REW-12	Total/NA	Water	522	
620-3854-4	MW-266Ma	Total/NA	Water	522	
620-3854-5	MW-265M	Total/NA	Water	522	
620-3854-6	MW-264M	Total/NA	Water	522	
620-3854-7	MW-551	Total/NA	Water	522	
620-3854-8	MW-261S	Total/NA	Water	522	
620-3854-9	MW-552	Total/NA	Water	522	
620-3854-10	MW-553	Total/NA	Water	522	
MB 200-178969/1-A	Method Blank	Total/NA	Water	522	
LLCS 200-178969/2-A	Lab Control Sample	Total/NA	Water	522	
LLCSD 200-178969/3-A	Lab Control Sample Dup	Total/NA	Water	522	

Analysis Batch: 179045

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	522	178969
620-3854-2	MW-267M	Total/NA	Water	522	178969
620-3854-3	REW-12	Total/NA	Water	522	178969
620-3854-4	MW-266Ma	Total/NA	Water	522	178969
620-3854-5	MW-265M	Total/NA	Water	522	178969
620-3854-6	MW-264M	Total/NA	Water	522	178969
620-3854-7	MW-551	Total/NA	Water	522	178969
620-3854-8	MW-261S	Total/NA	Water	522	178969
620-3854-9	MW-552	Total/NA	Water	522	178969
620-3854-10	MW-553	Total/NA	Water	522	178969

GC/MS Semi VOA (Continued)

Analysis Batch: 179045 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 200-178969/1-A	Method Blank	Total/NA	Water	522	178969
LLCS 200-178969/2-A	Lab Control Sample	Total/NA	Water	522	178969
LLCSD 200-178969/3-A	Lab Control Sample Dup	Total/NA	Water	522	178969

Prep Batch: 179184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-11	MW-269Ma	Total/NA	Water	522	
620-3854-12	DEP-21	Total/NA	Water	522	
MB 200-179184/1-A	Method Blank	Total/NA	Water	522	
LCS 200-179184/2-A	Lab Control Sample	Total/NA	Water	522	

Analysis Batch: 179283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-11	MW-269Ma	Total/NA	Water	522	179184
620-3854-12	DEP-21	Total/NA	Water	522	179184
MB 200-179184/1-A	Method Blank	Total/NA	Water	522	179184
LCS 200-179184/2-A	Lab Control Sample	Total/NA	Water	522	179184

Metals

Prep Batch: 9754

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	3005A	
620-3854-2	MW-267M	Total/NA	Water	3005A	
620-3854-6	MW-264M	Total/NA	Water	3005A	
620-3854-10	MW-553	Total/NA	Water	3005A	
MB 620-9754/1-A	Method Blank	Total/NA	Water	3005A	
LCS 620-9754/2-A	Lab Control Sample	Total/NA	Water	3005A	
LCSD 620-9754/3-A	Lab Control Sample Dup	Total/NA	Water	3005A	

Analysis Batch: 9808

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	6010D	9754
620-3854-2	MW-267M	Total/NA	Water	6010D	9754
620-3854-6	MW-264M	Total/NA	Water	6010D	9754
620-3854-10	MW-553	Total/NA	Water	6010D	9754
MB 620-9754/1-A	Method Blank	Total/NA	Water	6010D	9754
LCS 620-9754/2-A	Lab Control Sample	Total/NA	Water	6010D	9754
LCSD 620-9754/3-A	Lab Control Sample Dup	Total/NA	Water	6010D	9754

General Chemistry

Analysis Batch: 9746

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	D1293-99B	
620-3854-2	MW-267M	Total/NA	Water	D1293-99B	
620-3854-6	MW-264M	Total/NA	Water	D1293-99B	
620-3854-10	MW-553	Total/NA	Water	D1293-99B	
LCDSRM 620-9746/17	Lab Control Sample Dup	Total/NA	Water	D1293-99B	
LCSSRM 620-9746/1	Lab Control Sample	Total/NA	Water	D1293-99B	
620-3854-10 DU	MW-553	Total/NA	Water	D1293-99B	

General Chemistry

Analysis Batch: 621602

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	410.4	
620-3854-2	MW-267M	Total/NA	Water	410.4	
620-3854-6	MW-264M	Total/NA	Water	410.4	
620-3854-10	MW-553	Total/NA	Water	410.4	
MB 480-621602/76	Method Blank	Total/NA	Water	410.4	
LCS 480-621602/77	Lab Control Sample	Total/NA	Water	410.4	
620-3854-6 MS	MW-264M	Total/NA	Water	410.4	

Analysis Batch: 621711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	9060A	
620-3854-2	MW-267M	Total/NA	Water	9060A	
620-3854-6	MW-264M	Total/NA	Water	9060A	
620-3854-10	MW-553	Total/NA	Water	9060A	
MB 480-621711/28	Method Blank	Total/NA	Water	9060A	
MB 480-621711/4	Method Blank	Total/NA	Water	9060A	
LCS 480-621711/29	Lab Control Sample	Total/NA	Water	9060A	
LCS 480-621711/5	Lab Control Sample	Total/NA	Water	9060A	

Analysis Batch: 621828

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	9038	
620-3854-2	MW-267M	Total/NA	Water	9038	
620-3854-6	MW-264M	Total/NA	Water	9038	
620-3854-10	MW-553	Total/NA	Water	9038	
MB 480-621828/45	Method Blank	Total/NA	Water	9038	
MB 480-621828/77	Method Blank	Total/NA	Water	9038	
LCS 480-621828/46	Lab Control Sample	Total/NA	Water	9038	
LCS 480-621828/78	Lab Control Sample	Total/NA	Water	9038	

Analysis Batch: 622057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
620-3854-1	MW-266Mb	Total/NA	Water	SM 2320B	
620-3854-2	MW-267M	Total/NA	Water	SM 2320B	
620-3854-6	MW-264M	Total/NA	Water	SM 2320B	
620-3854-10	MW-553	Total/NA	Water	SM 2320B	
MB 480-622057/30	Method Blank	Total/NA	Water	SM 2320B	
LCS 480-622057/31	Lab Control Sample	Total/NA	Water	SM 2320B	

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-266Mb — Lab Sample ID: 620-3854-1

Date Collected: 04/07/22 12:15
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 16:23	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 18:42	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 13:34	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:44	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/13/22 04:35	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:33	KEB	TAL BUF

Client Sample ID: MW-267M — Lab Sample ID: 620-3854-2

Date Collected: 04/07/22 12:00
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 16:50	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		10	179045	04/22/22 10:30	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 13:41	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:45	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/13/22 05:04	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:37	KEB	TAL BUF

Client Sample ID: REW-12 — Lab Sample ID: 620-3854-3

Date Collected: 04/07/22 15:05
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 17:18	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 19:09	K1P	TAL BUR

Client Sample ID: MW-266Ma — Lab Sample ID: 620-3854-4

Date Collected: 04/07/22 15:20
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 17:46	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 19:23	K1P	TAL BUR

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-265M — Lab Sample ID: 620-3854-5

Date Collected: 04/07/22 16:35
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 18:14	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 19:36	K1P	TAL BUR

Client Sample ID: MW-264M — Lab Sample ID: 620-3854-6

Date Collected: 04/07/22 16:50
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 18:41	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 19:50	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 14:02	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:46	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/13/22 05:32	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:43	KEB	TAL BUF

Client Sample ID: MW-551 — Lab Sample ID: 620-3854-7

Date Collected: 04/08/22 10:05
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 19:09	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 20:03	K1P	TAL BUR

Client Sample ID: MW-261S — Lab Sample ID: 620-3854-8

Date Collected: 04/08/22 10:20
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 19:37	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 20:17	K1P	TAL BUR

Client Sample ID: MW-552 — Lab Sample ID: 620-3854-9

Date Collected: 04/08/22 11:30
Date Received: 04/08/22 17:52
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 20:04	CLR	ENE

Lab Chronicle

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Client Sample ID: MW-552
Date Collected: 04/08/22 11:30
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 20:30	K1P	TAL BUR

Client Sample ID: MW-553
Date Collected: 04/08/22 11:45
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 20:32	CLR	ENE
Total/NA	Prep	522			178969	04/20/22 14:00	MJW	TAL BUR
Total/NA	Analysis	522		1	179045	04/21/22 20:44	K1P	TAL BUR
Total/NA	Prep	3005A			9754	04/12/22 16:55	CAJ	ENE
Total/NA	Analysis	6010D		1	9808	04/14/22 14:09	CEV	ENE
Total/NA	Analysis	410.4		1	621602	04/12/22 21:49	CSS	TAL BUF
Total/NA	Analysis	9038		1	621828	04/14/22 16:46	RDA	TAL BUF
Total/NA	Analysis	9060A		1	621711	04/13/22 09:21	KER	TAL BUF
Total/NA	Analysis	D1293-99B		1	9746	04/12/22 14:05	PN	ENE
Total/NA	Analysis	SM 2320B		1	622057	04/17/22 17:50	KEB	TAL BUF

Client Sample ID: MW-269Ma
Date Collected: 04/08/22 13:30
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 20:59	CLR	ENE
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 13:42	DJB	TAL BUR

Client Sample ID: DEP-21
Date Collected: 04/08/22 14:40
Date Received: 04/08/22 17:52

Lab Sample ID: 620-3854-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	9727	04/12/22 21:27	CLR	ENE
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 13:56	DJB	TAL BUR

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Laboratory: Eurofins New England

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	<cert No.>	02-28-23
Connecticut	State	PH-0722	06-30-22
Maine	State	RI00100	04-17-23
Massachusetts	State	M-RI907	06-30-22
New Hampshire	NELAP	2240	08-03-22
New Jersey	NELAP	RI008	06-30-22
New York	NELAP	11393	04-01-23
Rhode Island	State	LAI00368	12-30-22
USDA	US Federal Programs	P330-20-00109	04-15-23

Laboratory: Eurofins Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-22
Connecticut	State	PH-0568	09-30-22
Florida	NELAP	E87672	06-30-22
Georgia	State	10026 (NY)	04-01-23
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	03-31-22 *
Illinois	NELAP	200003	09-30-22
Iowa	State	374	03-01-23
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	01-31-23
Kentucky (DW)	State	90029	12-31-22
Kentucky (UST)	State	30	04-01-22 *
Kentucky (WW)	State	KY90029	12-31-22
Louisiana	NELAP	02031	06-30-22
Maine	State	NY00044	12-04-22
Maryland	State	294	03-31-23
Massachusetts	State	M-NY044	06-30-22
Michigan	State	9937	04-01-22 *
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-22
New Jersey	NELAP	NY455	06-30-22
New York	NELAP	10026	03-31-23
Oregon	NELAP	NY200003	06-12-22
Pennsylvania	NELAP	68-00281	07-31-22
Rhode Island	State	LAO00328	12-30-22
Tennessee	State	02970	04-01-23
Texas	NELAP	T104704412-18-10	07-31-22
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-22
Washington	State	C784	02-10-23
Wisconsin	State	998310390	08-31-22

Laboratory: Eurofins Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Laboratory: Eurofins Burlington (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2336	02-25-23
Connecticut	State	PH-0751	09-30-21 *
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	05-17-22
Florida	NELAP	E87467	06-30-22
Minnesota	NELAP	050-999-436	12-31-22
New Hampshire	NELAP	2006	12-18-22
New Jersey	NELAP	VT972	06-30-22
New York	NELAP	10391	04-01-23
Pennsylvania	NELAP	68-00489	04-30-23
Rhode Island	State	LAO00298	12-30-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00272	10-30-23
Vermont	State	VT4000	02-10-23
Virginia	NELAP	460209	12-14-22
Wisconsin	State	399133350	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	ENE
522	1,4 Dioxane (GC/MS SIM)	EPA	TAL BUR
6010D	Metals (ICP)	SW846	ENE
410.4	COD	MCAWW	TAL BUF
9038	Sulfate, Turbidimetric	SW846	TAL BUF
9060A	Organic Carbon, Total (TOC)	SW846	TAL BUF
D1293-99B	pH	ASTM	ENE
SM 2320B	Alkalinity	SM	TAL BUF
3005A	Preparation, Total Metals	SW846	ENE
5030C	Purge and Trap	SW846	ENE
522	Solid-Phase Extraction (SPE)	EPA	TAL BUR

Protocol References:

ASTM = ASTM International
EPA = US Environmental Protection Agency
MA DEP = Massachusetts Department Of Environmental Protection
MCAWW = "Methods For Chemical Analysis Of Water And Wastes", EPA-600/4-79-020, March 1983 And Subsequent Revisions.
SM = "Standard Methods For The Examination Of Water And Wastewater"
SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

ENE = Eurofins New England, 646 Camp Ave, North Kingstown, RI 02852, TEL (413)789-9018
TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600
TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: Innovative Engineering Solutions, Inc
Project/Site: IDS Wayland

Job ID: 620-3854-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
620-3854-1	MW-266Mb	Water	04/07/22 12:15	04/08/22 17:52
620-3854-2	MW-267M	Water	04/07/22 12:00	04/08/22 17:52
620-3854-3	REW-12	Water	04/07/22 15:05	04/08/22 17:52
620-3854-4	MW-266Ma	Water	04/07/22 15:20	04/08/22 17:52
620-3854-5	MW-265M	Water	04/07/22 16:35	04/08/22 17:52
620-3854-6	MW-264M	Water	04/07/22 16:50	04/08/22 17:52
620-3854-7	MW-551	Water	04/08/22 10:05	04/08/22 17:52
620-3854-8	MW-261S	Water	04/08/22 10:20	04/08/22 17:52
620-3854-9	MW-552	Water	04/08/22 11:30	04/08/22 17:52
620-3854-10	MW-553	Water	04/08/22 11:45	04/08/22 17:52
620-3854-11	MW-269Ma	Water	04/08/22 13:30	04/08/22 17:52
620-3854-12	DEP-21	Water	04/08/22 14:40	04/08/22 17:52

3854

620-3854 Chain of Custody

Chain of Custody Record

eurofins | Environment Testing America

Sampler: Ian Kosnik	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-2963-332.2
Client Contact: Vicki Pariyar	Phone: 207-999-8018	E-Mail: Becky.Mason@Eurofinset.com	State of Origin:	Page: Page 2 of 3
Company: Innovative Engineering Solutions, Inc	PWSID:		Job #:
Address: 37 Pearl St # 1	Due Date Requested:		
City: Braintree	TAT Requested (days): 5		
State, Zip: MA, 02184	Compliance Project: Δ Yes Δ No		
Phone: 508-623-1224(Tel)	PO #: RA-008		
Email: vicki@iesonline.com, ownerfinance@IESSoal.com	WO #:		
Project Name: IDS Wayland	Project #: 62001080		
Site:	SSOW#:		

Analysis Requested

Preservation Codes:

A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J Di Water, K EDTA, L EDA, M Hexane, N None, O AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)

Other

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522 1,4 Dioxane (GC/MS SIM)	8260MCP MCP 8260 Analyte List	9060A TOC	410.4 COD	2320B Alkalinity	D1293_99B pH	6010MCP Iron	9038 Sulfate						Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	S	N	N	D	N							
MW-266Mb	4/7	12:15	C	Water			X	X	X	X	X	X	X	X						11	
MW-267M	4/7	12:00	C	Water			X	X	X	X	X	X	X	X						11	
REW-12	4/7	[redacted]	C	Water			X	X												4	
MW-266Ma	4/7	[redacted]	C	Water			X	X												4	
MW-265M	4/7	16:35	C	Water			X	X												4	
MW-264M	4/7	16:50	C	Water			X	X	X	X	X	X	X	X						11	
MW-551	4/8	10:05	C	Water			X	X												4	
MW-261S	4/8	10:20	C	Water			X	X												4	
MW-552	4/8	11:30	C	Water			X	X												4	
MW-553	4/8	11:45	C	Water			X	X	X	X	X	X	X	X						11	
MW-269Ma	4/8	13:30	C	Water			X	X												4	

Possible Hazard Identification: ☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month): ☐ Return To Client ☒ Disposal By Lab ☐ Archive For ____ Months

Deliverable Requested: I II III IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:
Relinquished by: Ian Kosnik	Date/Time: 4/8/22	Company: ENE	Received by: QC	Date/Time: 4/8/22 3:36	Company: E.E
Relinquished by:	Date/Time: 4/8/22 17:52	Company: ENE	Received by:	Date/Time: 4/8/22 17:52	Company: ENE
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.

Cooler Temperature(s) °C and Other Remarks: 1.2 +0.2 I4 #6

Ver 06/08/2021

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4/29/2022

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Phone: 413-789-9018

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: Ian Kosnik	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-2963-332.1
Client Contact: Vicki Pariyar	Phone: 207-999-9018	E-Mail: Becky.Mason@Eurofinset.com	State of Origin:	Page: Page 1 of 3
Company: Innovative Engineering Solutions, Inc	PWSID:			Job #:
Address: 37 Pearl St # 1	Due Date Requested:			
City: Braintree	TAT Requested (days): 5			
State, Zip: MA, 02184	Compliance Project: Δ Yes Δ No			
Phone: 508-623-1224(Tel)	PO #: RA-008			
Email: vicki@iesionline.com, Dave.Falatko@iesionline.com	WO #:			
Project Name: IDS Wayland	Project #: 62001080			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:
A HCL, B NaOH, C Zn Acetate, D Nitric Acid, E NaHSO4, F MeOH, G Amchlor, H Ascorbic Acid, I Ice, J DI Water, K EDTA, L EDA, M Hexane, N None, O - AsNaO2, P Na2O4S, Q Na2SO3, R Na2S2O3, S H2SO4, T TSP Dodecahydrate, U Acetone, V MCAA, W pH 4-5, Z other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522 1,4 Dioxane (SC/MS SIM)	8260MCP MCP 8260 Analyte List	9060A TOC	410.4 COD	2320B Alkalinity	D1293_99B pH	6010MCP Iron	9038 Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A	A	A	S	N	N	D	N		
DEP-21	4/8	14:40	C	Water			X	X							4	
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												
				Water												

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I II III IV Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Ian Kosnik	4/8/22		[illegible]	4.8.22 [illegible]	FNE
[illegible]	4/8/22 17:52	ENE	[illegible]	4/8/22 17:52	ENE
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.	Cooler Temperature(s) °C and Other Remarks: 1.2 to 2 1.4 #6

Ver 06/08/2021

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Phone 413-789-9018

Chain of Custody Record

620-3854 Chain of Custody

Eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C		o 592 1
Client Contact: Shipping/Receiving	Phone	E-Mail: Becky.Mason@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note)		Job #: 620-3854-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 4/17/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email	WO #:			
Project Name: IDS Wayland	Project #: 62001080			
Site	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522/522_CWA_Prep 1,4 Dioxane (GC/MS SIM)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-266Mb (620-3854-1)	4/7/22	12:15 Eastern		Water			X	1	
MW-267M (620-3854-2)	4/7/22	12 00 Eastern		Water			X	1	
REW-12 (620-3854-3)	4/7/22	15 05 Eastern		Water			X	1	
MW-266Ma (620-3854-4)	4/7/22	15 20 Eastern		Water			X	1	
MW-265M (620-3854-5)	4/7/22	16 35 Eastern		Water			X	1	
MW-264M (620-3854-6)	4/7/22	16 50 Eastern		Water			X	1	
MW-551 (620-3854-7)	4/8/22	10 05 Eastern		Water			X	1	
MW-261S (620-3854-8)	4/8/22	10 20 Eastern		Water			X	1	
MW-552 (620-3854-9)	4/8/22	11 30 Eastern		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification	*Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by.	Date	Time.	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	4/11/22 10:32	GNE			
			[signature]	4/12/22 1100	ETA Burl

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

ORIGIN ID:EHTA (413) 789-9018
JAIME FLORES
EUROFINS SPECTRUM ANALYTICAL
11 ALMGREN DRIVE

AGAWAM, MA 01001
UNITED STATES US

SHIP DATE: 11APR22
ACTWGT: 50.00 LB
CAD: 108821262/INET4460

BILL SENDER

TO **SAMPLE RECEIVING**
TEST AMERICA - BURLINGTON, VT
30 COMMUNITY DR
STE 11
SOUTH BURLINGTON VT 05403

(802) 660-1990 REF WORKSHARE 4 11
INV
PO DEPT

56DJ2/BDF9/FE4A

FedEx Express

J22102201601uv

TUE - 12 APR 10:30A
PRIORITY OVERNIGHT

TRK# 0201 **7765 5154 5512**

NL BTVA

05403
VT-US **BTV**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.
Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com.FedEx will not be responsible for any claim in excess of $100 per package, whether the result of loss, damage, delay, non-delivery,misdelivery,or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim.Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental,consequential, or special is limited to the greater of $100 or the authorized declared value. Recovery cannot exceed actual documented loss.Maximum for items of extraordinary value is $1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

Eurofins New England
646 Camp Ave
North Kingstown, RI 02852
Phone: 413-789-9018

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 620-3593.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Becky.Mason@et.eurofinsus.com	State of Origin: Massachusetts	Page: Page 1 of 1
Company: Eurofins Environment Testing Northeast,		Accreditations Required (See note):		Job #: 620-3854-1
Address: 10 Hazelwood Drive, ,	Due Date Requested: 4/17/2022			
City: Amherst	TAT Requested (days):			
State, Zip: NY, 14228-2298				
Phone: 716-691-2600(Tel) 716-691-7991(Fax)	PO #:			
Email:	WO #:			
Project Name: IDS Wayland	Project #: 62001080			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	2320B/ Alkalinity	9060A/ TOC	410.4/ COD	9038/ Sulfate	Total Number of containers	Special Instructions/Note:
			Preservation Code:									
MW-266Mb (620-3854-1)	4/7/22	12:15 Eastern		Water			X	X	X	X	5	
MW-267M (620-3854-2)	4/7/22	12:00 Eastern		Water			X	X	X	X	5	
MW-264M (620-3854-6)	4/7/22	16:50 Eastern		Water			X	X	X	X	5	
MW-553 (620-3854-10)	4/8/22	11:45 Eastern		Water			X	X	X	X	5	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:		Method of Shipment:	
Relinquished by: [signature]	Date/Time: 4/11/22 17:32	Company: ENE	Received by: [signature]	Date/Time: 4-12-22 1000	Company: TAB
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks: 2.4 ICE		

Ver: 06/08/2021

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3854-1

Login Number: 3854
List Number: 1
Creator: Makhoul, Elie

List Source: Eurofins New England

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	N/A	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3854-1

Login Number: 3854
List Number: 2
Creator: Yeager, Brian A

List Source: Eurofins Buffalo
List Creation: 04/12/22 11:40 AM

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.4 ICE IR GUN #1
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Login Sample Receipt Checklist

Client: Innovative Engineering Solutions, Inc

Job Number: 620-3854-1

Login Number: 3854
List Number: 3
Creator: Cunningham, Caroline R

List Source: Eurofins Burlington
List Creation: 04/13/22 12:22 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	Seal present with no number.
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	0.7ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment B: Well Sampling Logs

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**DEP-21**	DATE	8-Apr-22
TIME	START 13:40 END 14:50		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT

X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	6.00 FT	WELL DEPTH	49.61 FT	WELL DIAMETER	1/2 IN
FINAL DEPTH TO WATER	32.68 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.27 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED		X	
COLLAR	X		

TOTAL VOLUME PURGED: 1.5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
13:40	NA	96.15	10.1	190.2	8.40	3.30	NA	-105.1	
13:55	NA	96.15	12.0	144.2	7.30	0.54	NA	-116.4	
14:10	NA	96.15	12.0	129.6	7.11	0.36	NA	-120.0	
14:25	NA	96.15	12.2	121.7	7.09	0.30	NA	-121.9	
14:30	NA	96.15	12.1	116.6	7.09	0.22	NA	-125.6	
14:35	NA	96.15	12.1	111.9	7.09	0.18	NA	-130.4	
									sampled @ 14:40

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Brown tint with bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 1.5/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-261S**	DATE	
TIME	START 9:20 END 10:30		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
___ TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): _____ FT

PROTECTIVE CASING/WELL DIFFERENCE: _____ FT

INITIAL DEPTH TO WATER	10.05 FT	WELL DEPTH	24.40 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	11.53 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.24124 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
9:20	10.68	256.41	8.8	592.1	7.26	1.05	NA	-22.8	
9:35	11.12	256.41	9.0	575.4	6.90	0.33	NA	-84.0	
9:50	11.12	256.41	9.5	615.1	6.87	0.26	NA	-96.7	
10:05	11.13	256.41	9.6	626.4	6.88	0.21	NA	-106.0	
10:10	11.44	256.41	9.3	618.6	6.88	0.17	NA	-107.7	
10:15	11.53	256.41	9.7	623.8	6.87	0.16	NA	-110.6	
									sampled @ 10:20

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Orange tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-264M**	DATE	7-Apr-22
TIME	START 15:50 END 17:05		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	6.76 FT	WELL DEPTH	47.30 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	7.3 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.08802 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4.5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
15:50	7.07	288.46	9.2	551.6	7.01	0.48	NA	-68.2	
16:05	7.13	288.46	9.6	619.2	6.78	0.21	NA	-65.7	
16:20	7.24	288.46	9.7	687.4	6.71	0.17	NA	-82.8	
16:35	7.29	288.46	9.7	749.1	6.73	0.17	NA	-80.3	
16:40	7.29	288.46	9.6	777.0	6.72	0.14	NA	-76.7	
16:45	7.30	288.46	9.7	779.0	6.70	0.14	NA	-75.7	
									sampled @ 16:50

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Orange/brown tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4.5/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-265M**	DATE	7-Apr-22
TIME	START 15:35 END 16:45		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	10.31 FT	WELL DEPTH	48.40 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	12.36 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.33415 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
15:35	11.17	192.31	9.5	727	6.26	1.38	NA	-16.3	
15:50	11.21	192.31	9.4	743	6.25	0.38	NA	-23.6	
16:05	11.21	192.31	9.7	752	6.26	0.32	NA	-28.8	
16:20	11.22	192.31	9.9	797	6.23	0.30	NA	-36.2	
16:25	12.04	192.31	10.1	810	6.22	0.23	NA	-38.6	
16:30	12.11	192.31	10.3	853	6.20	0.22	NA	-41.1	
									sampled @ 16:35

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Brown tint bio bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 3/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-266Ma**	DATE	7-Apr-22
TIME	START 14:20 END 15:30		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER

PROTECTIVE CASING STICKUP (FROM GROUND): ___ FT

PROTECTIVE CASING/WELL DIFFERENCE: ___ FT

INITIAL DEPTH TO WATER	9.17 FT	WELL DEPTH	55.00 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	14.26 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.82967 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
14:20	10.18	256.41	10.7	378.2	6.88	1.00	NA	-69.0	
14:35	12.03	256.41	10.0	395.4	6.46	0.35	NA	-48.9	
14:50	12.55	256.41	10.1	391.0	6.47	0.30	NA	-55.7	
15:05	13.81	256.41	10.2	365.2	6.54	0.27	NA	-62.2	
15:10	13.97	256.41	10.2	422.9	6.35	0.25	NA	-56.2	
15:15	14.23	256.41	10.2	419.2	6.35	0.25	NA	-56.5	
									sampled @ 15:20

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Grey tint, silty, bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-266Mb**	DATE	7-Apr-22
TIME	START 11:15 END 12:25		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	8.3 FT	WELL DEPTH	70.10 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	9.26 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.15648 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

TOTAL VOLUME PURGED: 5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
11:15	8.87	320.51	10.0	910	6.25	4.44	NA	-4.3	
11:30	9.23	320.51	10.3	941	6.24	0.38	NA	-25.7	
11:45	9.25	320.51	10.2	962	6.26	0.30	NA	-33.7	
12:00	9.25	320.51	10.3	970	6.22	0.29	NA	-35.2	
12:05	9.26	320.51	10.5	1022	6.15	0.26	NA	-37.0	
12:10	9.26	320.51	10.5	1026	6.14	0.26	NA	-36.8	
									sampled @ 12:15

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: yellow/orange tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 1

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-267S**	DATE	6-Apr-22
TIME	START 15:15 END 16:45		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	7.83 FT	WELL DEPTH	76.40 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	21.26 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	2.18909 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
15:15	9.38	192.31	9.1	2528	5.36	1.04	NA	20.8	
15:30	13.01	192.31	9.0	2428	5.35	0.51	NA	25.7	
15:45	16.46	192.31	9.4	2465	5.40	0.35	NA	19.4	
16:00	19.06	192.31	9.5	2455	5.42	0.33	NA	16.5	
16:05	20.02	192.31	9.5	2470	5.42	0.31	NA	15.9	
16:10	20.64	192.31	9.4	2468	5.42	0.31	NA	16.1	
									sampled @ 16:15

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Cloudy/white water with bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 3/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-267M**	DATE	7-Apr-22
TIME	START 11:00 END 12:10		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	8.05 FT	WELL DEPTH	98.29 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	9.72 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.27221 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
11:00	8.55	256.41	9.2	471.4	6.66	0.88	NA	-67.8	
11:15	9.65	256.41	9.7	471.1	6.85	0.20	NA	-133.5	
11:30	9.70	256.41	9.8	472.0	6.87	0.12	NA	-139.6	
11:45	9.72	256.41	9.8	469.5	6.86	0.12	NA	-142.5	
11:50	9.72	256.41	9.8	471.0	6.86	0.12	NA	-142.7	
11:55	9.72	256.41	9.8	470.3	6.86	0.11	NA	-143.1	
									sampled @ 12:00

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Orange tint strong bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-268S**	DATE	6-Apr-22
TIME	START 10:35 END 12:00		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ___ FT

PROTECTIVE CASING/WELL DIFFERENCE: ___ FT

INITIAL DEPTH TO WATER	6.6 FT	WELL DEPTH	77.00 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	20.03 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	2.18909 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 2.5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
10:35	10.68	160.26	8.9	292.7	7.57	0.67	NA	-92.1	
10:50	12.52	160.26	8.9	282.1	7.50	0.46	NA	-98.9	
11:05	14.82	160.26	9.0	279.9	7.46	0.37	NA	-98.7	
11:20	17.60	160.26	9.3	279.3	7.42	0.32	NA	-99.9	
11:25	18.37	160.26	9.3	278.5	7.42	0.31	NA	-100.7	
11:30	19.37	160.26	9.3	278.1	7.41	0.30	NA	-101.3	
									sampled @ 11:35

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Murky no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 1/2

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-268M**	DATE	6-Apr-22
TIME	START 10:40 END 12:05		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	6.62 FT	WELL DEPTH	93.80 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	7.22 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.0978 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 2.5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
10:40	7.16	160.26	8.7	719.6	7.03	1.19	NA	-54.0	
10:55	7.18	160.26	8.8	703.6	6.94	0.41	NA	-67.5	
11:10	7.21	160.26	8.9	700.9	6.90	0.25	NA	-73.0	
11:25	7.21	160.26	8.8	698.9	6.88	0.17	NA	-73.5	
11:30	7.21	160.26	8.8	698.0	6.89	0.17	NA	-73.6	
11:35	7.22	160.26	8.8	697.4	6.90	0.16	NA	-75.0	
									sampled @11:40

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Clear with bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED:

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-268D**	DATE	6-Apr-22
TIME	START 12:40 END 14:00		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	7.71 FT	WELL DEPTH	130.15 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	7.86 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.02445 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3.5 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
12:40	7.84	224.36	8.6	453.9	7.17	2.21	NA	-131.3	Dup 1
12:55	7.85	224.36	8.8	384.9	7.77	0.19	NA	-247.9	
13:10	7.85	224.36	8.7	360.6	8.14	0.15	NA	-272.3	
13:25	7.85	224.36	8.8	355.3	8.15	0.12	NA	-276.0	
13:30	7.86	224.36	8.8	353.6	8.19	0.12	NA	-278.5	
13:35	7.86	224.36	8.8	354.9	8.19	0.12	NA	-277.9	
									sampled @

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: Clear water with bio odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 3.5/5

NOTES **DUP 1**

SIGNATURE **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-269Ma**	DATE	8-Apr-22
TIME	START 12:30 END 13:40		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	7.67 FT	WELL DEPTH	33.68 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	10.48 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.45803 GAL				
TOTAL VOLUME PURGED	4 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
12:30	8.78	256.41	9.9	281.3	7.72	2.40	NA	-4.3	
12:45	10.03	256.41	9.7	276.0	7.14	1.00	NA	-12.6	
13:00	10.48	256.41	10.0	284.7	7.07	0.56	NA	-51.3	
13:15	10.48	256.41	10.4	287.9	7.07	0.35	NA	-75.8	
13:20	10.48	256.41	10.3	287.7	7.07	0.34	NA	-78.7	
13:25	10.48	256.41	10.1	287.1	7.07	0.35	NA	-79.8	
									sampled @ 13:30

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Dark grey/brown tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-551**	DATE	8-Apr-22
TIME	START 9:05 END 10:15		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	8.05 FT	WELL DEPTH	26.30 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	13.19 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.83782 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

TOTAL VOLUME PURGED: 4 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
9:05	9.08	256.41	9.3	331.4	6.76	1.38	NA	-13.7	
9:20	9.16	256.41	9.4	335.2	6.70	0.72	NA	-17.8	
9:35	12.32	256.41	9.4	337.8	6.66	0.39	NA	-28.1	
9:50	12.96	256.41	9.8	341.6	6.73	0.33	NA	-53.9	
9:55	13.14	256.41	9.8	342.0	6.73	0.32	NA	-60.0	
10:00	13.19	256.41	9.9	344.9	6.73	0.31	NA	-62.4	
									sampled @ 10:05

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Brown/orange tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-552**	DATE	8-Apr-22
TIME	START 10:30 END 11:40		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	9.11 FT	WELL DEPTH	27.10 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	9.8 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.11247 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
10:30	9.78	192.31	10.0	592.1	7.00	0.41	NA	-93.9	
10:45	9.78	192.31	10.2	589.7	7.01	0.26	NA	-134.6	
11:00	9.80	192.31	10.1	592.6	6.99	0.22	NA	-142.1	
11:15	9.80	192.31	10.1	591.0	6.94	0.21	NA	-141.0	
11:20	9.80	192.31	10.2	599.1	6.93	0.21	NA	-141.2	
11:25	9.80	192.31	10.2	597.4	6.92	0.22	NA	-141.3	
									sampled @ 11:30

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: orange tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-553**	DATE	8-Apr-22
TIME	START 10:45 END 11:50		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	9 FT	WELL DEPTH	21.50 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	17.66 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	1.41158 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
10:45	9.85	256.41	9.9	1218	6.67	2.33	NA	-36.6	
11:00	12.53	256.41	9.4	1231	6.76	0.40	NA	-57.6	
11:15	15.25	256.41	9.4	1229	6.81	0.39	NA	-65.1	
11:30	17.04	256.41	9.8	1228	6.87	0.38	NA	-75.5	
11:35	17.22	256.41	9.8	1225	6.88	0.36	NA	-78.5	
11:40	17.54	256.41	10.1	1225	6.91	0.36	NA	-81.4	
									sampled @ 11:45

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	
X	TA	9060A TOC	HCL/4 DEG C	2 x 40 ml	X	
X	TA	6010 Total Iron	HNO3/4 DEG C	1 x 250 ml	X	
X	TA	2320B Alkalinity	None/4 DEG C	1 x 125 ml	X	
X	TA	353.2, 9251, 9038: NO4, Cl, SO4	None/4 DEG C	2 x 125 ml	X	
X	TA	9040C Ph	None/4 DEG C	1 x 125 ml	X	
X	Alpha	Dissolved Gases	None/4 DEG C	2 x 20 ml	X	

PURGE WATER DESCRIPTION: yellow/orange tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**MW-563**	DATE	7-Apr-22
TIME	START 9:30 END 10:40		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	5.83 FT	WELL DEPTH	65.20 FT	WELL DIAMETER	2 IN
FINAL DEPTH TO WATER	9.14 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.53953 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
9:30	7.09	192.31	9.6	171.7	6.79	0.81	NA	59.5	
9:45	7.72	192.31	9.1	168.2	7.05	0.42	NA	-30.7	
10:00	8.18	192.31	9.8	169.0	7.08	0.36	NA	-54.4	
10:15	9.13	192.31	10.2	169.1	7.09	0.31	NA	-76.3	
10:20	9.13	192.31	10.2	170.0	7.09	0.31	NA	-81.2	
10:25	9.14	192.31	10.3	171.5	7.09	0.31	NA	-84.8	
									sampled @ 10:30

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Green/yellow tint no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 3/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**REW-6**	DATE	6-Apr-22
TIME	START 15:00 END 16:10		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	5.4 FT	WELL DEPTH	95.05 FT	WELL DIAMETER	4 IN
FINAL DEPTH TO WATER	6.63 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.20049 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 4 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
15:00	5.58	256.41	9.4	1662	6.85	0.13	NA	-173.6	
15:15	6.30	256.41	9.5	1664	6.94	0.21	NA	-187.9	
15:30	6.63	256.41	9.4	1663	6.99	0.16	NA	-191.4	
15:45	6.63	256.41	9.3	1665	6.99	0.14	NA	-188.1	
15:50	6.63	256.41	9.3	1664	7.00	0.12	NA	-187.7	
15:55	6.63	256.41	9.3	1660	7.00	0.12	NA	-186.7	
									sampled @ 16:00

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Cloudy with a sheen and no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**REW-7**	DATE	7-Apr-22
TIME	START 9:45 END 10:55		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	5.66 FT	WELL DEPTH	77.08 FT	WELL DIAMETER	4 IN
FINAL DEPTH TO WATER	7.95 FT	SCREEN LENGTH	FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.37327 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3 GAL

(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
9:45	6.11	192.31	9.4	182.4	6.63	4.65	NA	-18.2	
10:00	6.45	192.31	9.3	167.3	6.83	0.52	NA	-44.4	
10:15	7.03	192.31	9.4	161.0	6.96	0.23	NA	-70.1	
10:30	7.30	192.31	9.6	160.5	6.99	0.21	NA	-75.7	
10:35	7.63	192.31	9.6	161.6	7.00	0.17	NA	-80.0	
10:40	7.77	192.31	9.6	161.8	6.98	0.18	NA	-80.4	
									sampled @ 10:45

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

		METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X	TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X	TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Cloudy no odor

PURGE WATER CONTAINERIZED

NUMBER OF BUCKETS GENERATED: 3/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**REW-11**	DATE	6-Apr-22
TIME	START 12:55 END 14:20		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	4.25 FT	WELL DEPTH	93.68 FT	WELL DIAMETER	4 IN
FINAL DEPTH TO WATER	7.1 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM

DRAWDOWN VOLUME: 0.46455 GAL
(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

TOTAL VOLUME PURGED: 4.5 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
12:55	4.67	288.46	9.4	3147	7.80	0.62	NA	-193.2	
13:10	5.11	288.46	9.4	3110	7.73	0.32	NA	-215.2	
13:25	6.21	288.46	9.6	3112	7.72	0.27	NA	-222.7	
13:40	6.71	288.46	9.5	3113	7.72	0.26	NA	-224.6	
13:45	6.92	288.46	9.5	3110	7.71	0.25	NA	-225.4	
13:50	7.01	288.46	9.5	3110	7.71	0.24	NA	-226.5	
									sampled @ 13:55

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
GEO 2	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Milky/Cloudy color with no odor

PURGE WATER CONTAINERIZED: Pour back into well

NUMBER OF BUCKETS GENERATED: 4.5/5

NOTES

SIGNATURE: **IK**

FIELD DATA RECORD - LOW FLOW GROUNDWATER SAMPLING

PROJECT	**RA-008**	JOB NUMBER	N/A
WELL ID	**REW-12**	DATE	7-Apr-22
TIME	START 14:05 END 15:20		

Innovative Engineering Solutions, Inc.
37 Pearl Street
Braintree, MA 02081

WATER LEVEL/PUMP SETTINGS

MEASUREMENT POINT
X TOP OF WELL RISER
___ TOP OF PROTECTIVE CASING
___ OTHER _____

PROTECTIVE CASING STICKUP (FROM GROUND): ____ FT

PROTECTIVE CASING/WELL DIFFERENCE: ____ FT

INITIAL DEPTH TO WATER	6.51 FT	WELL DEPTH	76.00 FT	WELL DIAMETER	4 IN
FINAL DEPTH TO WATER	8.3 FT	SCREEN LENGTH	____ FT	PID AMBIENT AIR	NA PPM
DRAWDOWN VOLUME	0.29177 GAL				

(initial - final x 0.163 {2-inch} or x 0.654 {4-inch})

WELL INTEGRITY	YES	NO	N/A
CAP	X		
CASING	X		
LOCKED	X		
COLLAR	X		

TOTAL VOLUME PURGED: 3 GAL
(purge rate (milliliters per minute) x time duration (minutes) x 0.00026 gal/millilter)

PURGE DATA

TIME	DEPTH TO WATER (ft)	PURGE RATE (ml/min)	TEMP (deg C)	SPECIFIC CONDUCTANCE (mg/cm)	pH (units)	DISS. O_2 (mg/L)	TURBIDITY (ntu)	REDOX (mv)	COMMENTS
14:05	6.70	192.31	9.7	637.1	6.49	0.37	NA	-70.2	
14:20	7.22	192.31	9.9	657.5	6.51	0.24	NA	-90.7	
14:35	7.64	192.31	9.9	659.0	6.67	0.16	NA	-107.7	
14:50	8.00	192.31	10.0	658.2	6.70	0.13	NA	-114.1	
14:55	8.09	192.31	10.1	660.5	6.74	0.12	NA	-117.3	
15:00	8.18	192.31	10.0	660.1	6.73	0.11	NA	-118.0	
									sampled @ 15:05

EQUIPMENT DOCUMENTATION

TYPE OF PUMP	TYPE OF TUBING	TYPE OF PUMP MATERIAL
_	SILICON/ POLY	Peristaltic

ANALYTICAL PARAMETERS

	METHOD NUMBER	PRESERVATION METHOD	VOLUME REQUIRED	SAMPLE COLLECTED	SAMPLE RESULTS
X TA	8260C	HCL/4 DEG C	3 x 40 ml	X	
X TA	522 Dioxane	HCL/4 DEG C	1 x 250 ml	X	

PURGE WATER DESCRIPTION: Clear no odor

PURGE WATER CONTAINERIZED: Pour back into well

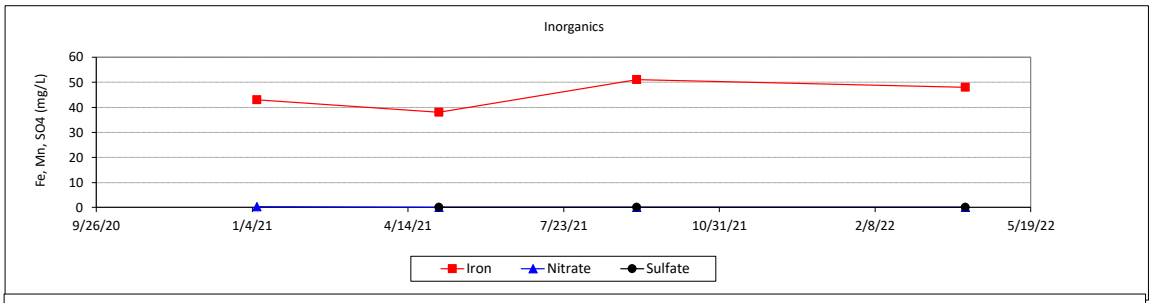
NUMBER OF BUCKETS GENERATED: 3.0/5

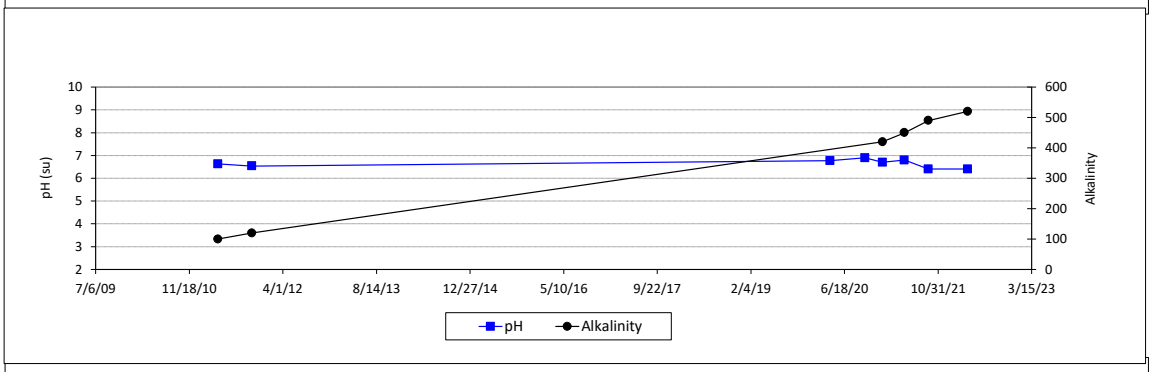
NOTES

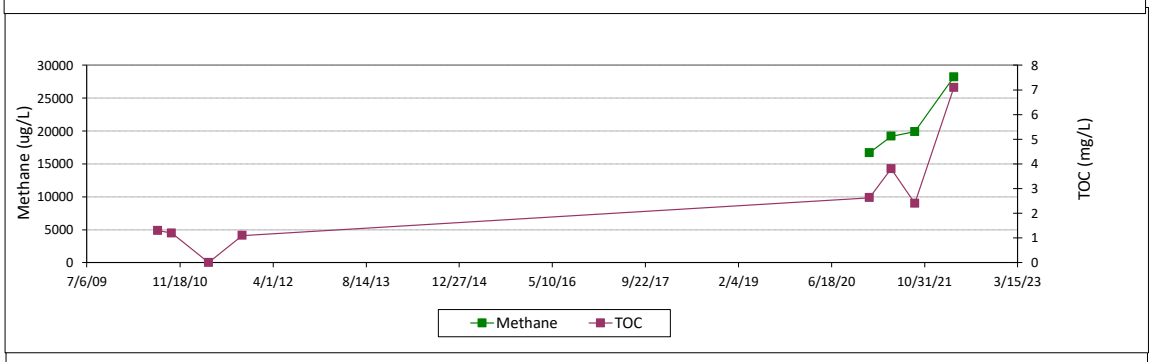
SIGNATURE: **IK**

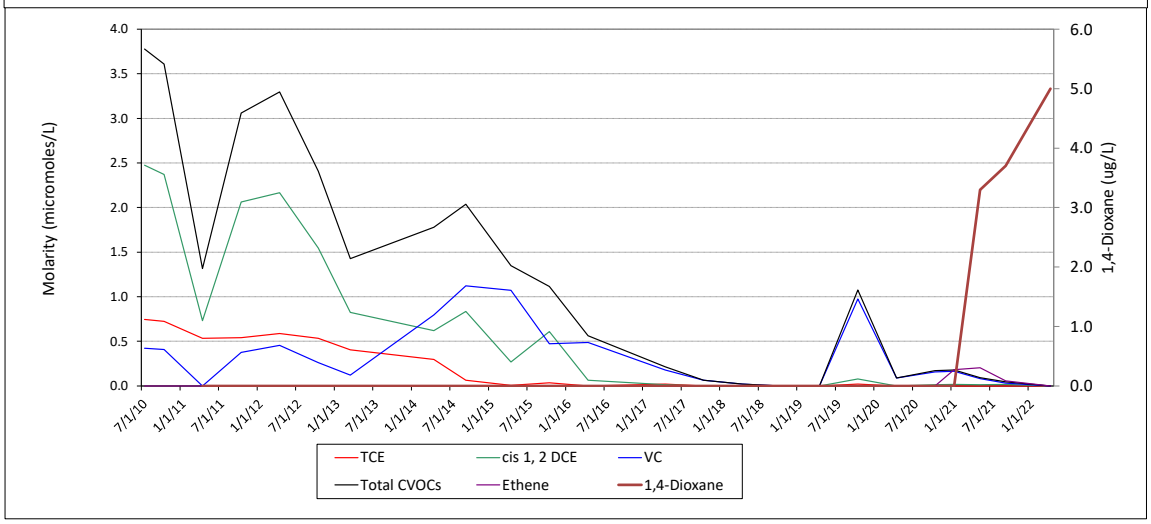
Attachment C: Selected Well Analytical Data Tracking Graphs

Northern Area Remediation Monitoring Data
MW-266Mb
Former Raytheon Facility, Wayland, MA

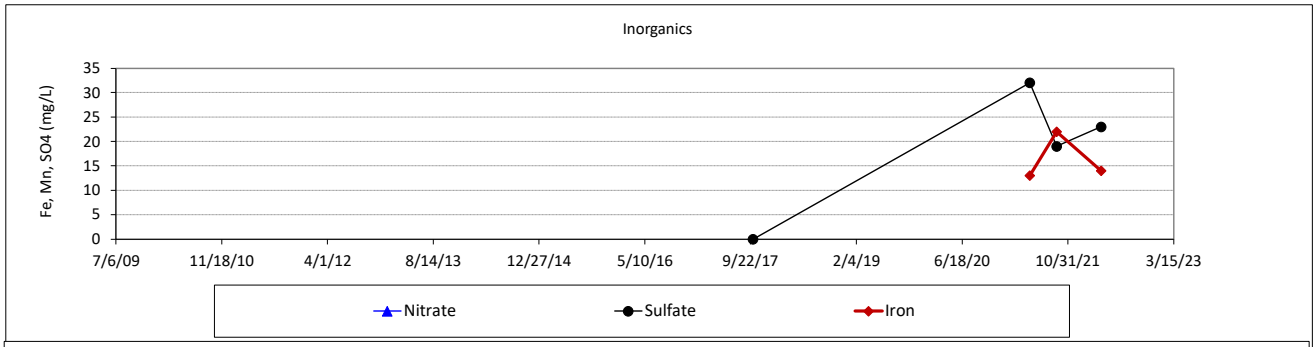


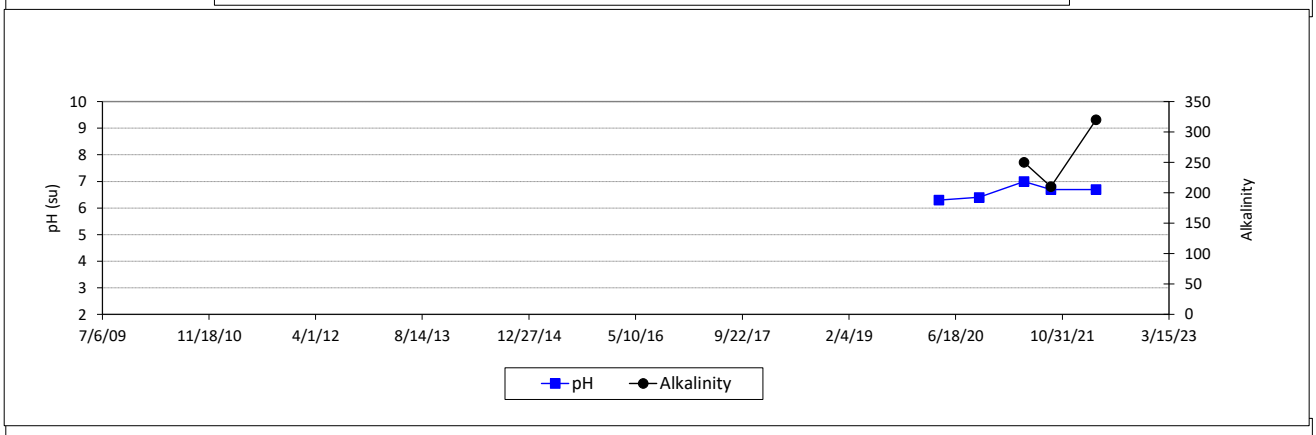


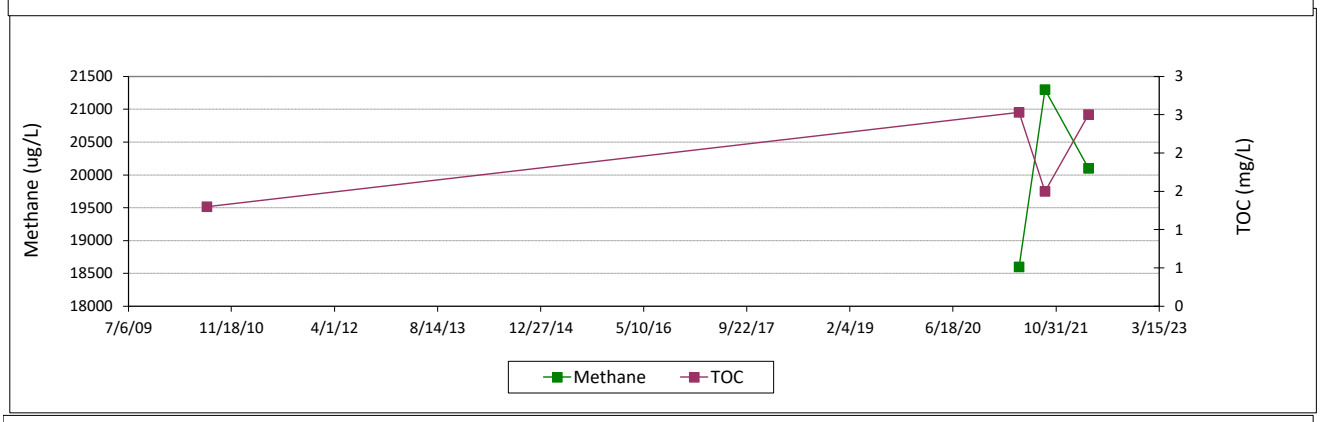


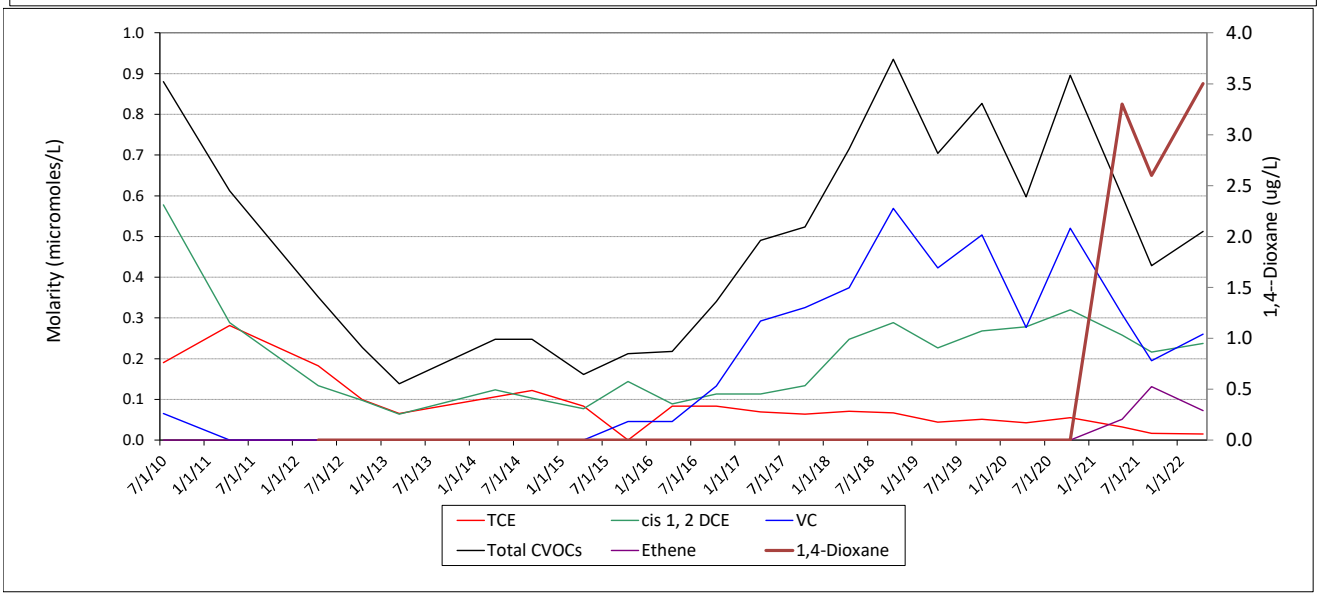


Northern Area Remediation Monitoring Data
MW-264M
Former Raytheon Facility, Wayland, MA

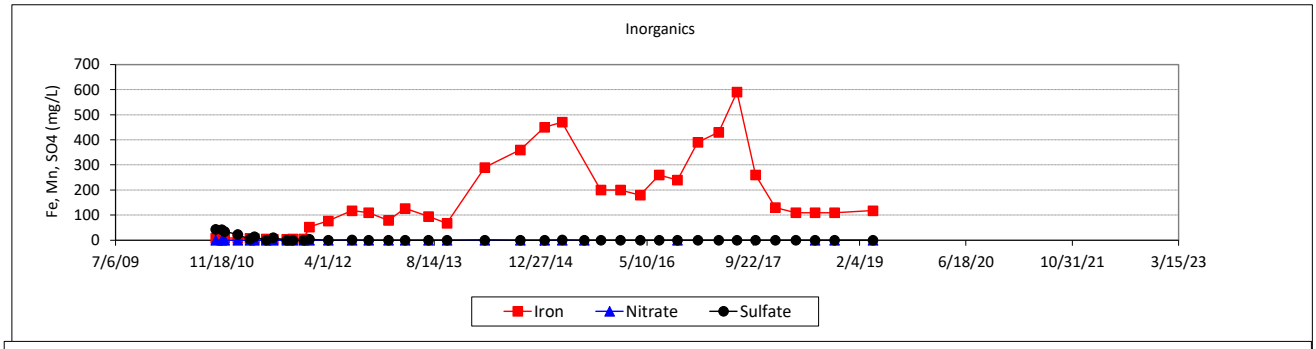


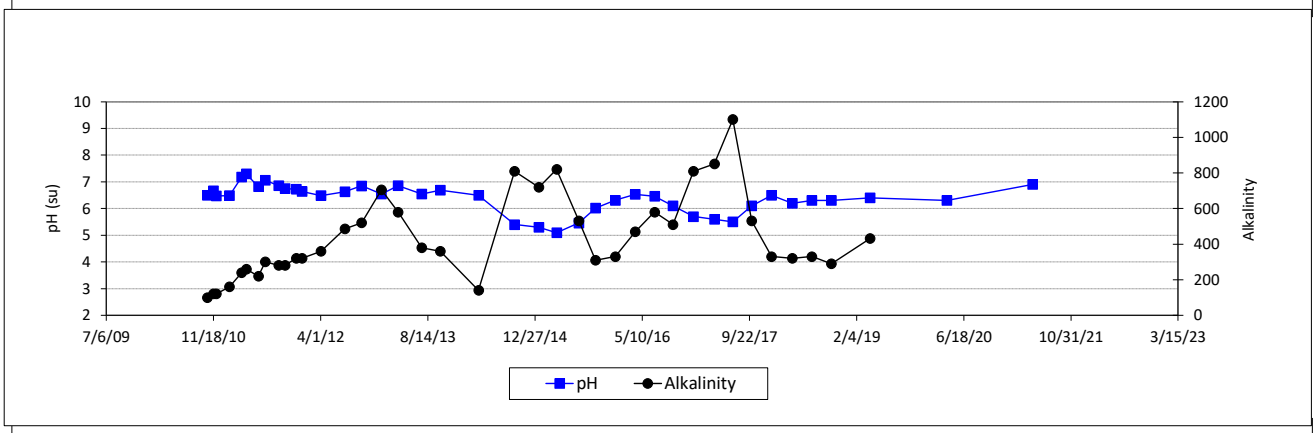


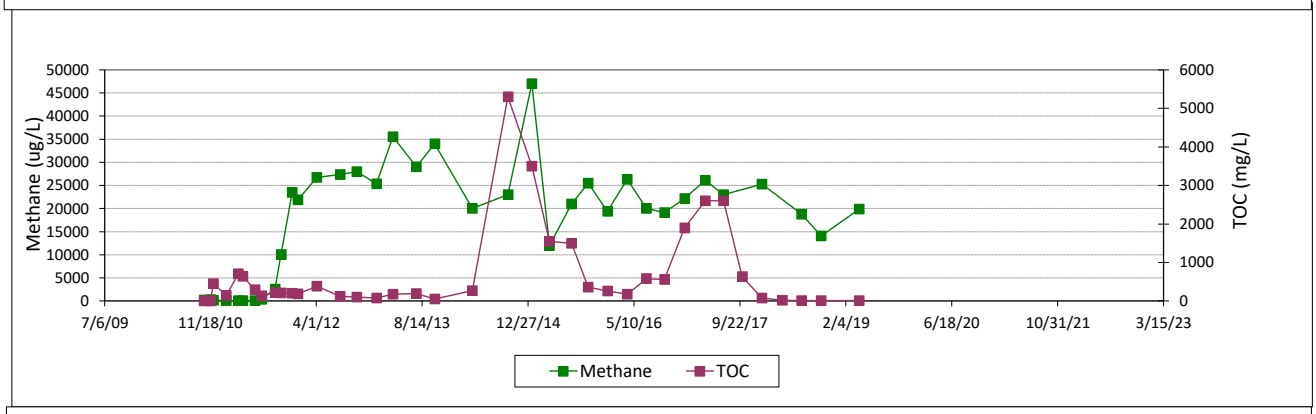


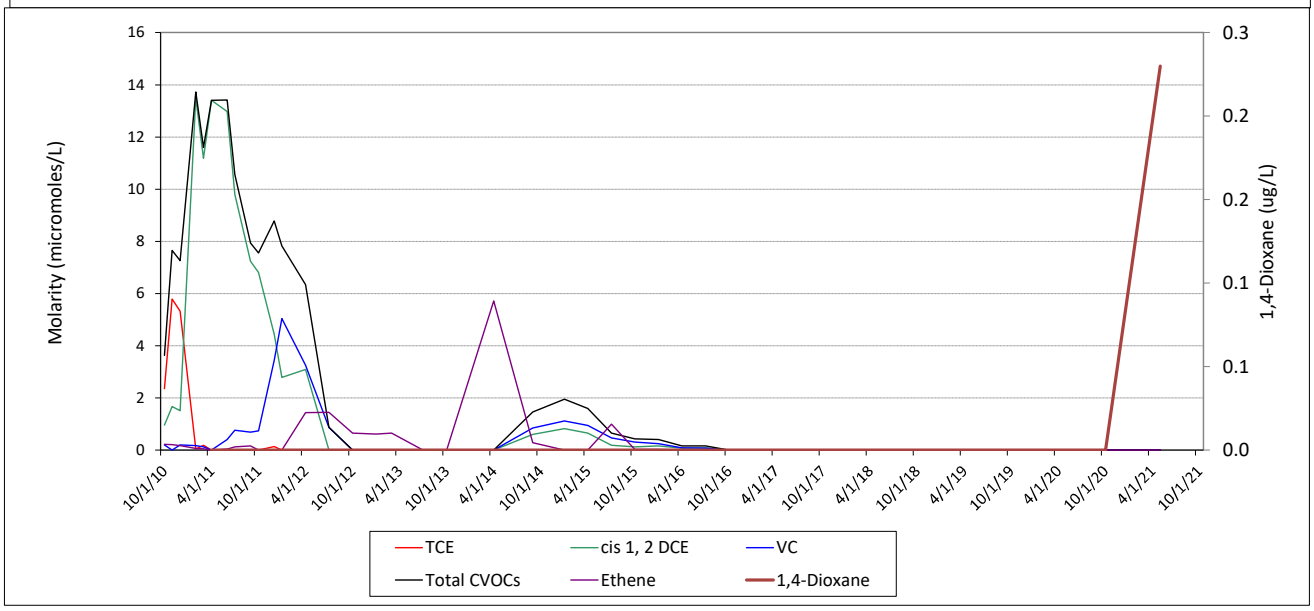


Northern Area Remediation Monitoring Data
MW-562
Former Raytheon Facility, Wayland, MA

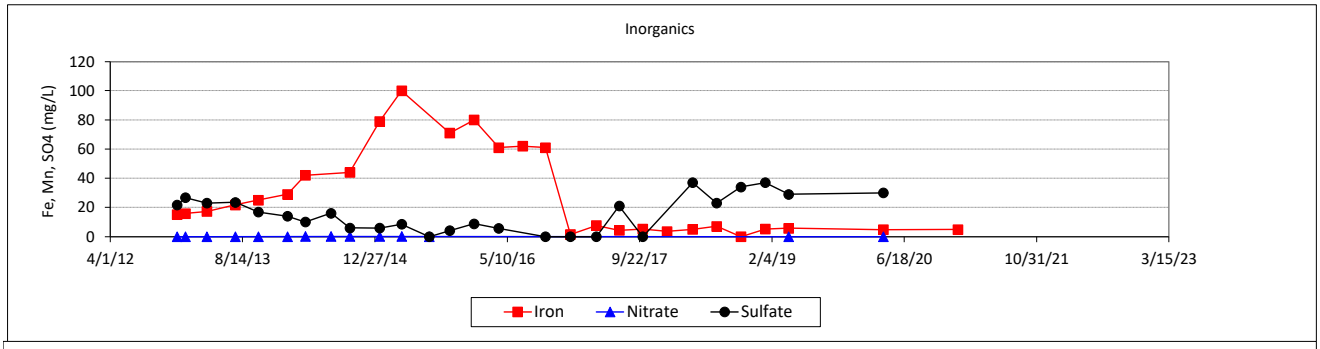


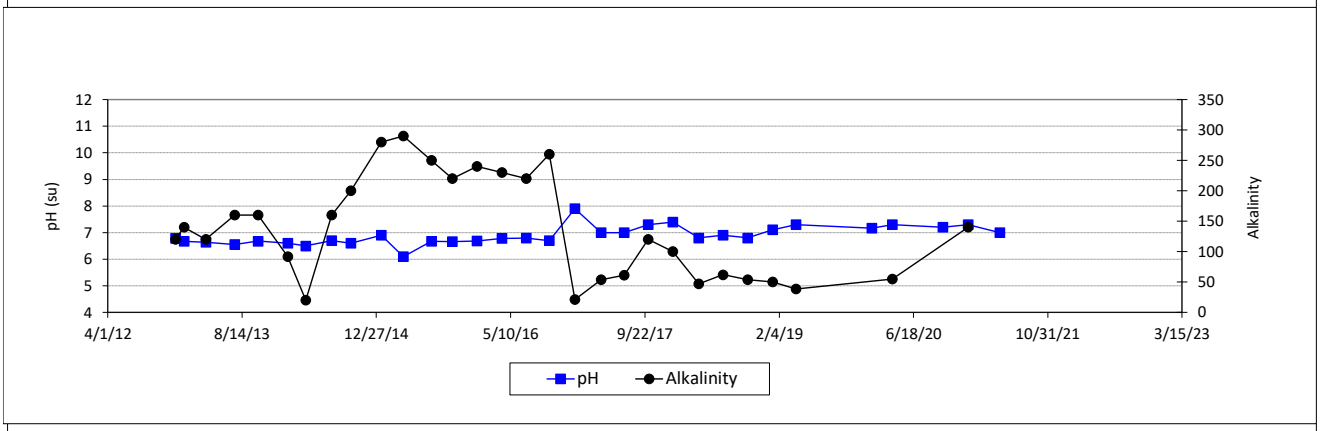


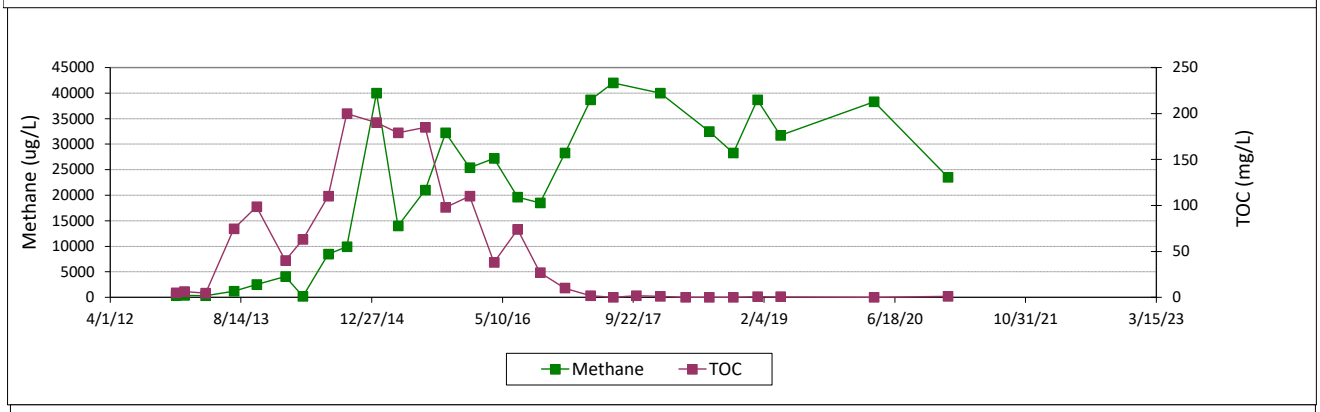


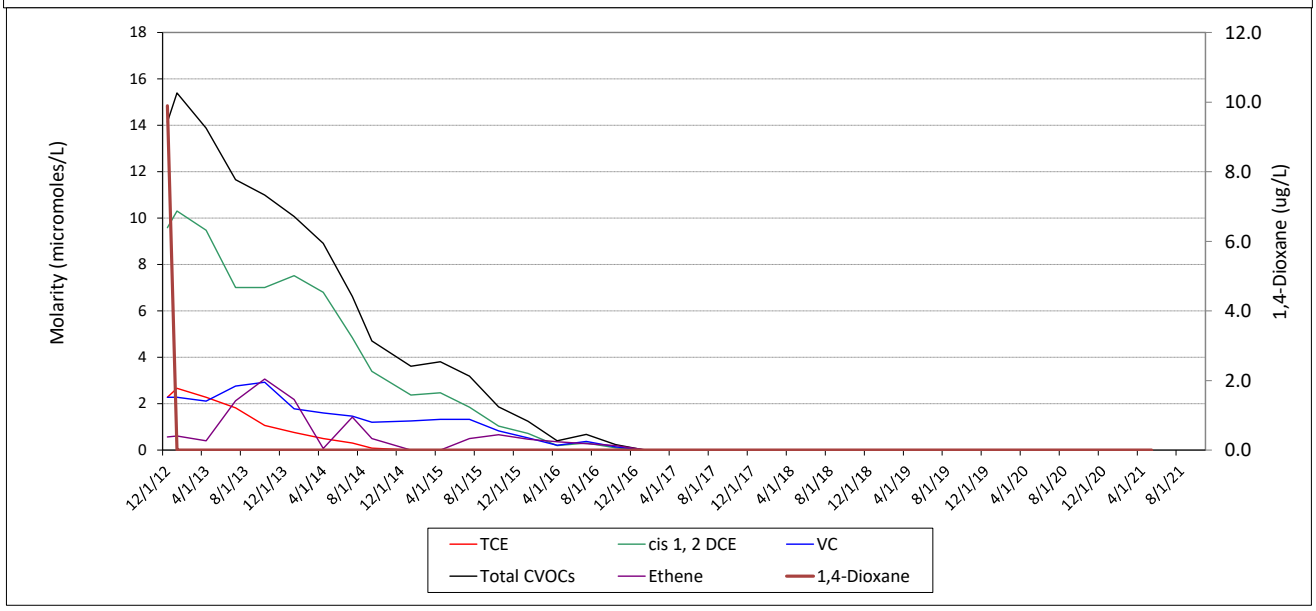


Northern Area Remediation Monitoring Data
REW-7
Former Raytheon Facility, Wayland, MA

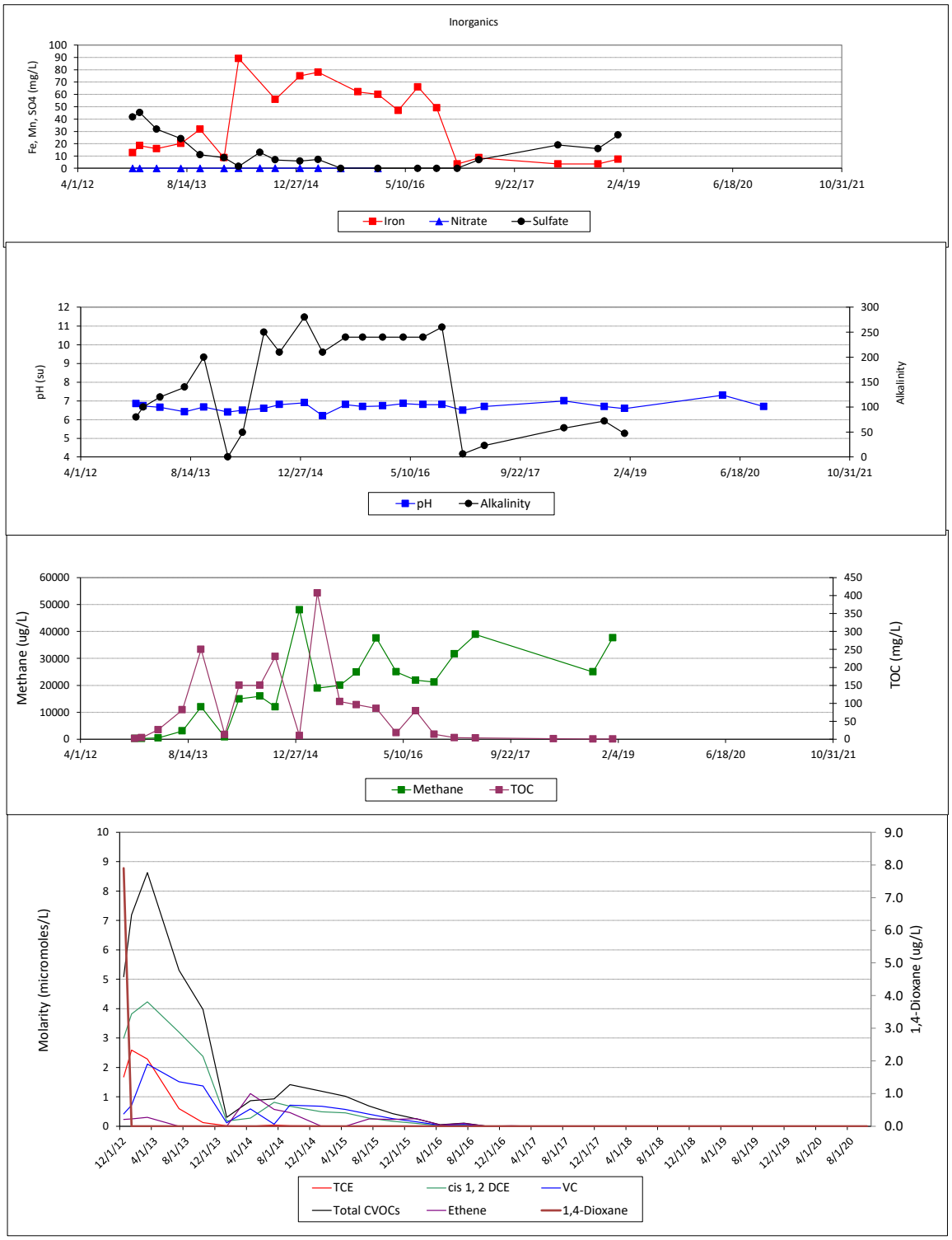




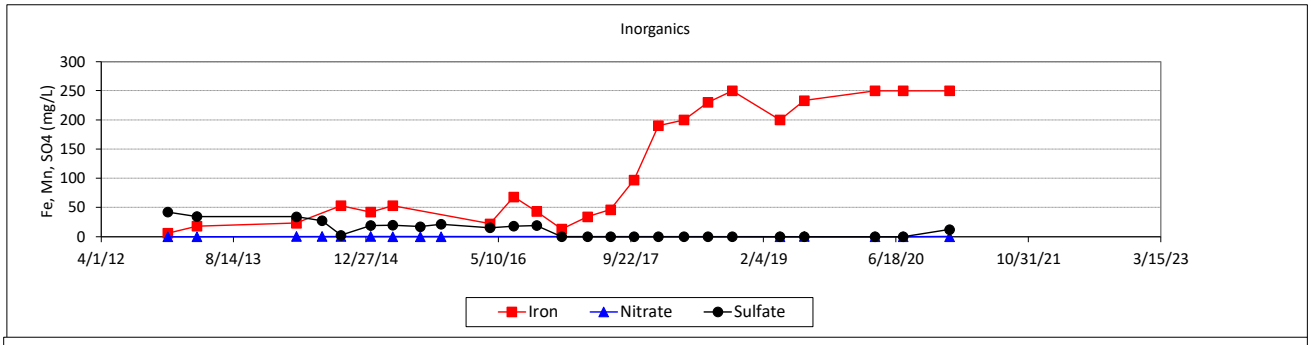


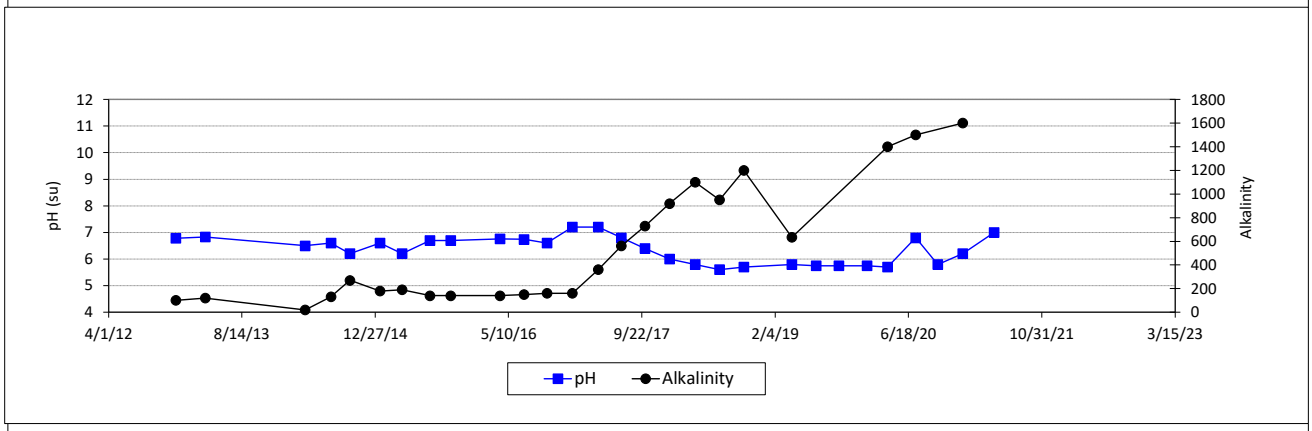


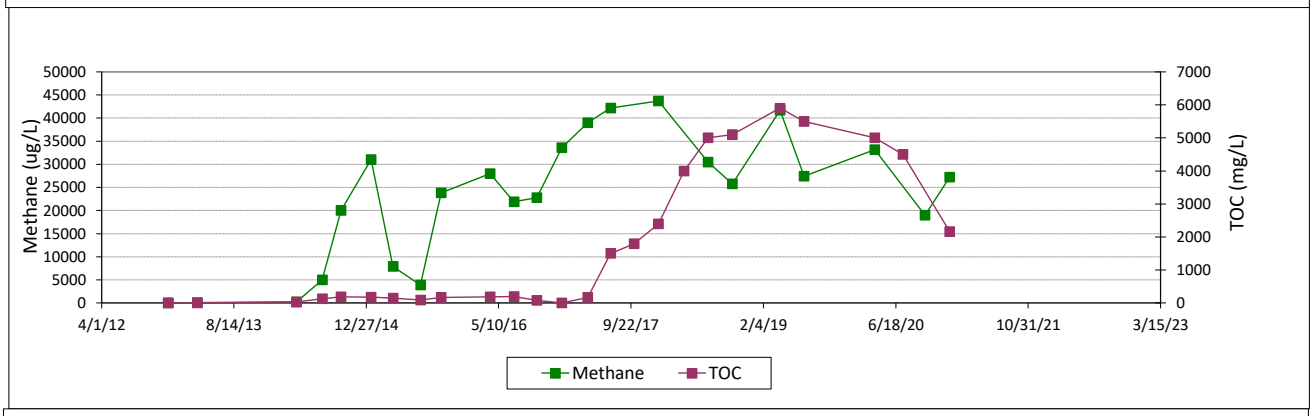
Northern Area Remediation Monitoring Data
REW-8
Former Raytheon Facility, Wayland, MA

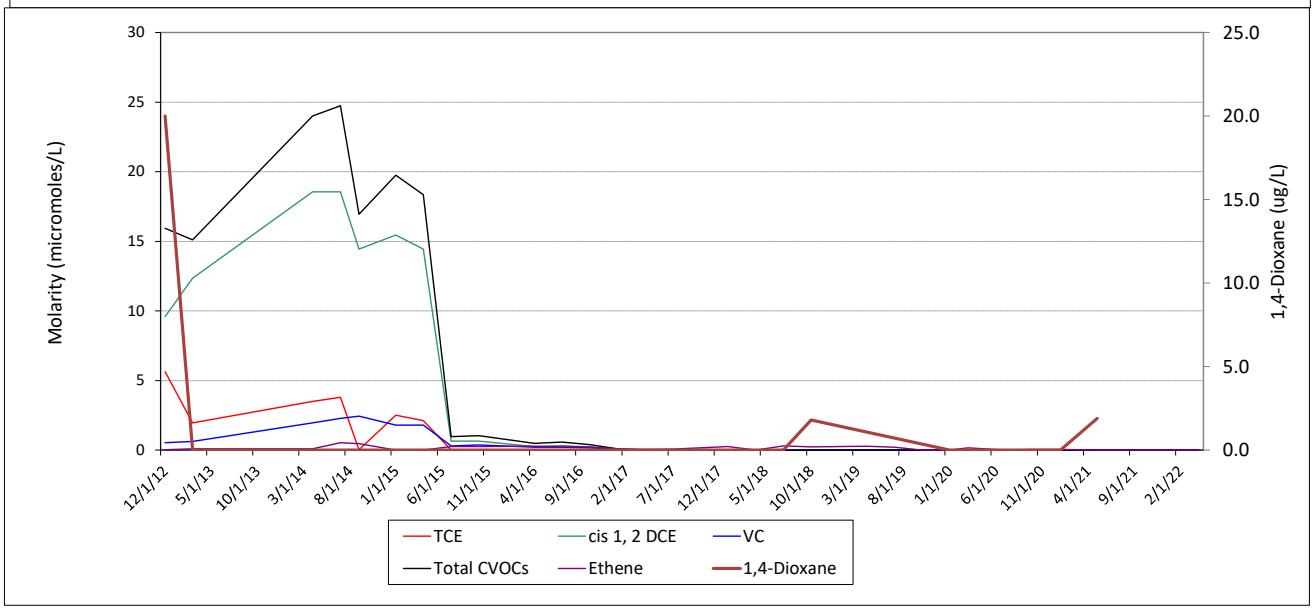


Northern Area Remediation Monitoring Data
REW-11
Former Raytheon Facility, Wayland, MA

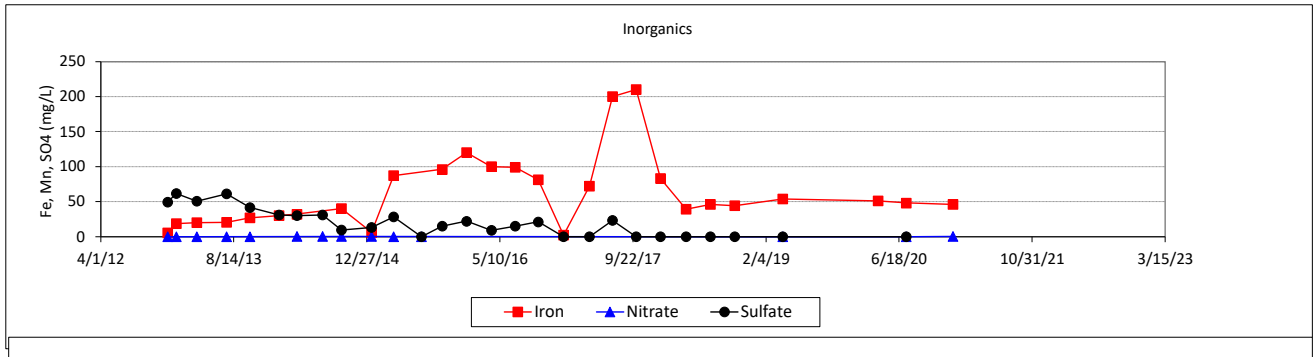


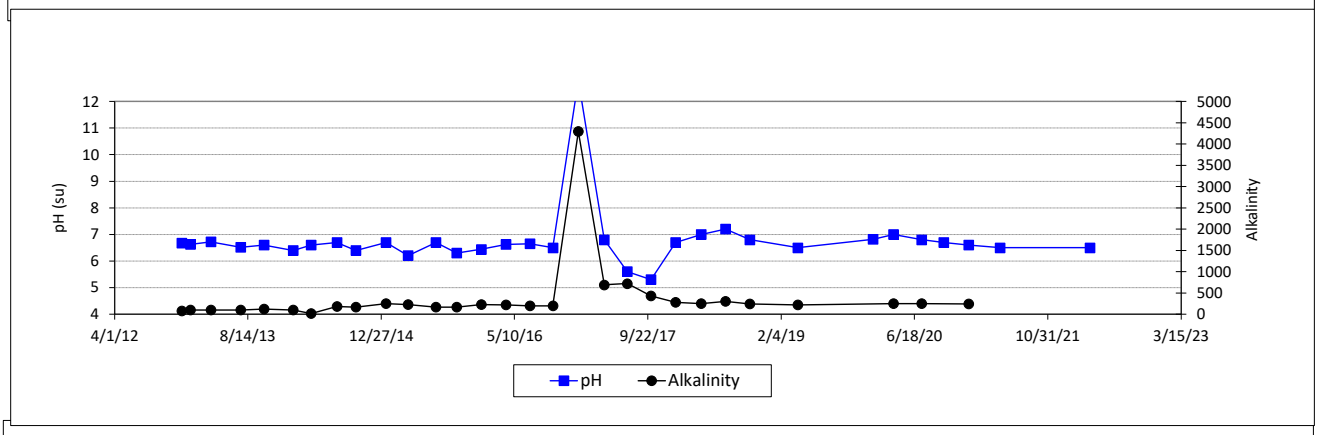


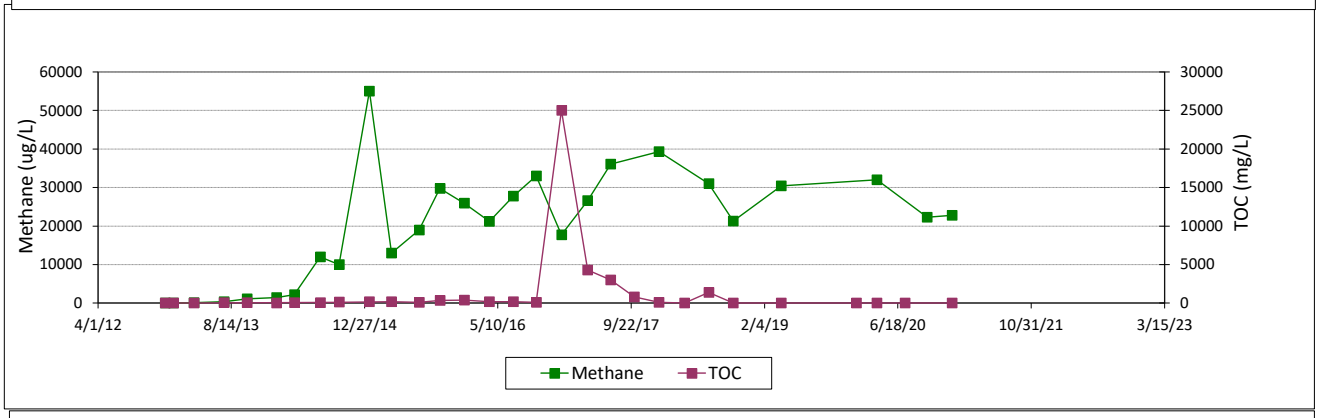


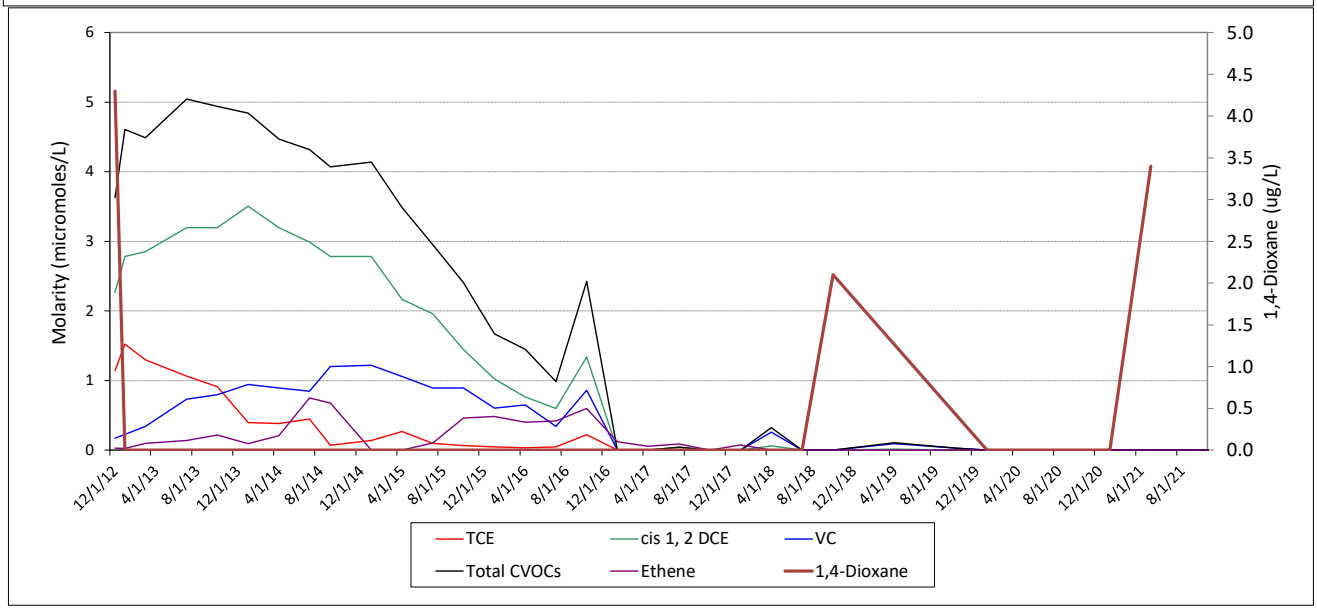


Northern Area Remediation Monitoring Data
REW-12
Former Raytheon Facility, Wayland, MA

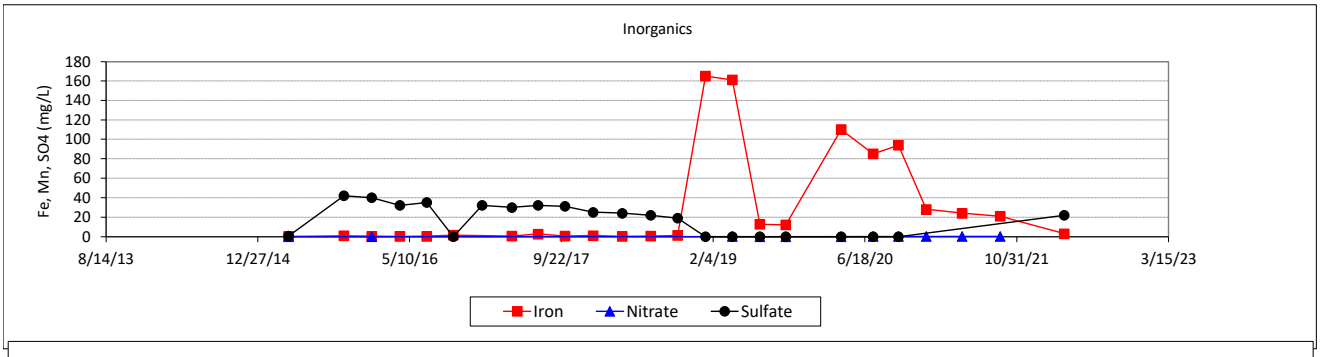


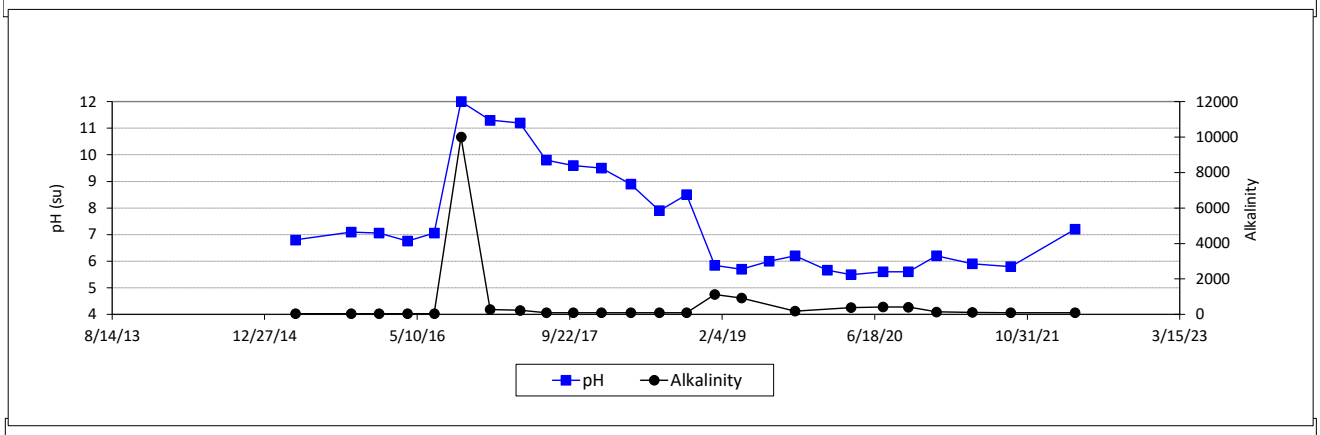


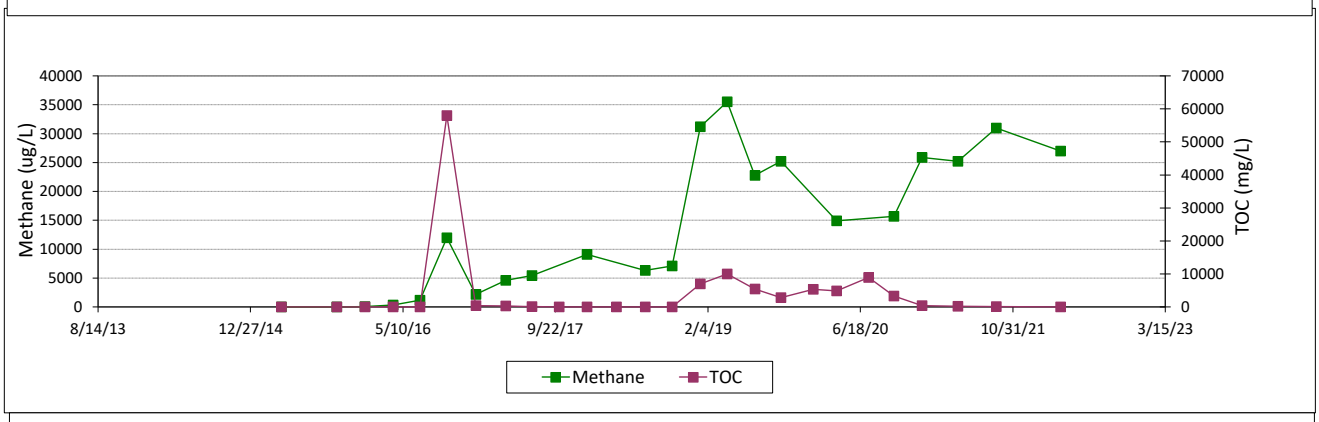


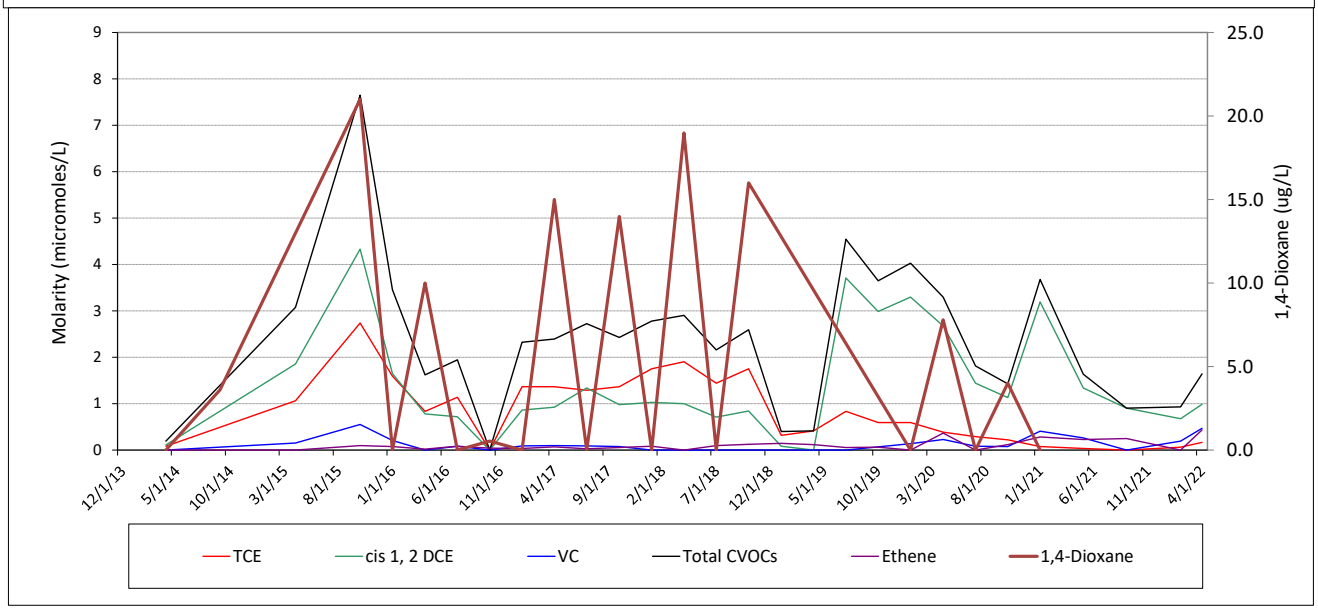


Northern Area Remediation Monitoring Data
MW-268S
Former Raytheon Facility, Wayland, MA

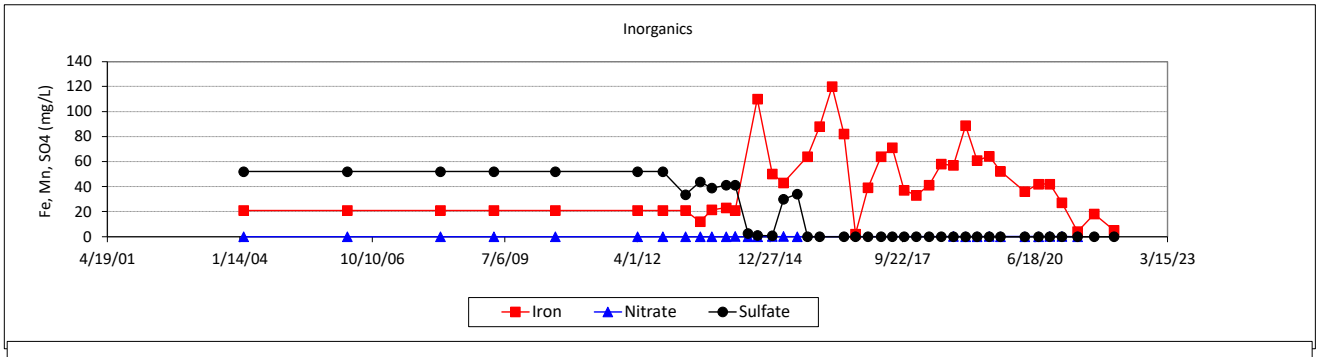


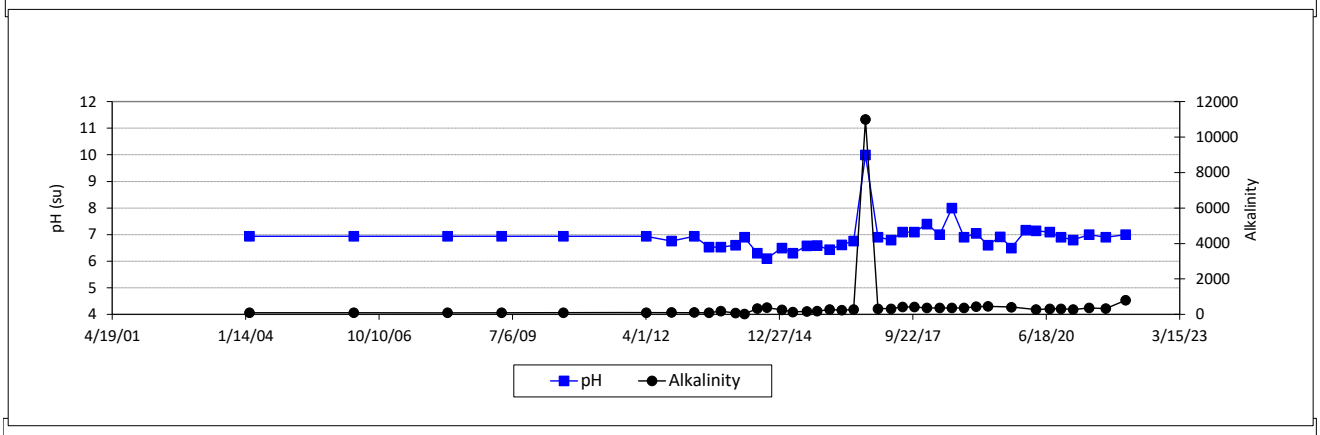


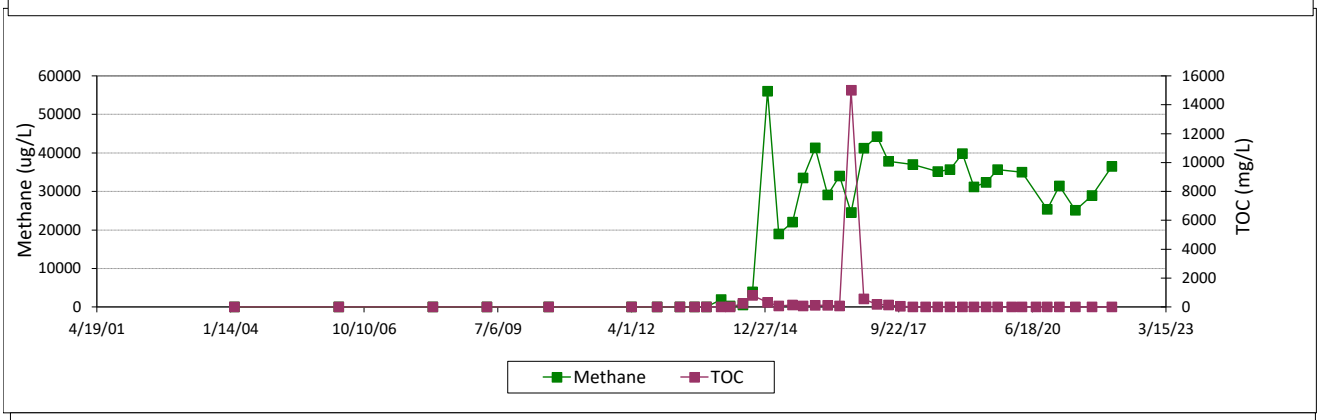


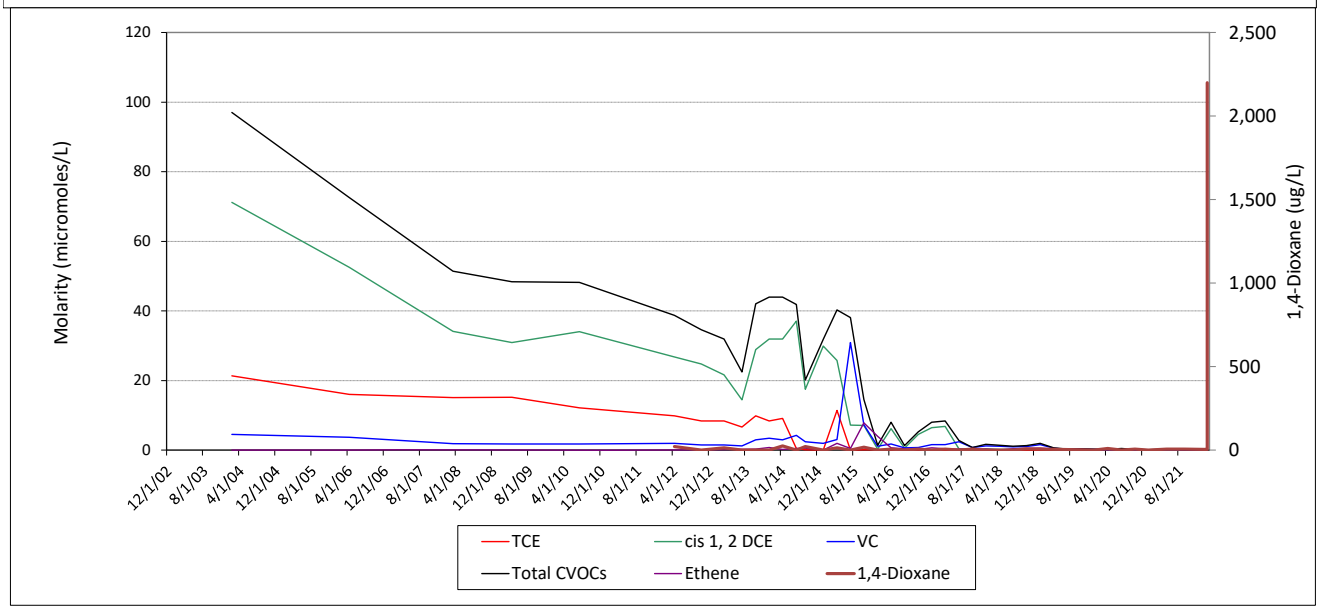


Northern Area Remediation Monitoring Data
MW-268M
Former Raytheon Facility, Wayland, MA

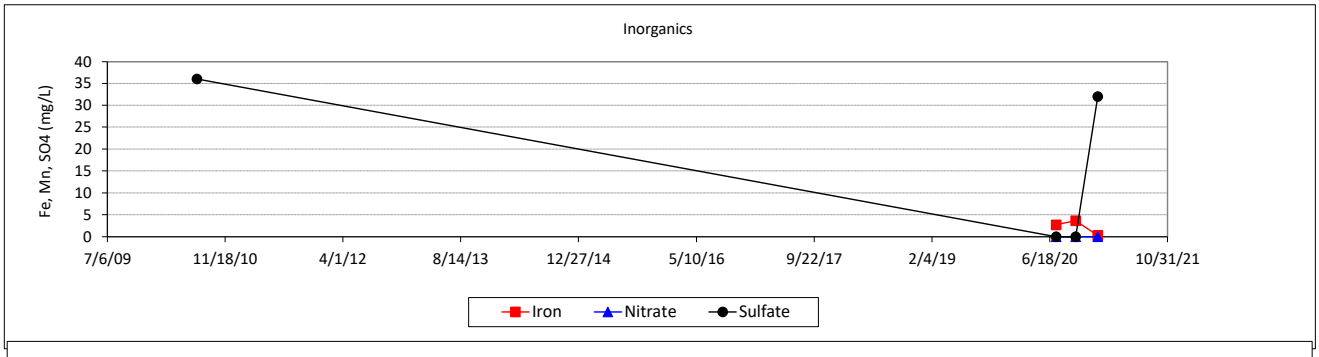


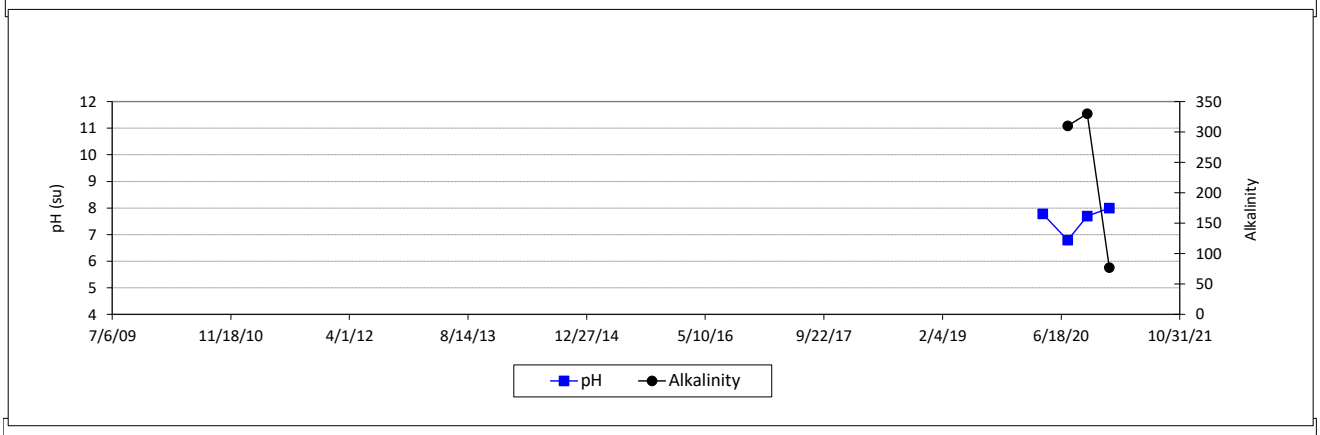


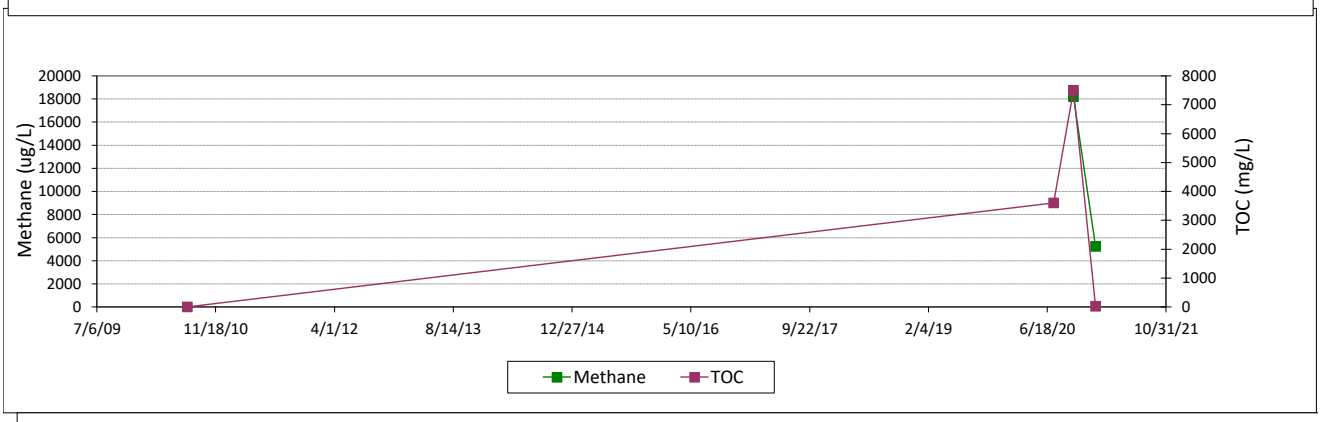


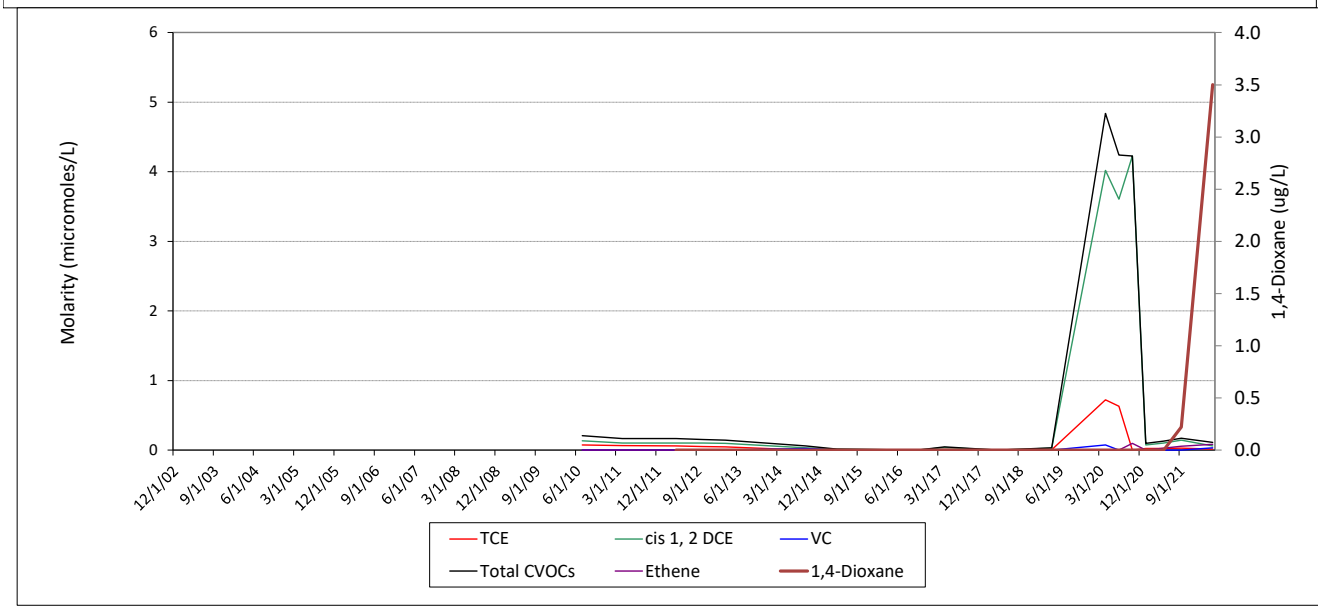


Northern Area Remediation Monitoring Data
MW-268D
Former Raytheon Facility, Wayland, MA

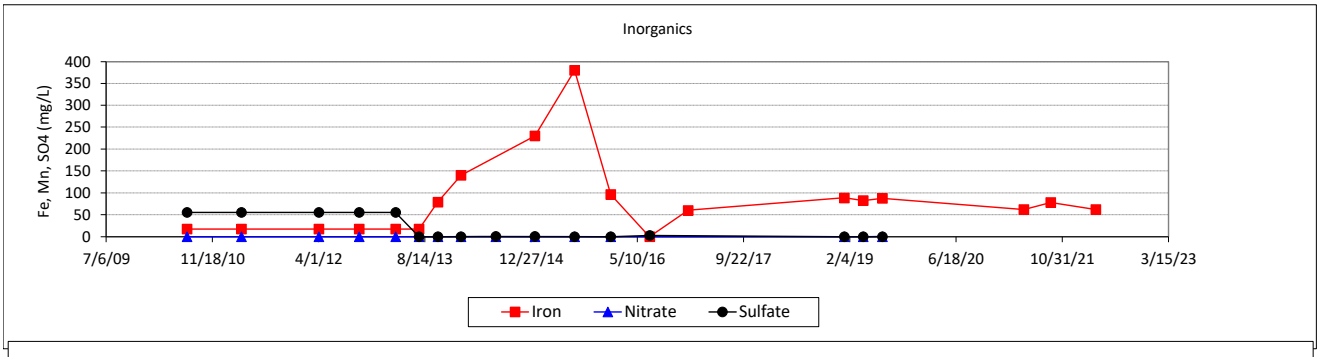


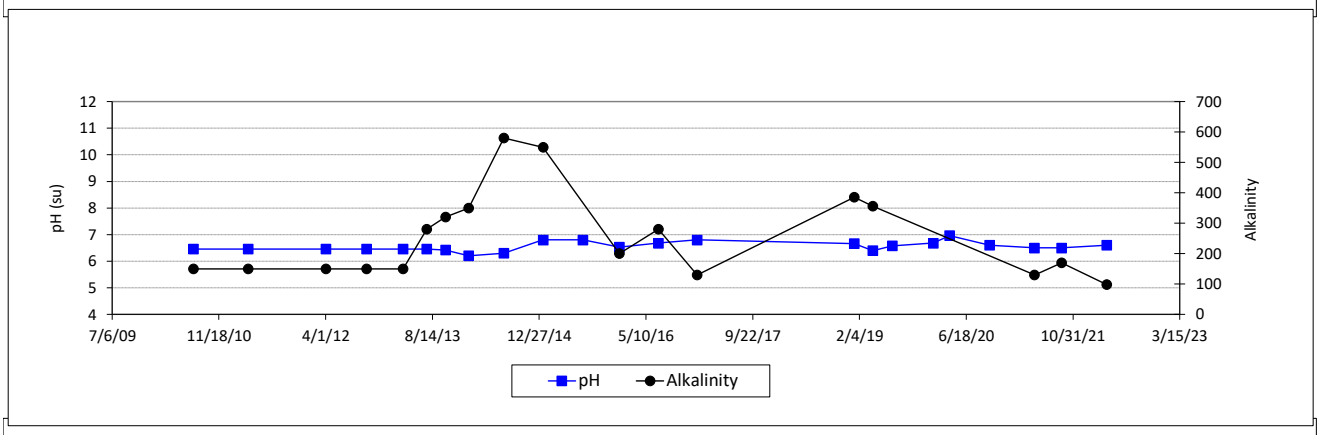


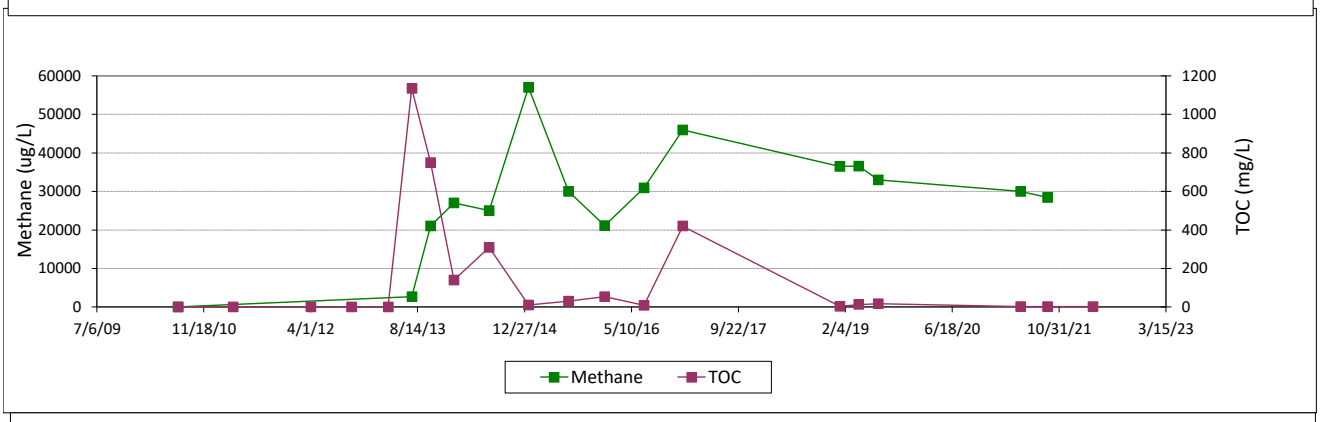


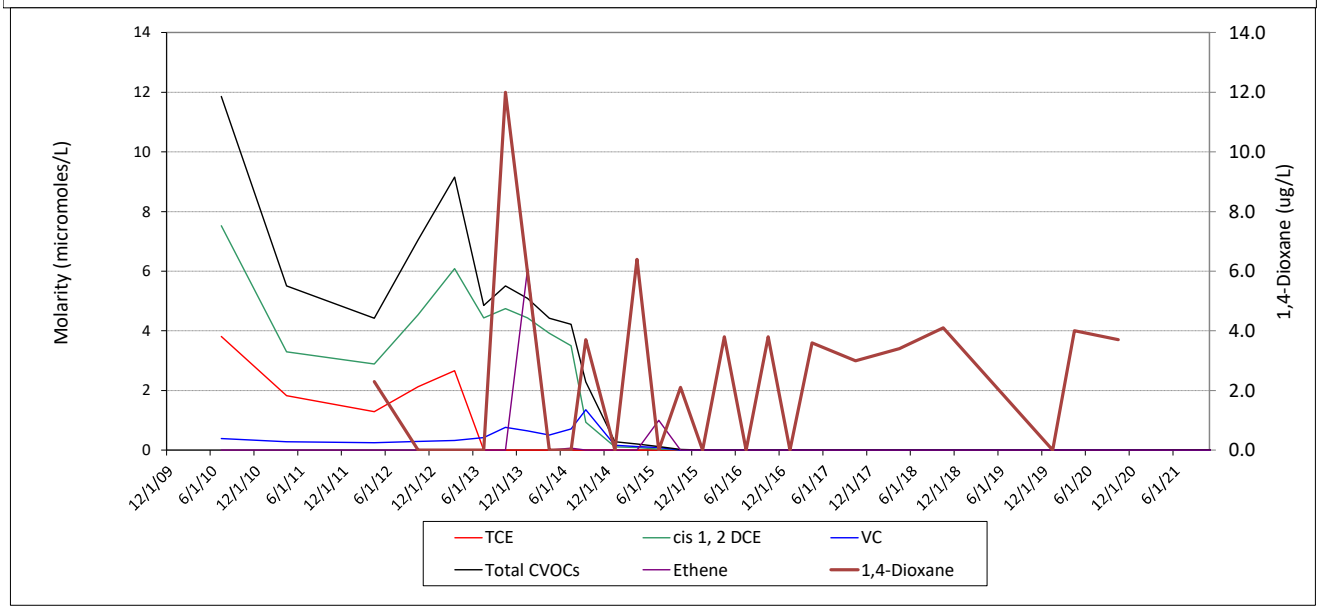


Northern Area Remediation Monitoring Data
MW-267M
Former Raytheon Facility, Wayland, MA









APPENDIX C LABORATORY ANALYTICAL REPORTS

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-196860-1
Client Project/Site: IDS Wayland

For:
ERM-Northeast
15 Park Row West
Suite 104
Providence, Rhode Island 02903

Attn: Katie Wolf

Authorized for release by:
4/20/2022 4:02:24 PM
Wyatt Watson, Project Management Assistant I
Wyatt.Watson@et.eurofinsus.com

Designee for

Becky Mason, Project Manager II
(413)572-4000
Becky.Mason@et.eurofinsus.com

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*-	LCS and/or LCSD is outside acceptance limits, low biased.
*+	LCS and/or LCSD is outside acceptance limits, high biased.
F1	MS and/or MSD recovery exceeds control limits.
F2	MS/MSD RPD exceeds control limits

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-196860-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-196860-1

Receipt
The samples were received on 4/15/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.5º C.

GC/MS VOA
Method 8260C: With the exception of diluted samples, per question G on the MassDEP Analytical Protocol Certification Form, TestAmerica's routine reporting limits do not achieve the CAM reporting limits specified in this CAM protocol for 1,2-dibromo-3-chloropropane, Carbon Disulfide, Isopropyl Ether, Naphthalene, tert-Amyl Methyl Ether and Tetrahydrofuran.

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-622128 recovered above the upper MCP control limit but less than 40% for 1,1,1,2-Tetrachloroethane, 1,1,1-Trichloroethane, 4-Methyl-2-pentanone (MIBK), 2,2-Dichloropropane, 1,2-Dibromo-3-Chloropropane, Chlorobromomethane, Tert-amyl methyl ether, Tetrahydrofuran and Carbon tetrachloride . MCP protocol allows for 20% of the target compounds to be outside the 20% difference but not over 40% difference. The following samples are impacted: MW-1032-20220413-01 (480-196860-1), MW-1005-20220413-01 (480-196860-2), MW-1028-20220413-01 (480-196860-3), MW-1010M-20220413-01 (480-196860-4), MW-1034-20220413-01 (480-196860-5), MW-1010D-20220413-01 (480-196860-6), MW-1015D-20220413-01 (480-196860-7), DUP-001-20220413-01 (480-196860-8), FB-20220413-01 (480-196860-9), TB-20220413-01 (480-196860-10), MW-1014-20220413-01 (480-196860-11) and MW-217M-20220413-01 (480-196860-12).

Method 8260C: The continuing calibration verification (CCV) associated with batch 480-622128 recovered above the MCP upper control limit for 2-Butanone (MEK) and 2-Hexanone. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-1032-20220413-01 (480-196860-1), MW-1005-20220413-01 (480-196860-2), MW-1028-20220413-01 (480-196860-3), MW-1010M-20220413-01 (480-196860-4), MW-1034-20220413-01 (480-196860-5), MW-1010D-20220413-01 (480-196860-6), MW-1015D-20220413-01 (480-196860-7), DUP-001-20220413-01 (480-196860-8), FB-20220413-01 (480-196860-9), TB-20220413-01 (480-196860-10), MW-1014-20220413-01 (480-196860-11) and MW-217M-20220413-01 (480-196860-12).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-622128 recovered outside control limits but were greater than 10% for the following analytes: Carbon tetrachloride, Dichlorodifluoromethane, Tert-amyl methyl ether, Methylene Chloride, 1,1,1-Trichloroethane, 2,2-Dichloropropane, Tert-butyl ethyl ether, 1,1,1,2-Tetrachloroethane and trans-1,2-Dichloroethene . MCP protocol allows for 10% of the target compounds to be outside of the limits provided the recoveries are over 10%. The associated samples are: MW-1032-20220413-01 (480-196860-1), MW-1005-20220413-01 (480-196860-2), MW-1028-20220413-01 (480-196860-3), MW-1010M-20220413-01 (480-196860-4), MW-1034-20220413-01 (480-196860-5), MW-1010D-20220413-01 (480-196860-6), MW-1015D-20220413-01 (480-196860-7), DUP-001-20220413-01 (480-196860-8), FB-20220413-01 (480-196860-9), TB-20220413-01 (480-196860-10), MW-1014-20220413-01 (480-196860-11) and MW-217M-20220413-01 (480-196860-12).

Method 8260C: The laboratory control sample (LCS) and / or the laboratory control sample duplicate (LCSD) for batch 480-622128 exceeded control limits for the following analytes: 2-Butanone, 2-Hexanone and Tetrahydrofuran. Unlike the calibration standards, this is due to the coelution with Ethyl Acetate, n-butyl Acetate and Methacrylonitrile in the spiking solution. This does not indicate a performance issue with the spike recovery, but rather the laboratory's ability to measure the two analytes together in a combined spiking solution. Through the use of spectral analysis, the two compounds can be distinguished from one another if present in a client sample. The associated samples are impacted: MW-1032-20220413-01 (480-196860-1), MW-1005-20220413-01 (480-196860-2), MW-1028-20220413-01 (480-196860-3), MW-1010M-20220413-01 (480-196860-4), MW-1034-20220413-01 (480-196860-5), MW-1010D-20220413-01 (480-196860-6), MW-1015D-20220413-01 (480-196860-7), DUP-001-20220413-01 (480-196860-8), FB-20220413-01 (480-196860-9), TB-20220413-01 (480-196860-10), MW-1014-20220413-01 (480-196860-11) and MW-217M-20220413-01 (480-196860-12).

Method 8260C: The matrix spike / matrix spike duplicate (MS/MSD) recoveries for analytical batch 480-622128 were outside control limits. The associated samples are impacted: MW-1005-20220413-01 (480-196860-2[MS]) and MW-1005-20220413-01 (480-196860-2[MSD]).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

MassDEP Analytical Protocol Certification Form

Laboratory Name: **TestAmerica Buffalo** Project #: **480-196860-1**

Project Location: **IDS Wayland** RTN:

This form provides certifications for the following data set: list Laboratory Sample ID Number(s):

480-196860 (1-12)

Matrices: ■ Groundwater/Surface Water ☐ Soil/Sediment ☐ Drinking Water ☐ Air ☐ Other:

CAM Protocols (check all that apply below):

8260 VOC CAM II A ■	7470/7471 Hg CAM III B ☐	Mass DEP VPH CAM IV A ☐	8081 Pesticides CAM V B ☐	7196 Hex Cr CAM VI B ☐	Mass DEP APH CAM IX A ☐
8270 SVOC CAM II B ☐	7010 Metals CAM III C ☐	Mass DEP EPH CAM IV B ☐	8151 Herbicides CAM V C ☐	8330 Explosives CAM VIII A ☐	TO-15 VOC CAM IX B ☐
6010 Metals CAM III A ☐	6020 Metals CAM III D ☐	8082 PCB CAM V A ☐	9014 Total Cyanide/PAC CAM VI A ☐	6860 Perchlorate CAM VIII B ☐	

Affirmative Responses to Questions A through F are required for "Presumptive Certainty" status

A	Were all samples received in a condition consistent with those described on the Chain-of-Custody, properly preserved (including temperature) in the field or laboratory, and prepared/analyzed within method holding time.	■ Yes ☐ No
B	Were the analytical method(s) and all associated QC requirements specified in the selected CAM protocol(s) followed?	■ Yes ☐ No
C	Were all required corrective actions and analytical response actions specified in the selected CAM protocol(s) implemented for all identified performance standard non-conformances?	■ Yes ☐ No
D	Does the laboratory report comply with all the reporting requirements specified in CAM VII A, "Quality Assurance and Quality Control Guidelines for the Acquisition and Reporting of Analytical Data"?	■ Yes ☐ No
E	a. VPH, EPH and APH Methods only: Was each method conducted without significant modification(s)? (Refer to the individual method(s) for a list of significant modifications). b. APH and TO-15 Methods only: Was the complete analyte list reported for each method?	☐ Yes ☐ No ☐ Yes ☐ No
F	Were all applicable CAM protocol QC and performance standard non-conformances identified and evaluated in a laboratory narrative (including all "No" responses to Questions A through E)?	■ Yes ☐ No

Responses to Questions G, H and I below are required for "Presumptive Certainty" status

G	Were the reporting limits at or below all CAM reporting limits specified in the selected CAM protocol(s)?	☐ Yes ■ No[1]

Data User Note: ***Data that achieve "Presumptive Certainty" status may not necessarily meet the data usability and representativeness requirements described in 310 CMR 40. 1056 (2)(k) and WCS-07-350***

H	Were **all** QC performance standards specified in the CAM protocol(s) achieved?	☐ Yes ■ No[1]
I	Were results reported for the complete analyte list specified in the selected CAM protocol(s) ?	■ Yes ☐ No[1]

[1] All negative responses must be addressed in an attached laboratory narrative.

I, the undersigned, attest under the pains and penalties of perjury that, based upon my personal inquiry of those responsible for obtaining the information, the material contained in this analytical report is, to the best of my knowledge and belief, is accurate and complete.

Signature: Wyatt Watson Position: Project Manager Assistant

Printed Name: Wyatt Watson Date: 4/20/21 15:30

Detection Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1032-20220413-01 — Lab Sample ID: 480-196860-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Methyl tert-butyl ether	21		1.0		ug/L	1		8260C	Total/NA
Tert-amyl methyl ether	5.9	*-	5.0		ug/L	1		8260C	Total/NA
Trichloroethene	6.8		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1005-20220413-01 — Lab Sample ID: 480-196860-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	51	F1 F2	50		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	6.1		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	5.1		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1028-20220413-01 — Lab Sample ID: 480-196860-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.4		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	8.8		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1010M-20220413-01 — Lab Sample ID: 480-196860-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	15		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1034-20220413-01 — Lab Sample ID: 480-196860-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	53		50		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	13		1.0		ug/L	1		8260C	Total/NA
trans-1,2-Dichloroethene	1.1	*-	1.0		ug/L	1		8260C	Total/NA
Trichloroethene	23		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1010D-20220413-01 — Lab Sample ID: 480-196860-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	54		50		ug/L	1		8260C	Total/NA
Trichloroethene	2.3		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-1015D-20220413-01 — Lab Sample ID: 480-196860-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	3.9		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: DUP-001-20220413-01 — Lab Sample ID: 480-196860-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Trichloroethene	14		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: FB-20220413-01 — Lab Sample ID: 480-196860-9

No Detections.

Client Sample ID: TB-20220413-01 — Lab Sample ID: 480-196860-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins Buffalo

Detection Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1014-20220413-01 — Lab Sample ID: 480-196860-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
cis-1,2-Dichloroethene	1.3		1.0		ug/L	1		8260C	Total/NA
Trichloroethene	8.5		1.0		ug/L	1		8260C	Total/NA

Client Sample ID: MW-217M-20220413-01 — Lab Sample ID: 480-196860-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,1-Dichloroethane	1.9		1.0		ug/L	1		8260C	Total/NA
cis-1,2-Dichloroethene	1.0		1.0		ug/L	1		8260C	Total/NA
Methyl tert-butyl ether	30		1.0		ug/L	1		8260C	Total/NA
Tert-amyl methyl ether	11	*-	5.0		ug/L	1		8260C	Total/NA
Trichloroethene	6.3		1.0		ug/L	1		8260C	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1032-20220413-01

Lab Sample ID: 480-196860-1

Date Collected: 04/13/22 09:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 16:04	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 16:04	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 16:04	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 16:04	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 16:04	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 16:04	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 16:04	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 16:04	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 16:04	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 16:04	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 16:04	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 16:04	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
1,4-Dioxane	ND		50		ug/L			04/18/22 16:04	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 16:04	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 16:04	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:04	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 16:04	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:04	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 16:04	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 16:04	1
Acetone	ND		50		ug/L			04/18/22 16:04	1
Benzene	ND		1.0		ug/L			04/18/22 16:04	1
Bromobenzene	ND		1.0		ug/L			04/18/22 16:04	1
Bromoform	ND		1.0		ug/L			04/18/22 16:04	1
Bromomethane	ND		2.0		ug/L			04/18/22 16:04	1
Carbon disulfide	ND		10		ug/L			04/18/22 16:04	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 16:04	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 16:04	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 16:04	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 16:04	1
Chloroethane	ND		2.0		ug/L			04/18/22 16:04	1
Chloroform	ND		1.0		ug/L			04/18/22 16:04	1
Chloromethane	ND		2.0		ug/L			04/18/22 16:04	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 16:04	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:04	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 16:04	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 16:04	1
Ethyl ether	ND		1.0		ug/L			04/18/22 16:04	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 16:04	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 16:04	1
Isopropyl ether	ND		10		ug/L			04/18/22 16:04	1

Client Sample ID: MW-1032-20220413-01

Lab Sample ID: 480-196860-1

Date Collected: 04/13/22 09:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
Methyl tert-butyl ether	**21**		1.0		ug/L			04/18/22 16:04	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 16:04	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 16:04	1
Naphthalene	ND		5.0		ug/L			04/18/22 16:04	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
o-Xylene	ND		1.0		ug/L			04/18/22 16:04	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
Styrene	ND		1.0		ug/L			04/18/22 16:04	1
Tert-amyl methyl ether	**5.9**	*-	5.0		ug/L			04/18/22 16:04	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 16:04	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 16:04	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 16:04	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 16:04	1
Toluene	ND		1.0		ug/L			04/18/22 16:04	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 16:04	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:04	1
Trichloroethene	**6.8**		1.0		ug/L			04/18/22 16:04	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 16:04	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 16:04	1
Dibromomethane	ND		1.0		ug/L			04/18/22 16:04	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/18/22 16:04*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*04/18/22 16:04*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/18/22 16:04*	*1*

Client Sample ID: MW-1005-20220413-01

Lab Sample ID: 480-196860-2

Date Collected: 04/13/22 09:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 16:27	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 16:27	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 16:27	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 16:27	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 16:27	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 16:27	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 16:27	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 16:27	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 16:27	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 16:27	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 16:27	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:27	1

Client Sample ID: MW-1005-20220413-01

Lab Sample ID: 480-196860-2

Date Collected: 04/13/22 09:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 16:27	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
1,4-Dioxane	ND		50		ug/L			04/18/22 16:27	1
2,2-Dichloropropane	ND	*- F1	1.0		ug/L			04/18/22 16:27	1
2-Butanone (MEK)	ND	*+ F1	10		ug/L			04/18/22 16:27	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:27	1
2-Hexanone	ND	*+ F1	10		ug/L			04/18/22 16:27	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:27	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 16:27	1
4-Methyl-2-pentanone (MIBK)	ND	F1	10		ug/L			04/18/22 16:27	1
Acetone	**51**	**F1 F2**	50		ug/L			04/18/22 16:27	1
Benzene	ND		1.0		ug/L			04/18/22 16:27	1
Bromobenzene	ND		1.0		ug/L			04/18/22 16:27	1
Bromoform	ND		1.0		ug/L			04/18/22 16:27	1
Bromomethane	ND		2.0		ug/L			04/18/22 16:27	1
Carbon disulfide	ND		10		ug/L			04/18/22 16:27	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 16:27	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 16:27	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 16:27	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 16:27	1
Chloroethane	ND		2.0		ug/L			04/18/22 16:27	1
Chloroform	ND		1.0		ug/L			04/18/22 16:27	1
Chloromethane	ND		2.0		ug/L			04/18/22 16:27	1
cis-1,2-Dichloroethene	**6.1**		1.0		ug/L			04/18/22 16:27	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:27	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 16:27	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 16:27	1
Ethyl ether	ND		1.0		ug/L			04/18/22 16:27	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 16:27	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 16:27	1
Isopropyl ether	ND		10		ug/L			04/18/22 16:27	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 16:27	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 16:27	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 16:27	1
Naphthalene	ND		5.0		ug/L			04/18/22 16:27	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
o-Xylene	ND		1.0		ug/L			04/18/22 16:27	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
Styrene	ND		1.0		ug/L			04/18/22 16:27	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 16:27	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 16:27	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 16:27	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 16:27	1
Tetrahydrofuran	ND	*+ F1	10		ug/L			04/18/22 16:27	1
Toluene	ND		1.0		ug/L			04/18/22 16:27	1

Client Sample ID: MW-1005-20220413-01

Lab Sample ID: 480-196860-2

Date Collected: 04/13/22 09:45

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 16:27	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:27	1
Trichloroethene	**5.1**		1.0		ug/L			04/18/22 16:27	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 16:27	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 16:27	1
Dibromomethane	ND		1.0		ug/L			04/18/22 16:27	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/18/22 16:27*	*1*
1,2-Dichloroethane-d4 (Surr)	*114*		*70 - 130*		*04/18/22 16:27*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*04/18/22 16:27*	*1*

Client Sample ID: MW-1028-20220413-01

Lab Sample ID: 480-196860-3

Date Collected: 04/13/22 09:50

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 16:50	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 16:50	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 16:50	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 16:50	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 16:50	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 16:50	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 16:50	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 16:50	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 16:50	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 16:50	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 16:50	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 16:50	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
1,4-Dioxane	ND		50		ug/L			04/18/22 16:50	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 16:50	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 16:50	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:50	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 16:50	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 16:50	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 16:50	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 16:50	1
Acetone	ND		50		ug/L			04/18/22 16:50	1
Benzene	ND		1.0		ug/L			04/18/22 16:50	1
Bromobenzene	ND		1.0		ug/L			04/18/22 16:50	1
Bromoform	ND		1.0		ug/L			04/18/22 16:50	1
Bromomethane	ND		2.0		ug/L			04/18/22 16:50	1

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1028-20220413-01
Date Collected: 04/13/22 09:50
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196860-3
Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		10		ug/L			04/18/22 16:50	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 16:50	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 16:50	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 16:50	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 16:50	1
Chloroethane	ND		2.0		ug/L			04/18/22 16:50	1
Chloroform	ND		1.0		ug/L			04/18/22 16:50	1
Chloromethane	ND		2.0		ug/L			04/18/22 16:50	1
cis-1,2-Dichloroethene	**1.4**		1.0		ug/L			04/18/22 16:50	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:50	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 16:50	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 16:50	1
Ethyl ether	ND		1.0		ug/L			04/18/22 16:50	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 16:50	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 16:50	1
Isopropyl ether	ND		10		ug/L			04/18/22 16:50	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 16:50	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 16:50	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 16:50	1
Naphthalene	ND		5.0		ug/L			04/18/22 16:50	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
o-Xylene	ND		1.0		ug/L			04/18/22 16:50	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
Styrene	ND		1.0		ug/L			04/18/22 16:50	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 16:50	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 16:50	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 16:50	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 16:50	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 16:50	1
Toluene	ND		1.0		ug/L			04/18/22 16:50	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 16:50	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 16:50	1
Trichloroethene	**8.8**		1.0		ug/L			04/18/22 16:50	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 16:50	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 16:50	1
Dibromomethane	ND		1.0		ug/L			04/18/22 16:50	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*70 - 130*		*04/18/22 16:50*	*1*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*		*04/18/22 16:50*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/18/22 16:50*	*1*

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1010M-20220413-01

Lab Sample ID: 480-196860-4

Date Collected: 04/13/22 10:25
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 17:14	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 17:14	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 17:14	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 17:14	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 17:14	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 17:14	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 17:14	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 17:14	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 17:14	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 17:14	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 17:14	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 17:14	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
1,4-Dioxane	ND		50		ug/L			04/18/22 17:14	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 17:14	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 17:14	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 17:14	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 17:14	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 17:14	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 17:14	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 17:14	1
Acetone	ND		50		ug/L			04/18/22 17:14	1
Benzene	ND		1.0		ug/L			04/18/22 17:14	1
Bromobenzene	ND		1.0		ug/L			04/18/22 17:14	1
Bromoform	ND		1.0		ug/L			04/18/22 17:14	1
Bromomethane	ND		2.0		ug/L			04/18/22 17:14	1
Carbon disulfide	ND		10		ug/L			04/18/22 17:14	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 17:14	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 17:14	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 17:14	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 17:14	1
Chloroethane	ND		2.0		ug/L			04/18/22 17:14	1
Chloroform	ND		1.0		ug/L			04/18/22 17:14	1
Chloromethane	ND		2.0		ug/L			04/18/22 17:14	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 17:14	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 17:14	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 17:14	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 17:14	1
Ethyl ether	ND		1.0		ug/L			04/18/22 17:14	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 17:14	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 17:14	1
Isopropyl ether	ND		10		ug/L			04/18/22 17:14	1

Client Sample ID: MW-1010M-20220413-01

Lab Sample ID: 480-196860-4

Date Collected: 04/13/22 10:25
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 17:14	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 17:14	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 17:14	1
Naphthalene	ND		5.0		ug/L			04/18/22 17:14	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
o-Xylene	ND		1.0		ug/L			04/18/22 17:14	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
Styrene	ND		1.0		ug/L			04/18/22 17:14	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 17:14	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 17:14	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 17:14	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 17:14	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 17:14	1
Toluene	ND		1.0		ug/L			04/18/22 17:14	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 17:14	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 17:14	1
Trichloroethene	**15**		1.0		ug/L			04/18/22 17:14	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 17:14	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 17:14	1
Dibromomethane	ND		1.0		ug/L			04/18/22 17:14	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*04/18/22 17:14*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*04/18/22 17:14*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*04/18/22 17:14*	*1*

Client Sample ID: MW-1034-20220413-01

Lab Sample ID: 480-196860-5

Date Collected: 04/13/22 10:30
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 17:37	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 17:37	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 17:37	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 17:37	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 17:37	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 17:37	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 17:37	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 17:37	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 17:37	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 17:37	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 17:37	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 17:37	1

Client Sample ID: MW-1034-20220413-01

Lab Sample ID: 480-196860-5

Date Collected: 04/13/22 10:30

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 17:37	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
1,4-Dioxane	ND		50		ug/L			04/18/22 17:37	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 17:37	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 17:37	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 17:37	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 17:37	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 17:37	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 17:37	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 17:37	1
Acetone	**53**		50		ug/L			04/18/22 17:37	1
Benzene	ND		1.0		ug/L			04/18/22 17:37	1
Bromobenzene	ND		1.0		ug/L			04/18/22 17:37	1
Bromoform	ND		1.0		ug/L			04/18/22 17:37	1
Bromomethane	ND		2.0		ug/L			04/18/22 17:37	1
Carbon disulfide	ND		10		ug/L			04/18/22 17:37	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 17:37	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 17:37	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 17:37	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 17:37	1
Chloroethane	ND		2.0		ug/L			04/18/22 17:37	1
Chloroform	ND		1.0		ug/L			04/18/22 17:37	1
Chloromethane	ND		2.0		ug/L			04/18/22 17:37	1
cis-1,2-Dichloroethene	**13**		1.0		ug/L			04/18/22 17:37	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 17:37	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 17:37	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 17:37	1
Ethyl ether	ND		1.0		ug/L			04/18/22 17:37	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 17:37	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 17:37	1
Isopropyl ether	ND		10		ug/L			04/18/22 17:37	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 17:37	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 17:37	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 17:37	1
Naphthalene	ND		5.0		ug/L			04/18/22 17:37	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
o-Xylene	ND		1.0		ug/L			04/18/22 17:37	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
Styrene	ND		1.0		ug/L			04/18/22 17:37	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 17:37	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 17:37	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 17:37	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 17:37	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 17:37	1
Toluene	ND		1.0		ug/L			04/18/22 17:37	1

Client Sample ID: MW-1034-20220413-01

Lab Sample ID: 480-196860-5

Date Collected: 04/13/22 10:30

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	**1.1**	***-**	1.0		ug/L			04/18/22 17:37	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 17:37	1
Trichloroethene	**23**		1.0		ug/L			04/18/22 17:37	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 17:37	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 17:37	1
Dibromomethane	ND		1.0		ug/L			04/18/22 17:37	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/18/22 17:37*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*04/18/22 17:37*	*1*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*		*04/18/22 17:37*	*1*

Client Sample ID: MW-1010D-20220413-01

Lab Sample ID: 480-196860-6

Date Collected: 04/13/22 10:45

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 18:00	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 18:00	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 18:00	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 18:00	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 18:00	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 18:00	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 18:00	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 18:00	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 18:00	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 18:00	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 18:00	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 18:00	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
1,4-Dioxane	ND		50		ug/L			04/18/22 18:00	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 18:00	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 18:00	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:00	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 18:00	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:00	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 18:00	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 18:00	1
Acetone	**54**		50		ug/L			04/18/22 18:00	1
Benzene	ND		1.0		ug/L			04/18/22 18:00	1
Bromobenzene	ND		1.0		ug/L			04/18/22 18:00	1
Bromoform	ND		1.0		ug/L			04/18/22 18:00	1
Bromomethane	ND		2.0		ug/L			04/18/22 18:00	1

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1010D-20220413-01

Lab Sample ID: 480-196860-6

Date Collected: 04/13/22 10:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		10		ug/L			04/18/22 18:00	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 18:00	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 18:00	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 18:00	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 18:00	1
Chloroethane	ND		2.0		ug/L			04/18/22 18:00	1
Chloroform	ND		1.0		ug/L			04/18/22 18:00	1
Chloromethane	ND		2.0		ug/L			04/18/22 18:00	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 18:00	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:00	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 18:00	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 18:00	1
Ethyl ether	ND		1.0		ug/L			04/18/22 18:00	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 18:00	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 18:00	1
Isopropyl ether	ND		10		ug/L			04/18/22 18:00	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 18:00	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 18:00	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 18:00	1
Naphthalene	ND		5.0		ug/L			04/18/22 18:00	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
o-Xylene	ND		1.0		ug/L			04/18/22 18:00	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
Styrene	ND		1.0		ug/L			04/18/22 18:00	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 18:00	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 18:00	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 18:00	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 18:00	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 18:00	1
Toluene	ND		1.0		ug/L			04/18/22 18:00	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 18:00	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:00	1
Trichloroethene	**2.3**		1.0		ug/L			04/18/22 18:00	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 18:00	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 18:00	1
Dibromomethane	ND		1.0		ug/L			04/18/22 18:00	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/18/22 18:00*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*04/18/22 18:00*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*04/18/22 18:00*	*1*

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1015D-20220413-01

Lab Sample ID: 480-196860-7

Date Collected: 04/13/22 11:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 18:23	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 18:23	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 18:23	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 18:23	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 18:23	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 18:23	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 18:23	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 18:23	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 18:23	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 18:23	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 18:23	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 18:23	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
1,4-Dioxane	ND		50		ug/L			04/18/22 18:23	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 18:23	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 18:23	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:23	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 18:23	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:23	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 18:23	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 18:23	1
Acetone	ND		50		ug/L			04/18/22 18:23	1
Benzene	ND		1.0		ug/L			04/18/22 18:23	1
Bromobenzene	ND		1.0		ug/L			04/18/22 18:23	1
Bromoform	ND		1.0		ug/L			04/18/22 18:23	1
Bromomethane	ND		2.0		ug/L			04/18/22 18:23	1
Carbon disulfide	ND		10		ug/L			04/18/22 18:23	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 18:23	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 18:23	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 18:23	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 18:23	1
Chloroethane	ND		2.0		ug/L			04/18/22 18:23	1
Chloroform	ND		1.0		ug/L			04/18/22 18:23	1
Chloromethane	ND		2.0		ug/L			04/18/22 18:23	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 18:23	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:23	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 18:23	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 18:23	1
Ethyl ether	ND		1.0		ug/L			04/18/22 18:23	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 18:23	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 18:23	1
Isopropyl ether	ND		10		ug/L			04/18/22 18:23	1

Client Sample ID: MW-1015D-20220413-01

Lab Sample ID: 480-196860-7

Date Collected: 04/13/22 11:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 18:23	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 18:23	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 18:23	1
Naphthalene	ND		5.0		ug/L			04/18/22 18:23	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
o-Xylene	ND		1.0		ug/L			04/18/22 18:23	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
Styrene	ND		1.0		ug/L			04/18/22 18:23	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 18:23	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 18:23	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 18:23	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 18:23	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 18:23	1
Toluene	ND		1.0		ug/L			04/18/22 18:23	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 18:23	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:23	1
Trichloroethene	**3.9**		1.0		ug/L			04/18/22 18:23	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 18:23	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 18:23	1
Dibromomethane	ND		1.0		ug/L			04/18/22 18:23	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*103*		*70 - 130*		*04/18/22 18:23*	*1*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*		*04/18/22 18:23*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*04/18/22 18:23*	*1*

Client Sample ID: DUP-001-20220413-01

Lab Sample ID: 480-196860-8

Date Collected: 04/13/22 00:01
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 18:46	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 18:46	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 18:46	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 18:46	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 18:46	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 18:46	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 18:46	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 18:46	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 18:46	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 18:46	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 18:46	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 18:46	1

Client Sample ID: DUP-001-20220413-01

Lab Sample ID: 480-196860-8

Date Collected: 04/13/22 00:01

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 18:46	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
1,4-Dioxane	ND		50		ug/L			04/18/22 18:46	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 18:46	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 18:46	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:46	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 18:46	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 18:46	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 18:46	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 18:46	1
Acetone	ND		50		ug/L			04/18/22 18:46	1
Benzene	ND		1.0		ug/L			04/18/22 18:46	1
Bromobenzene	ND		1.0		ug/L			04/18/22 18:46	1
Bromoform	ND		1.0		ug/L			04/18/22 18:46	1
Bromomethane	ND		2.0		ug/L			04/18/22 18:46	1
Carbon disulfide	ND		10		ug/L			04/18/22 18:46	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 18:46	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 18:46	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 18:46	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 18:46	1
Chloroethane	ND		2.0		ug/L			04/18/22 18:46	1
Chloroform	ND		1.0		ug/L			04/18/22 18:46	1
Chloromethane	ND		2.0		ug/L			04/18/22 18:46	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 18:46	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:46	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 18:46	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 18:46	1
Ethyl ether	ND		1.0		ug/L			04/18/22 18:46	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 18:46	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 18:46	1
Isopropyl ether	ND		10		ug/L			04/18/22 18:46	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 18:46	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 18:46	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 18:46	1
Naphthalene	ND		5.0		ug/L			04/18/22 18:46	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
o-Xylene	ND		1.0		ug/L			04/18/22 18:46	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
Styrene	ND		1.0		ug/L			04/18/22 18:46	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 18:46	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 18:46	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 18:46	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 18:46	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 18:46	1
Toluene	ND		1.0		ug/L			04/18/22 18:46	1

Client Sample ID: DUP-001-20220413-01

Lab Sample ID: 480-196860-8

Date Collected: 04/13/22 00:01
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 18:46	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 18:46	1
Trichloroethene	**14**		1.0		ug/L			04/18/22 18:46	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 18:46	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 18:46	1
Dibromomethane	ND		1.0		ug/L			04/18/22 18:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*101*		*70 - 130*		*04/18/22 18:46*	*1*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*		*04/18/22 18:46*	*1*
4-Bromofluorobenzene (Surr)	*102*		*70 - 130*		*04/18/22 18:46*	*1*

Client Sample ID: FB-20220413-01

Lab Sample ID: 480-196860-9

Date Collected: 04/13/22 17:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 19:09	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 19:09	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 19:09	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 19:09	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 19:09	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 19:09	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 19:09	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 19:09	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 19:09	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 19:09	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 19:09	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 19:09	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
1,4-Dioxane	ND		50		ug/L			04/18/22 19:09	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 19:09	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 19:09	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:09	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 19:09	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:09	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 19:09	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 19:09	1
Acetone	ND		50		ug/L			04/18/22 19:09	1
Benzene	ND		1.0		ug/L			04/18/22 19:09	1
Bromobenzene	ND		1.0		ug/L			04/18/22 19:09	1
Bromoform	ND		1.0		ug/L			04/18/22 19:09	1
Bromomethane	ND		2.0		ug/L			04/18/22 19:09	1

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: FB-20220413-01

Lab Sample ID: 480-196860-9

Date Collected: 04/13/22 17:10
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		10		ug/L			04/18/22 19:09	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 19:09	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 19:09	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 19:09	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 19:09	1
Chloroethane	ND		2.0		ug/L			04/18/22 19:09	1
Chloroform	ND		1.0		ug/L			04/18/22 19:09	1
Chloromethane	ND		2.0		ug/L			04/18/22 19:09	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 19:09	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:09	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 19:09	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 19:09	1
Ethyl ether	ND		1.0		ug/L			04/18/22 19:09	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 19:09	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 19:09	1
Isopropyl ether	ND		10		ug/L			04/18/22 19:09	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 19:09	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 19:09	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 19:09	1
Naphthalene	ND		5.0		ug/L			04/18/22 19:09	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
o-Xylene	ND		1.0		ug/L			04/18/22 19:09	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
Styrene	ND		1.0		ug/L			04/18/22 19:09	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 19:09	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 19:09	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 19:09	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 19:09	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 19:09	1
Toluene	ND		1.0		ug/L			04/18/22 19:09	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 19:09	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:09	1
Trichloroethene	ND		1.0		ug/L			04/18/22 19:09	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 19:09	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 19:09	1
Dibromomethane	ND		1.0		ug/L			04/18/22 19:09	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/18/22 19:09*	*1*
1,2-Dichloroethane-d4 (Surr)	*108*		*70 - 130*		*04/18/22 19:09*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/18/22 19:09*	*1*

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: TB-20220413-01

Date Collected: 04/13/22 00:00
Date Received: 04/15/22 10:00

Lab Sample ID: 480-196860-10

Matrix: Water

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 19:32	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 19:32	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 19:32	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 19:32	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 19:32	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 19:32	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 19:32	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 19:32	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 19:32	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 19:32	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 19:32	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 19:32	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
1,4-Dioxane	ND		50		ug/L			04/18/22 19:32	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 19:32	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 19:32	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:32	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 19:32	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:32	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 19:32	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 19:32	1
Acetone	ND		50		ug/L			04/18/22 19:32	1
Benzene	ND		1.0		ug/L			04/18/22 19:32	1
Bromobenzene	ND		1.0		ug/L			04/18/22 19:32	1
Bromoform	ND		1.0		ug/L			04/18/22 19:32	1
Bromomethane	ND		2.0		ug/L			04/18/22 19:32	1
Carbon disulfide	ND		10		ug/L			04/18/22 19:32	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 19:32	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 19:32	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 19:32	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 19:32	1
Chloroethane	ND		2.0		ug/L			04/18/22 19:32	1
Chloroform	ND		1.0		ug/L			04/18/22 19:32	1
Chloromethane	ND		2.0		ug/L			04/18/22 19:32	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 19:32	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:32	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 19:32	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 19:32	1
Ethyl ether	ND		1.0		ug/L			04/18/22 19:32	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 19:32	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 19:32	1
Isopropyl ether	ND		10		ug/L			04/18/22 19:32	1

Client Sample ID: TB-20220413-01

Lab Sample ID: 480-196860-10

Date Collected: 04/13/22 00:00
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 19:32	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 19:32	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 19:32	1
Naphthalene	ND		5.0		ug/L			04/18/22 19:32	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
o-Xylene	ND		1.0		ug/L			04/18/22 19:32	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
Styrene	ND		1.0		ug/L			04/18/22 19:32	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 19:32	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 19:32	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 19:32	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 19:32	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 19:32	1
Toluene	ND		1.0		ug/L			04/18/22 19:32	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 19:32	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:32	1
Trichloroethene	ND		1.0		ug/L			04/18/22 19:32	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 19:32	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 19:32	1
Dibromomethane	ND		1.0		ug/L			04/18/22 19:32	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*100*		*70 - 130*		*04/18/22 19:32*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*04/18/22 19:32*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/18/22 19:32*	*1*

Client Sample ID: MW-1014-20220413-01

Lab Sample ID: 480-196860-11

Date Collected: 04/13/22 17:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 19:55	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 19:55	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 19:55	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 19:55	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 19:55	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 19:55	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 19:55	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 19:55	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 19:55	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 19:55	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 19:55	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 19:55	1

Client Sample ID: MW-1014-20220413-01

Lab Sample ID: 480-196860-11

Date Collected: 04/13/22 17:45

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 19:55	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
1,4-Dioxane	ND		50		ug/L			04/18/22 19:55	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 19:55	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 19:55	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:55	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 19:55	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 19:55	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 19:55	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 19:55	1
Acetone	ND		50		ug/L			04/18/22 19:55	1
Benzene	ND		1.0		ug/L			04/18/22 19:55	1
Bromobenzene	ND		1.0		ug/L			04/18/22 19:55	1
Bromoform	ND		1.0		ug/L			04/18/22 19:55	1
Bromomethane	ND		2.0		ug/L			04/18/22 19:55	1
Carbon disulfide	ND		10		ug/L			04/18/22 19:55	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 19:55	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 19:55	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 19:55	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 19:55	1
Chloroethane	ND		2.0		ug/L			04/18/22 19:55	1
Chloroform	ND		1.0		ug/L			04/18/22 19:55	1
Chloromethane	ND		2.0		ug/L			04/18/22 19:55	1
cis-1,2-Dichloroethene	**1.3**		1.0		ug/L			04/18/22 19:55	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:55	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 19:55	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 19:55	1
Ethyl ether	ND		1.0		ug/L			04/18/22 19:55	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 19:55	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 19:55	1
Isopropyl ether	ND		10		ug/L			04/18/22 19:55	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 19:55	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 19:55	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 19:55	1
Naphthalene	ND		5.0		ug/L			04/18/22 19:55	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
o-Xylene	ND		1.0		ug/L			04/18/22 19:55	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
Styrene	ND		1.0		ug/L			04/18/22 19:55	1
Tert-amyl methyl ether	ND	*-	5.0		ug/L			04/18/22 19:55	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 19:55	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 19:55	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 19:55	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 19:55	1
Toluene	ND		1.0		ug/L			04/18/22 19:55	1

Client Sample ID: MW-1014-20220413-01

Lab Sample ID: 480-196860-11

Date Collected: 04/13/22 17:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 19:55	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 19:55	1
Trichloroethene	**8.5**		1.0		ug/L			04/18/22 19:55	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 19:55	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 19:55	1
Dibromomethane	ND		1.0		ug/L			04/18/22 19:55	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*102*		*70 - 130*		*04/18/22 19:55*	*1*
1,2-Dichloroethane-d4 (Surr)	*109*		*70 - 130*		*04/18/22 19:55*	*1*
4-Bromofluorobenzene (Surr)	*99*		*70 - 130*		*04/18/22 19:55*	*1*

Client Sample ID: MW-217M-20220413-01

Lab Sample ID: 480-196860-12

Date Collected: 04/13/22 11:45
Matrix: Water
Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND	*-	1.0		ug/L			04/18/22 20:18	1
1,1,1-Trichloroethane	ND	*-	1.0		ug/L			04/18/22 20:18	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 20:18	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 20:18	1
1,1-Dichloroethane	**1.9**		1.0		ug/L			04/18/22 20:18	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 20:18	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 20:18	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 20:18	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 20:18	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 20:18	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 20:18	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 20:18	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
1,4-Dioxane	ND		50		ug/L			04/18/22 20:18	1
2,2-Dichloropropane	ND	*-	1.0		ug/L			04/18/22 20:18	1
2-Butanone (MEK)	ND	*+	10		ug/L			04/18/22 20:18	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 20:18	1
2-Hexanone	ND	*+	10		ug/L			04/18/22 20:18	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 20:18	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 20:18	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 20:18	1
Acetone	ND		50		ug/L			04/18/22 20:18	1
Benzene	ND		1.0		ug/L			04/18/22 20:18	1
Bromobenzene	ND		1.0		ug/L			04/18/22 20:18	1
Bromoform	ND		1.0		ug/L			04/18/22 20:18	1
Bromomethane	ND		2.0		ug/L			04/18/22 20:18	1

Client Sample ID: MW-217M-20220413-01

Lab Sample ID: 480-196860-12

Date Collected: 04/13/22 11:45

Matrix: Water

Date Received: 04/15/22 10:00

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Carbon disulfide	ND		10		ug/L			04/18/22 20:18	1
Carbon tetrachloride	ND	*-	1.0		ug/L			04/18/22 20:18	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 20:18	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 20:18	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 20:18	1
Chloroethane	ND		2.0		ug/L			04/18/22 20:18	1
Chloroform	ND		1.0		ug/L			04/18/22 20:18	1
Chloromethane	ND		2.0		ug/L			04/18/22 20:18	1
cis-1,2-Dichloroethene	**1.0**		1.0		ug/L			04/18/22 20:18	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 20:18	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 20:18	1
Dichlorodifluoromethane	ND	*-	1.0		ug/L			04/18/22 20:18	1
Ethyl ether	ND		1.0		ug/L			04/18/22 20:18	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 20:18	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 20:18	1
Isopropyl ether	ND		10		ug/L			04/18/22 20:18	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
Methyl tert-butyl ether	**30**		1.0		ug/L			04/18/22 20:18	1
Methylene Chloride	ND	*-	1.0		ug/L			04/18/22 20:18	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 20:18	1
Naphthalene	ND		5.0		ug/L			04/18/22 20:18	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
o-Xylene	ND		1.0		ug/L			04/18/22 20:18	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
Styrene	ND		1.0		ug/L			04/18/22 20:18	1
Tert-amyl methyl ether	**11**	***-**	5.0		ug/L			04/18/22 20:18	1
Tert-butyl ethyl ether	ND	*-	5.0		ug/L			04/18/22 20:18	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 20:18	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 20:18	1
Tetrahydrofuran	ND	*+	10		ug/L			04/18/22 20:18	1
Toluene	ND		1.0		ug/L			04/18/22 20:18	1
trans-1,2-Dichloroethene	ND	*-	1.0		ug/L			04/18/22 20:18	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 20:18	1
Trichloroethene	**6.3**		1.0		ug/L			04/18/22 20:18	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 20:18	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 20:18	1
Dibromomethane	ND		1.0		ug/L			04/18/22 20:18	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*99*		*70 - 130*		*04/18/22 20:18*	*1*
1,2-Dichloroethane-d4 (Surr)	*110*		*70 - 130*		*04/18/22 20:18*	*1*
4-Bromofluorobenzene (Surr)	*96*		*70 - 130*		*04/18/22 20:18*	*1*

Surrogate Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Method: 8260C - Volatile Organic Compounds (GC/MS)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)		
		TOL	DCA	BFB
Lab Sample ID	Client Sample ID	(70-130)	(70-130)	(70-130)
480-196860-1	MW-1032-20220413-01	99	109	99
480-196860-2	MW-1005-20220413-01	98	114	102
480-196860-2 MS	MW-1005-20220413-01	101	111	101
480-196860-2 MSD	MW-1005-20220413-01	98	112	97
480-196860-3	MW-1028-20220413-01	101	106	97
480-196860-4	MW-1010M-20220413-01	102	109	102
480-196860-5	MW-1034-20220413-01	99	109	97
480-196860-6	MW-1010D-20220413-01	99	105	96
480-196860-7	MW-1015D-20220413-01	103	111	102
480-196860-8	DUP-001-20220413-01	101	112	102
480-196860-9	FB-20220413-01	100	108	99
480-196860-10	TB-20220413-01	100	109	99
480-196860-11	MW-1014-20220413-01	102	109	99
480-196860-12	MW-217M-20220413-01	99	110	96
LCS 480-622128/6	Lab Control Sample	100	107	100
LCSD 480-622128/7	Lab Control Sample Dup	99	106	97
MB 480-622128/9	Method Blank	98	105	100

Surrogate Legend

TOL = Toluene-d8 (Surr)
DCA = 1,2-Dichloroethane-d4 (Surr)
BFB = 4-Bromofluorobenzene (Surr)

Method: 8260C - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 480-622128/9
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0		ug/L			04/18/22 15:41	1
1,1,1-Trichloroethane	ND		1.0		ug/L			04/18/22 15:41	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			04/18/22 15:41	1
1,1,2-Trichloroethane	ND		1.0		ug/L			04/18/22 15:41	1
1,1-Dichloroethane	ND		1.0		ug/L			04/18/22 15:41	1
1,1-Dichloroethene	ND		1.0		ug/L			04/18/22 15:41	1
1,1-Dichloropropene	ND		1.0		ug/L			04/18/22 15:41	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,2,3-Trichloropropane	ND		1.0		ug/L			04/18/22 15:41	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,2,4-Trimethylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,2-Dibromo-3-Chloropropane	ND		5.0		ug/L			04/18/22 15:41	1
1,2-Dichlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,2-Dichloroethane	ND		1.0		ug/L			04/18/22 15:41	1
1,2-Dichloropropane	ND		1.0		ug/L			04/18/22 15:41	1
1,3,5-Trimethylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,3-Dichlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,3-Dichloropropane	ND		1.0		ug/L			04/18/22 15:41	1
1,4-Dichlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
1,4-Dioxane	ND		50		ug/L			04/18/22 15:41	1
2,2-Dichloropropane	ND		1.0		ug/L			04/18/22 15:41	1
2-Butanone (MEK)	ND		10		ug/L			04/18/22 15:41	1
2-Chlorotoluene	ND		1.0		ug/L			04/18/22 15:41	1
2-Hexanone	ND		10		ug/L			04/18/22 15:41	1
4-Chlorotoluene	ND		1.0		ug/L			04/18/22 15:41	1
4-Isopropyltoluene	ND		1.0		ug/L			04/18/22 15:41	1
4-Methyl-2-pentanone (MIBK)	ND		10		ug/L			04/18/22 15:41	1
Acetone	ND		50		ug/L			04/18/22 15:41	1
Benzene	ND		1.0		ug/L			04/18/22 15:41	1
Bromobenzene	ND		1.0		ug/L			04/18/22 15:41	1
Bromoform	ND		1.0		ug/L			04/18/22 15:41	1
Bromomethane	ND		2.0		ug/L			04/18/22 15:41	1
Carbon disulfide	ND		10		ug/L			04/18/22 15:41	1
Carbon tetrachloride	ND		1.0		ug/L			04/18/22 15:41	1
Chlorobenzene	ND		1.0		ug/L			04/18/22 15:41	1
Chlorobromomethane	ND		1.0		ug/L			04/18/22 15:41	1
Chlorodibromomethane	ND		0.50		ug/L			04/18/22 15:41	1
Chloroethane	ND		2.0		ug/L			04/18/22 15:41	1
Chloroform	ND		1.0		ug/L			04/18/22 15:41	1
Chloromethane	ND		2.0		ug/L			04/18/22 15:41	1
cis-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 15:41	1
cis-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 15:41	1
Dichlorobromomethane	ND		0.50		ug/L			04/18/22 15:41	1
Dichlorodifluoromethane	ND		1.0		ug/L			04/18/22 15:41	1
Ethyl ether	ND		1.0		ug/L			04/18/22 15:41	1
Ethylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
Ethylene Dibromide	ND		1.0		ug/L			04/18/22 15:41	1
Hexachlorobutadiene	ND		0.40		ug/L			04/18/22 15:41	1

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 480-622128/9
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Isopropyl ether	ND		10		ug/L			04/18/22 15:41	1
Isopropylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
Methyl tert-butyl ether	ND		1.0		ug/L			04/18/22 15:41	1
Methylene Chloride	ND		1.0		ug/L			04/18/22 15:41	1
m-Xylene & p-Xylene	ND		2.0		ug/L			04/18/22 15:41	1
Naphthalene	ND		5.0		ug/L			04/18/22 15:41	1
n-Butylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
N-Propylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
o-Xylene	ND		1.0		ug/L			04/18/22 15:41	1
sec-Butylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
Styrene	ND		1.0		ug/L			04/18/22 15:41	1
Tert-amyl methyl ether	ND		5.0		ug/L			04/18/22 15:41	1
Tert-butyl ethyl ether	ND		5.0		ug/L			04/18/22 15:41	1
tert-Butylbenzene	ND		1.0		ug/L			04/18/22 15:41	1
Tetrachloroethene	ND		1.0		ug/L			04/18/22 15:41	1
Tetrahydrofuran	ND		10		ug/L			04/18/22 15:41	1
Toluene	ND		1.0		ug/L			04/18/22 15:41	1
trans-1,2-Dichloroethene	ND		1.0		ug/L			04/18/22 15:41	1
trans-1,3-Dichloropropene	ND		0.40		ug/L			04/18/22 15:41	1
Trichloroethene	ND		1.0		ug/L			04/18/22 15:41	1
Trichlorofluoromethane	ND		1.0		ug/L			04/18/22 15:41	1
Vinyl chloride	ND		1.0		ug/L			04/18/22 15:41	1
Dibromomethane	ND		1.0		ug/L			04/18/22 15:41	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
Toluene-d8 (Surr)	*98*		*70 - 130*		*04/18/22 15:41*	*1*
1,2-Dichloroethane-d4 (Surr)	*105*		*70 - 130*		*04/18/22 15:41*	*1*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*		*04/18/22 15:41*	*1*

Lab Sample ID: LCS 480-622128/6
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	25.0	17.9		ug/L		72	70 - 130
1,1,1-Trichloroethane	25.0	18.4		ug/L		74	70 - 130
1,1,2,2-Tetrachloroethane	25.0	22.7		ug/L		91	70 - 130
1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloroethane	25.0	20.7		ug/L		83	70 - 130
1,1-Dichloroethene	25.0	19.9		ug/L		80	70 - 130
1,1-Dichloropropene	25.0	22.2		ug/L		89	70 - 130
1,2,3-Trichlorobenzene	25.0	18.5		ug/L		74	70 - 130
1,2,3-Trichloropropane	25.0	22.2		ug/L		89	70 - 130
1,2,4-Trichlorobenzene	25.0	18.2		ug/L		73	70 - 130
1,2,4-Trimethylbenzene	25.0	20.8		ug/L		83	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	18.2		ug/L		73	70 - 130
1,2-Dichlorobenzene	25.0	20.3		ug/L		81	70 - 130
1,2-Dichloroethane	25.0	23.9		ug/L		95	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-622128/6
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,2-Dichloropropane	25.0	23.7		ug/L		95	70 - 130
1,3,5-Trimethylbenzene	25.0	20.9		ug/L		84	70 - 130
1,3-Dichlorobenzene	25.0	21.7		ug/L		87	70 - 130
1,3-Dichloropropane	25.0	24.3		ug/L		97	70 - 130
1,4-Dichlorobenzene	25.0	22.2		ug/L		89	70 - 130
1,4-Dioxane	500	398		ug/L		80	70 - 130
2,2-Dichloropropane	25.0	17.3	*-	ug/L		69	70 - 130
2-Butanone (MEK)	125	226	*+	ug/L		181	70 - 130
2-Chlorotoluene	25.0	20.9		ug/L		84	70 - 130
2-Hexanone	125	157		ug/L		125	70 - 130
4-Chlorotoluene	25.0	24.2		ug/L		97	70 - 130
4-Isopropyltoluene	25.0	20.4		ug/L		82	70 - 130
4-Methyl-2-pentanone (MIBK)	125	141		ug/L		113	70 - 130
Acetone	125	121		ug/L		97	70 - 130
Benzene	25.0	21.7		ug/L		87	70 - 130
Bromobenzene	25.0	21.9		ug/L		88	70 - 130
Bromoform	25.0	19.5		ug/L		78	70 - 130
Bromomethane	25.0	23.3		ug/L		93	70 - 130
Carbon disulfide	25.0	20.1		ug/L		80	70 - 130
Carbon tetrachloride	25.0	16.7	*-	ug/L		67	70 - 130
Chlorobenzene	25.0	21.5		ug/L		86	70 - 130
Chlorobromomethane	25.0	18.6		ug/L		74	70 - 130
Chlorodibromomethane	25.0	21.3		ug/L		85	70 - 130
Chloroethane	25.0	20.5		ug/L		82	70 - 130
Chloroform	25.0	21.3		ug/L		85	70 - 130
Chloromethane	25.0	22.1		ug/L		88	70 - 130
cis-1,2-Dichloroethene	25.0	20.0		ug/L		80	70 - 130
cis-1,3-Dichloropropene	25.0	23.8		ug/L		95	70 - 130
Dichlorobromomethane	25.0	23.2		ug/L		93	70 - 130
Dichlorodifluoromethane	25.0	17.5		ug/L		70	70 - 130
Ethyl ether	25.0	22.5		ug/L		90	70 - 130
Ethylbenzene	25.0	22.8		ug/L		91	70 - 130
Ethylene Dibromide	25.0	22.2		ug/L		89	70 - 130
Hexachlorobutadiene	25.0	18.8		ug/L		75	70 - 130
Isopropyl ether	25.0	22.4		ug/L		90	70 - 130
Isopropylbenzene	25.0	20.5		ug/L		82	70 - 130
Methyl tert-butyl ether	25.0	18.6		ug/L		74	70 - 130
Methylene Chloride	25.0	18.5		ug/L		74	70 - 130
m-Xylene & p-Xylene	25.0	21.2		ug/L		85	70 - 130
Naphthalene	25.0	19.0		ug/L		76	70 - 130
n-Butylbenzene	25.0	22.3		ug/L		89	70 - 130
N-Propylbenzene	25.0	22.8		ug/L		91	70 - 130
o-Xylene	25.0	20.7		ug/L		83	70 - 130
sec-Butylbenzene	25.0	20.2		ug/L		81	70 - 130
Styrene	25.0	22.9		ug/L		92	70 - 130
Tert-amyl methyl ether	25.0	15.7	*-	ug/L		63	70 - 130
Tert-butyl ethyl ether	25.0	17.4		ug/L		70	70 - 130
tert-Butylbenzene	25.0	20.5		ug/L		82	70 - 130
Tetrachloroethene	25.0	21.4		ug/L		86	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 480-622128/6
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Tetrahydrofuran	50.0	69.6	*+	ug/L		139	70 - 130
Toluene	25.0	22.2		ug/L		89	70 - 130
trans-1,2-Dichloroethene	25.0	18.2		ug/L		73	70 - 130
trans-1,3-Dichloropropene	25.0	22.3		ug/L		89	70 - 130
Trichloroethene	25.0	21.9		ug/L		88	70 - 130
Trichlorofluoromethane	25.0	22.4		ug/L		90	70 - 130
Vinyl chloride	25.0	19.9		ug/L		79	70 - 130
Dibromomethane	25.0	23.4		ug/L		94	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Toluene-d8 (Surr)	*100*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*107*		*70 - 130*
4-Bromofluorobenzene (Surr)	*100*		*70 - 130*

Lab Sample ID: LCSD 480-622128/7
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	25.0	17.1	*-	ug/L		68	70 - 130	5	20
1,1,1-Trichloroethane	25.0	17.2	*-	ug/L		69	70 - 130	7	20
1,1,2,2-Tetrachloroethane	25.0	23.0		ug/L		92	70 - 130	1	20
1,1,2-Trichloroethane	25.0	22.5		ug/L		90	70 - 130	0	20
1,1-Dichloroethane	25.0	19.4		ug/L		78	70 - 130	7	20
1,1-Dichloroethene	25.0	18.2		ug/L		73	70 - 130	9	20
1,1-Dichloropropene	25.0	20.5		ug/L		82	70 - 130	8	20
1,2,3-Trichlorobenzene	25.0	18.3		ug/L		73	70 - 130	1	20
1,2,3-Trichloropropane	25.0	22.5		ug/L		90	70 - 130	1	20
1,2,4-Trichlorobenzene	25.0	18.9		ug/L		76	70 - 130	4	20
1,2,4-Trimethylbenzene	25.0	20.4		ug/L		81	70 - 130	2	20
1,2-Dibromo-3-Chloropropane	25.0	19.2		ug/L		77	70 - 130	5	20
1,2-Dichlorobenzene	25.0	20.2		ug/L		81	70 - 130	0	20
1,2-Dichloroethane	25.0	22.9		ug/L		92	70 - 130	4	20
1,2-Dichloropropane	25.0	22.7		ug/L		91	70 - 130	4	20
1,3,5-Trimethylbenzene	25.0	20.0		ug/L		80	70 - 130	5	20
1,3-Dichlorobenzene	25.0	21.4		ug/L		86	70 - 130	1	20
1,3-Dichloropropane	25.0	23.8		ug/L		95	70 - 130	2	20
1,4-Dichlorobenzene	25.0	22.0		ug/L		88	70 - 130	1	20
1,4-Dioxane	500	401		ug/L		80	70 - 130	1	20
2,2-Dichloropropane	25.0	15.7	*-	ug/L		63	70 - 130	10	20
2-Butanone (MEK)	125	229	*+	ug/L		183	70 - 130	1	20
2-Chlorotoluene	25.0	20.1		ug/L		80	70 - 130	4	20
2-Hexanone	125	173	*+	ug/L		139	70 - 130	10	20
4-Chlorotoluene	25.0	23.4		ug/L		94	70 - 130	3	20
4-Isopropyltoluene	25.0	19.6		ug/L		79	70 - 130	4	20
4-Methyl-2-pentanone (MIBK)	125	148		ug/L		118	70 - 130	5	20
Acetone	125	124		ug/L		100	70 - 130	3	20
Benzene	25.0	20.3		ug/L		81	70 - 130	7	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 480-622128/7
Matrix: Water
Analysis Batch: 622128

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Bromobenzene	25.0	22.2		ug/L		89	70 - 130	1	20
Bromoform	25.0	19.8		ug/L		79	70 - 130	1	20
Bromomethane	25.0	20.9		ug/L		83	70 - 130	11	20
Carbon disulfide	25.0	18.7		ug/L		75	70 - 130	7	20
Carbon tetrachloride	25.0	16.0	*-	ug/L		64	70 - 130	4	20
Chlorobenzene	25.0	21.1		ug/L		85	70 - 130	2	20
Chlorobromomethane	25.0	17.7		ug/L		71	70 - 130	5	20
Chlorodibromomethane	25.0	21.6		ug/L		86	70 - 130	1	20
Chloroethane	25.0	19.3		ug/L		77	70 - 130	6	20
Chloroform	25.0	20.4		ug/L		81	70 - 130	5	20
Chloromethane	25.0	20.9		ug/L		83	70 - 130	6	20
cis-1,2-Dichloroethene	25.0	18.8		ug/L		75	70 - 130	6	20
cis-1,3-Dichloropropene	25.0	22.9		ug/L		91	70 - 130	4	20
Dichlorobromomethane	25.0	23.0		ug/L		92	70 - 130	1	20
Dichlorodifluoromethane	25.0	15.8	*-	ug/L		63	70 - 130	11	20
Ethyl ether	25.0	21.9		ug/L		87	70 - 130	3	20
Ethylbenzene	25.0	22.6		ug/L		90	70 - 130	1	20
Ethylene Dibromide	25.0	22.3		ug/L		89	70 - 130	1	20
Hexachlorobutadiene	25.0	18.5		ug/L		74	70 - 130	2	20
Isopropyl ether	25.0	21.1		ug/L		84	70 - 130	6	20
Isopropylbenzene	25.0	19.4		ug/L		78	70 - 130	5	20
Methyl tert-butyl ether	25.0	17.8		ug/L		71	70 - 130	4	20
Methylene Chloride	25.0	17.3	*-	ug/L		69	70 - 130	7	20
m-Xylene & p-Xylene	25.0	20.8		ug/L		83	70 - 130	2	20
Naphthalene	25.0	19.3		ug/L		77	70 - 130	2	20
n-Butylbenzene	25.0	22.3		ug/L		89	70 - 130	0	20
N-Propylbenzene	25.0	22.3		ug/L		89	70 - 130	2	20
o-Xylene	25.0	20.3		ug/L		81	70 - 130	2	20
sec-Butylbenzene	25.0	19.8		ug/L		79	70 - 130	2	20
Styrene	25.0	22.5		ug/L		90	70 - 130	2	20
Tert-amyl methyl ether	25.0	15.7	*-	ug/L		63	70 - 130	0	20
Tert-butyl ethyl ether	25.0	17.1	*-	ug/L		69	70 - 130	2	20
tert-Butylbenzene	25.0	19.6		ug/L		78	70 - 130	5	20
Tetrachloroethene	25.0	20.2		ug/L		81	70 - 130	6	20
Tetrahydrofuran	50.0	68.3	*+	ug/L		137	70 - 130	2	20
Toluene	25.0	20.6		ug/L		83	70 - 130	7	20
trans-1,2-Dichloroethene	25.0	17.1	*-	ug/L		68	70 - 130	6	20
trans-1,3-Dichloropropene	25.0	22.8		ug/L		91	70 - 130	2	20
Trichloroethene	25.0	20.7		ug/L		83	70 - 130	6	20
Trichlorofluoromethane	25.0	20.5		ug/L		82	70 - 130	9	20
Vinyl chloride	25.0	18.3		ug/L		73	70 - 130	8	20
Dibromomethane	25.0	22.9		ug/L		92	70 - 130	2	20

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*99*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*106*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-196860-2 MS
Matrix: Water
Analysis Batch: 622128

Client Sample ID: MW-1005-20220413-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	ND	*-	25.0	20.7		ug/L		83	70 - 130
1,1,1-Trichloroethane	ND	*-	25.0	21.8		ug/L		87	70 - 130
1,1,2,2-Tetrachloroethane	ND		25.0	27.0		ug/L		108	70 - 130
1,1,2-Trichloroethane	ND		25.0	27.8		ug/L		111	70 - 130
1,1-Dichloroethane	ND		25.0	24.0		ug/L		96	70 - 130
1,1-Dichloroethene	ND		25.0	22.0		ug/L		88	70 - 130
1,1-Dichloropropene	ND		25.0	25.9		ug/L		103	70 - 130
1,2,3-Trichlorobenzene	ND		25.0	20.9		ug/L		83	70 - 130
1,2,3-Trichloropropane	ND		25.0	25.8		ug/L		103	70 - 130
1,2,4-Trichlorobenzene	ND		25.0	21.4		ug/L		86	70 - 130
1,2,4-Trimethylbenzene	ND		25.0	23.0		ug/L		92	70 - 130
1,2-Dibromo-3-Chloropropane	ND		25.0	24.1		ug/L		96	70 - 130
1,2-Dichlorobenzene	ND		25.0	22.8		ug/L		91	70 - 130
1,2-Dichloroethane	ND		25.0	27.6		ug/L		111	70 - 130
1,2-Dichloropropane	ND		25.0	27.4		ug/L		110	70 - 130
1,3,5-Trimethylbenzene	ND		25.0	23.4		ug/L		94	70 - 130
1,3-Dichlorobenzene	ND		25.0	24.4		ug/L		98	70 - 130
1,3-Dichloropropane	ND		25.0	29.7		ug/L		119	70 - 130
1,4-Dichlorobenzene	ND		25.0	24.2		ug/L		97	70 - 130
1,4-Dioxane	ND		500	537		ug/L		107	70 - 130
2,2-Dichloropropane	ND	*- F1	25.0	17.1	F1	ug/L		68	70 - 130
2-Butanone (MEK)	ND	*+ F1	125	288	F1	ug/L		231	70 - 130
2-Chlorotoluene	ND		25.0	23.7		ug/L		95	70 - 130
2-Hexanone	ND	*+ F1	125	204	F1	ug/L		163	70 - 130
4-Chlorotoluene	ND		25.0	26.7		ug/L		107	70 - 130
4-Isopropyltoluene	ND		25.0	23.3		ug/L		93	70 - 130
4-Methyl-2-pentanone (MIBK)	ND	F1	125	181	F1	ug/L		145	70 - 130
Acetone	51	F1 F2	125	177		ug/L		101	70 - 130
Benzene	ND		25.0	24.6		ug/L		99	70 - 130
Bromobenzene	ND		25.0	24.0		ug/L		96	70 - 130
Bromoform	ND		25.0	25.0		ug/L		100	70 - 130
Bromomethane	ND		25.0	24.1		ug/L		96	70 - 130
Carbon disulfide	ND		25.0	21.8		ug/L		87	70 - 130
Carbon tetrachloride	ND	*-	25.0	21.1		ug/L		84	70 - 130
Chlorobenzene	ND		25.0	25.1		ug/L		100	70 - 130
Chlorobromomethane	ND		25.0	20.6		ug/L		82	70 - 130
Chlorodibromomethane	ND		25.0	25.0		ug/L		100	70 - 130
Chloroethane	ND		25.0	24.7		ug/L		99	70 - 130
Chloroform	ND		25.0	24.4		ug/L		97	70 - 130
Chloromethane	ND		25.0	25.0		ug/L		100	70 - 130
cis-1,2-Dichloroethene	6.1		25.0	27.7		ug/L		87	70 - 130
cis-1,3-Dichloropropene	ND		25.0	26.9		ug/L		108	70 - 130
Dichlorobromomethane	ND		25.0	27.1		ug/L		108	70 - 130
Dichlorodifluoromethane	ND	*-	25.0	17.9		ug/L		72	70 - 130
Ethyl ether	ND		25.0	27.3		ug/L		109	70 - 130
Ethylbenzene	ND		25.0	26.3		ug/L		105	70 - 130
Ethylene Dibromide	ND		25.0	27.3		ug/L		109	70 - 130
Hexachlorobutadiene	ND		25.0	22.1		ug/L		89	70 - 130

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-196860-2 MS
Matrix: Water
Analysis Batch: 622128

Client Sample ID: MW-1005-20220413-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Isopropyl ether	ND		25.0	29.4		ug/L		117	70 - 130
Isopropylbenzene	ND		25.0	23.2		ug/L		93	70 - 130
Methyl tert-butyl ether	ND		25.0	21.5		ug/L		86	70 - 130
Methylene Chloride	ND	*-	25.0	20.7		ug/L		83	70 - 130
m-Xylene & p-Xylene	ND		25.0	25.0		ug/L		100	70 - 130
Naphthalene	ND		25.0	22.5		ug/L		90	70 - 130
n-Butylbenzene	ND		25.0	25.8		ug/L		103	70 - 130
N-Propylbenzene	ND		25.0	25.8		ug/L		103	70 - 130
o-Xylene	ND		25.0	23.5		ug/L		94	70 - 130
sec-Butylbenzene	ND		25.0	22.8		ug/L		91	70 - 130
Styrene	ND		25.0	26.3		ug/L		105	70 - 130
Tert-amyl methyl ether	ND	*-	25.0	20.2		ug/L		81	70 - 130
Tert-butyl ethyl ether	ND	*-	25.0	22.1		ug/L		88	70 - 130
tert-Butylbenzene	ND		25.0	22.4		ug/L		90	70 - 130
Tetrachloroethene	ND		25.0	23.8		ug/L		95	70 - 130
Tetrahydrofuran	ND	*+ F1	50.0	90.1	F1	ug/L		180	70 - 130
Toluene	ND		25.0	25.4		ug/L		101	70 - 130
trans-1,2-Dichloroethene	ND	*-	25.0	21.7		ug/L		87	70 - 130
trans-1,3-Dichloropropene	ND		25.0	26.3		ug/L		105	70 - 130
Trichloroethene	5.1		25.0	30.5		ug/L		102	70 - 130
Trichlorofluoromethane	ND		25.0	24.8		ug/L		99	70 - 130
Vinyl chloride	ND		25.0	23.2		ug/L		93	70 - 130
Dibromomethane	ND		25.0	27.8		ug/L		111	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
Toluene-d8 (Surr)	*101*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*111*		*70 - 130*
4-Bromofluorobenzene (Surr)	*101*		*70 - 130*

Lab Sample ID: 480-196860-2 MSD
Matrix: Water
Analysis Batch: 622128

Client Sample ID: MW-1005-20220413-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,1,1,2-Tetrachloroethane	ND	*-	25.0	22.3		ug/L		89	70 - 130	8	20
1,1,1-Trichloroethane	ND	*-	25.0	23.8		ug/L		95	70 - 130	9	20
1,1,2,2-Tetrachloroethane	ND		25.0	28.7		ug/L		115	70 - 130	6	20
1,1,2-Trichloroethane	ND		25.0	28.2		ug/L		113	70 - 130	1	20
1,1-Dichloroethane	ND		25.0	25.3		ug/L		101	70 - 130	5	20
1,1-Dichloroethene	ND		25.0	25.4		ug/L		102	70 - 130	14	20
1,1-Dichloropropene	ND		25.0	27.8		ug/L		111	70 - 130	7	20
1,2,3-Trichlorobenzene	ND		25.0	23.1		ug/L		93	70 - 130	10	20
1,2,3-Trichloropropane	ND		25.0	26.6		ug/L		107	70 - 130	3	20
1,2,4-Trichlorobenzene	ND		25.0	23.0		ug/L		92	70 - 130	7	20
1,2,4-Trimethylbenzene	ND		25.0	25.4		ug/L		102	70 - 130	10	20
1,2-Dibromo-3-Chloropropane	ND		25.0	26.8		ug/L		107	70 - 130	11	20
1,2-Dichlorobenzene	ND		25.0	24.6		ug/L		98	70 - 130	8	20
1,2-Dichloroethane	ND		25.0	29.4		ug/L		118	70 - 130	6	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-196860-2 MSD
Matrix: Water
Analysis Batch: 622128

Client Sample ID: MW-1005-20220413-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,2-Dichloropropane	ND		25.0	28.5		ug/L		114	70 - 130	4	20
1,3,5-Trimethylbenzene	ND		25.0	25.2		ug/L		101	70 - 130	7	20
1,3-Dichlorobenzene	ND		25.0	26.1		ug/L		105	70 - 130	7	20
1,3-Dichloropropane	ND		25.0	29.5		ug/L		118	70 - 130	0	20
1,4-Dichlorobenzene	ND		25.0	26.6		ug/L		106	70 - 130	10	20
1,4-Dioxane	ND		500	581		ug/L		116	70 - 130	8	20
2,2-Dichloropropane	ND	*- F1	25.0	18.0		ug/L		72	70 - 130	6	20
2-Butanone (MEK)	ND	*+ F1	125	294	F1	ug/L		235	70 - 130	2	20
2-Chlorotoluene	ND		25.0	25.8		ug/L		103	70 - 130	8	20
2-Hexanone	ND	*+ F1	125	198	F1	ug/L		158	70 - 130	3	20
4-Chlorotoluene	ND		25.0	28.5		ug/L		114	70 - 130	6	20
4-Isopropyltoluene	ND		25.0	24.6		ug/L		98	70 - 130	5	20
4-Methyl-2-pentanone (MIBK)	ND	F1	125	180	F1	ug/L		144	70 - 130	1	20
Acetone	51	F1 F2	125	222	F1 F2	ug/L		137	70 - 130	23	20
Benzene	ND		25.0	26.3		ug/L		105	70 - 130	6	20
Bromobenzene	ND		25.0	25.8		ug/L		103	70 - 130	7	20
Bromoform	ND		25.0	27.8		ug/L		111	70 - 130	11	20
Bromomethane	ND		25.0	23.2		ug/L		93	70 - 130	4	20
Carbon disulfide	ND		25.0	23.6		ug/L		94	70 - 130	8	20
Carbon tetrachloride	ND	*-	25.0	22.9		ug/L		91	70 - 130	8	20
Chlorobenzene	ND		25.0	25.8		ug/L		103	70 - 130	3	20
Chlorobromomethane	ND		25.0	22.2		ug/L		89	70 - 130	7	20
Chlorodibromomethane	ND		25.0	28.6		ug/L		114	70 - 130	13	20
Chloroethane	ND		25.0	23.4		ug/L		94	70 - 130	5	20
Chloroform	ND		25.0	26.2		ug/L		105	70 - 130	7	20
Chloromethane	ND		25.0	24.8		ug/L		99	70 - 130	1	20
cis-1,2-Dichloroethene	6.1		25.0	29.5		ug/L		94	70 - 130	6	20
cis-1,3-Dichloropropene	ND		25.0	28.8		ug/L		115	70 - 130	7	20
Dichlorobromomethane	ND		25.0	30.3		ug/L		121	70 - 130	11	20
Dichlorodifluoromethane	ND	*-	25.0	17.9		ug/L		72	70 - 130	0	20
Ethyl ether	ND		25.0	29.4		ug/L		118	70 - 130	7	20
Ethylbenzene	ND		25.0	27.7		ug/L		111	70 - 130	5	20
Ethylene Dibromide	ND		25.0	27.6		ug/L		110	70 - 130	1	20
Hexachlorobutadiene	ND		25.0	23.2		ug/L		93	70 - 130	5	20
Isopropyl ether	ND		25.0	29.2		ug/L		117	70 - 130	1	20
Isopropylbenzene	ND		25.0	25.2		ug/L		101	70 - 130	8	20
Methyl tert-butyl ether	ND		25.0	22.6		ug/L		91	70 - 130	5	20
Methylene Chloride	ND	*-	25.0	22.1		ug/L		88	70 - 130	6	20
m-Xylene & p-Xylene	ND		25.0	25.5		ug/L		102	70 - 130	2	20
Naphthalene	ND		25.0	23.5		ug/L		94	70 - 130	4	20
n-Butylbenzene	ND		25.0	27.6		ug/L		110	70 - 130	6	20
N-Propylbenzene	ND		25.0	27.9		ug/L		111	70 - 130	8	20
o-Xylene	ND		25.0	24.4		ug/L		98	70 - 130	4	20
sec-Butylbenzene	ND		25.0	24.6		ug/L		99	70 - 130	8	20
Styrene	ND		25.0	27.3		ug/L		109	70 - 130	4	20
Tert-amyl methyl ether	ND	*-	25.0	21.4		ug/L		86	70 - 130	6	20
Tert-butyl ethyl ether	ND	*-	25.0	22.8		ug/L		91	70 - 130	3	20
tert-Butylbenzene	ND		25.0	25.1		ug/L		101	70 - 130	12	20
Tetrachloroethene	ND		25.0	25.3		ug/L		101	70 - 130	6	20

Method: 8260C - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: 480-196860-2 MSD
Matrix: Water
Analysis Batch: 622128

Client Sample ID: MW-1005-20220413-01
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Tetrahydrofuran	ND	*+ F1	50.0	91.7	F1	ug/L		183	70 - 130	2	20
Toluene	ND		25.0	25.7		ug/L		103	70 - 130	1	20
trans-1,2-Dichloroethene	ND	*-	25.0	22.2		ug/L		89	70 - 130	3	20
trans-1,3-Dichloropropene	ND		25.0	27.1		ug/L		108	70 - 130	3	20
Trichloroethene	5.1		25.0	31.8		ug/L		107	70 - 130	4	20
Trichlorofluoromethane	ND		25.0	23.4		ug/L		94	70 - 130	6	20
Vinyl chloride	ND		25.0	22.6		ug/L		90	70 - 130	3	20
Dibromomethane	ND		25.0	29.3		ug/L		117	70 - 130	5	20

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
Toluene-d8 (Surr)	*98*		*70 - 130*
1,2-Dichloroethane-d4 (Surr)	*112*		*70 - 130*
4-Bromofluorobenzene (Surr)	*97*		*70 - 130*

QC Association Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

GC/MS VOA

Analysis Batch: 622128

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-196860-1	MW-1032-20220413-01	Total/NA	Water	8260C	
480-196860-2	MW-1005-20220413-01	Total/NA	Water	8260C	
480-196860-3	MW-1028-20220413-01	Total/NA	Water	8260C	
480-196860-4	MW-1010M-20220413-01	Total/NA	Water	8260C	
480-196860-5	MW-1034-20220413-01	Total/NA	Water	8260C	
480-196860-6	MW-1010D-20220413-01	Total/NA	Water	8260C	
480-196860-7	MW-1015D-20220413-01	Total/NA	Water	8260C	
480-196860-8	DUP-001-20220413-01	Total/NA	Water	8260C	
480-196860-9	FB-20220413-01	Total/NA	Water	8260C	
480-196860-10	TB-20220413-01	Total/NA	Water	8260C	
480-196860-11	MW-1014-20220413-01	Total/NA	Water	8260C	
480-196860-12	MW-217M-20220413-01	Total/NA	Water	8260C	
MB 480-622128/9	Method Blank	Total/NA	Water	8260C	
LCS 480-622128/6	Lab Control Sample	Total/NA	Water	8260C	
LCSD 480-622128/7	Lab Control Sample Dup	Total/NA	Water	8260C	
480-196860-2 MS	MW-1005-20220413-01	Total/NA	Water	8260C	
480-196860-2 MSD	MW-1005-20220413-01	Total/NA	Water	8260C	

Lab Chronicle

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: MW-1032-20220413-01 — Lab Sample ID: 480-196860-1

Date Collected: 04/13/22 09:10 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 16:04	CR	TAL BUF

Client Sample ID: MW-1005-20220413-01 — Lab Sample ID: 480-196860-2

Date Collected: 04/13/22 09:45 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 16:27	CR	TAL BUF

Client Sample ID: MW-1028-20220413-01 — Lab Sample ID: 480-196860-3

Date Collected: 04/13/22 09:50 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 16:50	CR	TAL BUF

Client Sample ID: MW-1010M-20220413-01 — Lab Sample ID: 480-196860-4

Date Collected: 04/13/22 10:25 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 17:14	CR	TAL BUF

Client Sample ID: MW-1034-20220413-01 — Lab Sample ID: 480-196860-5

Date Collected: 04/13/22 10:30 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 17:37	CR	TAL BUF

Client Sample ID: MW-1010D-20220413-01 — Lab Sample ID: 480-196860-6

Date Collected: 04/13/22 10:45 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 18:00	CR	TAL BUF

Client Sample ID: MW-1015D-20220413-01 — Lab Sample ID: 480-196860-7

Date Collected: 04/13/22 11:10 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 18:23	CR	TAL BUF

Lab Chronicle

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Client Sample ID: DUP-001-20220413-01 — Lab Sample ID: 480-196860-8

Date Collected: 04/13/22 00:01 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 18:46	CR	TAL BUF

Client Sample ID: FB-20220413-01 — Lab Sample ID: 480-196860-9

Date Collected: 04/13/22 17:10 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 19:09	CR	TAL BUF

Client Sample ID: TB-20220413-01 — Lab Sample ID: 480-196860-10

Date Collected: 04/13/22 00:00 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 19:32	CR	TAL BUF

Client Sample ID: MW-1014-20220413-01 — Lab Sample ID: 480-196860-11

Date Collected: 04/13/22 17:45 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 19:55	CR	TAL BUF

Client Sample ID: MW-217M-20220413-01 — Lab Sample ID: 480-196860-12

Date Collected: 04/13/22 11:45 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260C		1	622128	04/18/22 20:18	CR	TAL BUF

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Accreditation/Certification Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Laboratory: Eurofins Buffalo

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arkansas DEQ	State	88-0686	07-06-22
Connecticut	State	PH-0568	09-30-22
Florida	NELAP	E87672	06-30-22
Georgia	State	10026 (NY)	04-01-23
Georgia	State Program	N/A	03-31-09 *
Georgia (DW)	State	956	03-31-22 *
Illinois	NELAP	200003	09-30-22
Iowa	State	374	03-01-23
Iowa	State Program	374	03-01-09 *
Kansas	NELAP	E-10187	01-31-23
Kentucky (DW)	State	90029	12-31-22
Kentucky (UST)	State	30	04-01-22 *
Kentucky (WW)	State	KY90029	12-31-22
Louisiana	NELAP	02031	06-30-22
Maine	State	NY00044	12-04-22
Maryland	State	294	03-31-23
Massachusetts	State	M-NY044	06-30-22
Michigan	State	9937	04-01-22 *
Michigan	State Program	9937	04-01-09 *
New Hampshire	NELAP	2973	09-11-19 *
New Hampshire	NELAP	2337	11-17-22
New Jersey	NELAP	NY455	06-30-22
New York	NELAP	10026	03-31-23
Oregon	NELAP	NY200003	06-12-22
Pennsylvania	NELAP	68-00281	07-31-22
Rhode Island	State	LAO00328	12-30-22
Tennessee	State	02970	04-01-23
Texas	NELAP	T104704412-18-10	07-31-22
USDA	US Federal Programs	P330-18-00039	03-25-24
Virginia	NELAP	460185	09-14-22
Washington	State	C784	02-10-23
Wisconsin	State	998310390	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Method	Method Description	Protocol	Laboratory
8260C	Volatile Organic Compounds (GC/MS)	MA DEP	TAL BUF
5030C	Purge and Trap	SW846	TAL BUF

Protocol References:

MA DEP = Massachusetts Department Of Environmental Protection

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL BUF = Eurofins Buffalo, 10 Hazelwood Drive, Amherst, NY 14228-2298, TEL (716)691-2600

Sample Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196860-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-196860-1	MW-1032-20220413-01	Water	04/13/22 09:10	04/15/22 10:00
480-196860-2	MW-1005-20220413-01	Water	04/13/22 09:45	04/15/22 10:00
480-196860-3	MW-1028-20220413-01	Water	04/13/22 09:50	04/15/22 10:00
480-196860-4	MW-1010M-20220413-01	Water	04/13/22 10:25	04/15/22 10:00
480-196860-5	MW-1034-20220413-01	Water	04/13/22 10:30	04/15/22 10:00
480-196860-6	MW-1010D-20220413-01	Water	04/13/22 10:45	04/15/22 10:00
480-196860-7	MW-1015D-20220413-01	Water	04/13/22 11:10	04/15/22 10:00
480-196860-8	DUP-001-20220413-01	Water	04/13/22 00:01	04/15/22 10:00
480-196860-9	FB-20220413-01	Water	04/13/22 17:10	04/15/22 10:00
480-196860-10	TB-20220413-01	Water	04/13/22 00:00	04/15/22 10:00
480-196860-11	MW-1014-20220413-01	Water	04/13/22 17:45	04/15/22 10:00
480-196860-12	MW-217M-20220413-01	Water	04/13/22 11:45	04/15/22 10:00

Login Sample Receipt Checklist

Client: ERM-Northeast

Job Number: 480-196860-1

Login Number: 196860
List Number: 1
Creator: Yeager, Brian A

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	ERM
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	N/A	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Boston #215

eurofins | Environment Testing America

Client Information	Sampler: Luke Jenkins	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 1 of 1
Client Contact: Luke Jenkins	Phone: 662-202-4046	E-Mail: Becky.Mason@Eurofinset.com	State of Origin: MA	Page: 1 of 1
Company: ERM-Northeast	PWSID:			Job #:
Address: One Beacon Steet 5th Floor	Due Date Requested:			
City: Boston	TAT Requested (days): Standard			
State, Zip: MA, 02108	Compliance Project: Δ Yes Δ No			
Phone: 662-202-4046(Tel)	PO #: 0618685.01			
Email: Luke.Jenkins@ERM.com	WO #:			
Project Name: IDS Wayland	Project #: 48007117			
Site: Wayland, MA	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260MCP - 8260 (A)	1,4 Dioxane (E)	Total Number of containers	Special Instructions/Note:
			Preservation Code:							
MW-103d-20220413-01	04/13	0910	G	W	N	N	X		3	
MW-1005-20220413-01		0945	G	W	N	Y	X		3	MS/MSD
MW-1008-20220413-01		0950	G	W	N	N	X		3	
MW-1010M-20220413-01		1025	G	W	N	N	X		3	
MW-1034-20220413-01		1030	G	W	N	N	X		3	
MW-1010D-20220413-01		1045	G	W	N	N	X			
MW-1015D-20220413-01		1110	G	W	N	N	X			
DUP-001-20220413-01		0001	G	W	N	N	X			
FB-20220413-01		1710	G	W	N	N	X			
TB-20220413-01	LAB	—	LAB	W	N	N	X			
MW-1014-20220413-01	04/13	1745	G	W	N	N	X		3	

480-196860 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 4/13/22 1810	Company: ERM	Received by: [signature]	Date/Time: 4/13/22 1810	Company: EA
Relinquished by: [signature]	Date/Time: 4/14/22 1700	Company: EA	Received by: [signature]	Date/Time: 4/15/22 1000	Company: TAB
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks: #1 2.5

Ver: 01/16/2019

Boston #215

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information	Sampler: LUKE JENKINS	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 1 of 1
Client Contact: Luke Jenkins	Phone: 662-202-4046	E-Mail: Becky.Mason@Eurofinset.com	State of Origin: MA	Page: 1 of 1
Company: ERM-Northeast	PWSID:			Job #:
Address: One Beacon Steet 5th Floor	Due Date Requested:			
City: Boston	TAT Requested (days): Standard			
State, Zip: MA, 02108	Compliance Project: Δ Yes Δ No			
Phone: 662-202-4046(Tel)	PO #: 0618685.01			
Email: Luke.Jenkins@ERM.com	WO #:			
Project Name: IDS Wayland	Project #: 48007117			
Site: Wayland, MA	SSOW#:			

Analysis Requested

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA
M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260MCP - 8260	Total Number of containers	Special Instructions/Note:
			Preservation Code:				A		
MW-217M- 20220413-01	4/13	1145	G	Water	N	N	X	3	

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	4/13/22 1810	Erm	[signature]	4/13/22 1860	EA
[signature]	4/14/22 1700	EA	[signature]	4/15/22 1000	TAB

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.:

Cooler Temperature(s) °C and Other Remarks: #1 2.5

Ver: 01/16/2019

4/20/2022

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Tel: (716)691-2600

Laboratory Job ID: 480-196879-1
Client Project/Site: IDS Wayland

For:
ERM-Northeast
15 Park Row West
Suite 104
Providence, Rhode Island 02903

Attn: Katie Wolf

Authorized for release by:
4/29/2022 12:17:34 PM

Becky Mason, Project Manager II
(413)572-4000
Becky.Mason@et.eurofinsus.com

LINKS

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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Job ID: 480-196879-1

Laboratory: Eurofins Buffalo

Narrative

Job Narrative
480-196879-1

Receipt
The samples were received on 4/15/2022 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 2.6º C.

GC/MS Semi VOA
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Client Sample ID: MW-1025M-20220414-01 — Lab Sample ID: 480-196879-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.39		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1033-20220414-01 — Lab Sample ID: 480-196879-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	4.7		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1036-20220414-01 — Lab Sample ID: 480-196879-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.33		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1034-20220414-01 — Lab Sample ID: 480-196879-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.42		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1039-20220414-01 — Lab Sample ID: 480-196879-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.36		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1026D-20220414-01 — Lab Sample ID: 480-196879-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.36		0.20		ug/L	1		522	Total/NA

Client Sample ID: MW-1020-20220414-01 — Lab Sample ID: 480-196879-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.29		0.20		ug/L	1		522	Total/NA

Client Sample ID: DUP-002-20220414-01 — Lab Sample ID: 480-196879-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	0.39		0.20		ug/L	1		522	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Client Sample ID: MW-1025M-20220414-01 — Lab Sample ID: 480-196879-1

Date Collected: 04/14/22 10:51
Date Received: 04/15/22 10:00
Matrix: Water

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.39		0.20		ug/L		04/26/22 13:00	04/28/22 16:11	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*86*		*46 - 130*	*04/26/22 13:00*	*04/28/22 16:11*	*1*

Client Sample ID: MW-1033-20220414-01 — Lab Sample ID: 480-196879-2

Date Collected: 04/14/22 12:10
Date Received: 04/15/22 10:00
Matrix: Water

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	4.7		0.20		ug/L		04/26/22 13:00	04/28/22 16:25	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*98*		*46 - 130*	*04/26/22 13:00*	*04/28/22 16:25*	*1*

Client Sample ID: MW-1036-20220414-01 — Lab Sample ID: 480-196879-3

Date Collected: 04/14/22 12:15
Date Received: 04/15/22 10:00
Matrix: Water

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.33		0.20		ug/L		04/26/22 13:00	04/28/22 16:38	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*	*04/26/22 13:00*	*04/28/22 16:38*	*1*

Client Sample ID: MW-1034-20220414-01 — Lab Sample ID: 480-196879-4

Date Collected: 04/14/22 13:17
Date Received: 04/15/22 10:00
Matrix: Water

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.42		0.20		ug/L		04/26/22 13:00	04/28/22 16:52	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*	*04/26/22 13:00*	*04/28/22 16:52*	*1*

Client Sample ID: MW-1039-20220414-01 — Lab Sample ID: 480-196879-5

Date Collected: 04/14/22 13:18
Date Received: 04/15/22 10:00
Matrix: Water

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.36		0.20		ug/L		04/26/22 13:00	04/28/22 17:05	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*	*04/26/22 13:00*	*04/28/22 17:05*	*1*

Client Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Client Sample ID: MW-1026D-20220414-01

Lab Sample ID: 480-196879-6
Date Collected: 04/14/22 14:50
Matrix: Water
Date Received: 04/15/22 10:00

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.36		0.20		ug/L		04/26/22 13:00	04/28/22 17:46	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*84*		*46 - 130*	*04/26/22 13:00*	*04/28/22 17:46*	*1*

Client Sample ID: MW-1020-20220414-01

Lab Sample ID: 480-196879-7
Date Collected: 04/14/22 15:03
Matrix: Water
Date Received: 04/15/22 10:00

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.29		0.20		ug/L		04/26/22 13:00	04/28/22 17:59	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*89*		*46 - 130*	*04/26/22 13:00*	*04/28/22 17:59*	*1*

Client Sample ID: DUP-002-20220414-01

Lab Sample ID: 480-196879-8
Date Collected: 04/14/22 00:02
Matrix: Water
Date Received: 04/15/22 10:00

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	0.39		0.20		ug/L		04/26/22 13:00	04/28/22 18:13	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*83*		*46 - 130*	*04/26/22 13:00*	*04/28/22 18:13*	*1*

Surrogate Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Matrix: Water **Prep Type: Total/NA**

		Percent Surrogate Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**DXE (46-130)**							
480-196879-1	MW-1025M-20220414-01	86							
480-196879-2	MW-1033-20220414-01	98							
480-196879-3	MW-1036-20220414-01	90							
480-196879-4	MW-1034-20220414-01	90							
480-196879-5	MW-1039-20220414-01	90							
480-196879-5 MS	MW-1039-20220414-01	91							
480-196879-5 MSD	MW-1039-20220414-01	90							
480-196879-6	MW-1026D-20220414-01	84							
480-196879-7	MW-1020-20220414-01	89							
480-196879-8	DUP-002-20220414-01	83							
LCS 200-179184/2-A	Lab Control Sample	88							
MB 200-179184/1-A	Method Blank	84							

Surrogate Legend

DXE = 1,4-Dioxane-d8 (Surr)

QC Sample Results

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Method: 522 - 1,4 Dioxane (GC/MS SIM)

Lab Sample ID: MB 200-179184/1-A
Matrix: Water
Analysis Batch: 179283

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 179184

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	ND		0.20		ug/L		04/26/22 13:00	04/28/22 13:29	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
1,4-Dioxane-d8 (Surr)	*84*		*46 - 130*	*04/26/22 13:00*	*04/28/22 13:29*	*1*

Lab Sample ID: LCS 200-179184/2-A
Matrix: Water
Analysis Batch: 179283

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 179184

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	2.00	2.20		ug/L		110	70 - 130

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*88*		*46 - 130*

Lab Sample ID: 480-196879-5 MS
Matrix: Water
Analysis Batch: 179283

Client Sample ID: MW-1039-20220414-01
Prep Type: Total/NA
Prep Batch: 179184

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
1,4-Dioxane	0.36		2.00	2.57		ug/L		111	70 - 130

Surrogate	*MS %Recovery*	*MS Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*91*		*46 - 130*

Lab Sample ID: 480-196879-5 MSD
Matrix: Water
Analysis Batch: 179283

Client Sample ID: MW-1039-20220414-01
Prep Type: Total/NA
Prep Batch: 179184

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
1,4-Dioxane	0.36		2.00	2.56		ug/L		110	70 - 130	0	30

Surrogate	*MSD %Recovery*	*MSD Qualifier*	*Limits*
1,4-Dioxane-d8 (Surr)	*90*		*46 - 130*

QC Association Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

GC/MS Semi VOA

Prep Batch: 179184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-196879-1	MW-1025M-20220414-01	Total/NA	Water	522	
480-196879-2	MW-1033-20220414-01	Total/NA	Water	522	
480-196879-3	MW-1036-20220414-01	Total/NA	Water	522	
480-196879-4	MW-1034-20220414-01	Total/NA	Water	522	
480-196879-5	MW-1039-20220414-01	Total/NA	Water	522	
480-196879-6	MW-1026D-20220414-01	Total/NA	Water	522	
480-196879-7	MW-1020-20220414-01	Total/NA	Water	522	
480-196879-8	DUP-002-20220414-01	Total/NA	Water	522	
MB 200-179184/1-A	Method Blank	Total/NA	Water	522	
LCS 200-179184/2-A	Lab Control Sample	Total/NA	Water	522	
480-196879-5 MS	MW-1039-20220414-01	Total/NA	Water	522	
480-196879-5 MSD	MW-1039-20220414-01	Total/NA	Water	522	

Analysis Batch: 179283

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
480-196879-1	MW-1025M-20220414-01	Total/NA	Water	522	179184
480-196879-2	MW-1033-20220414-01	Total/NA	Water	522	179184
480-196879-3	MW-1036-20220414-01	Total/NA	Water	522	179184
480-196879-4	MW-1034-20220414-01	Total/NA	Water	522	179184
480-196879-5	MW-1039-20220414-01	Total/NA	Water	522	179184
480-196879-6	MW-1026D-20220414-01	Total/NA	Water	522	179184
480-196879-7	MW-1020-20220414-01	Total/NA	Water	522	179184
480-196879-8	DUP-002-20220414-01	Total/NA	Water	522	179184
MB 200-179184/1-A	Method Blank	Total/NA	Water	522	179184
LCS 200-179184/2-A	Lab Control Sample	Total/NA	Water	522	179184
480-196879-5 MS	MW-1039-20220414-01	Total/NA	Water	522	179184
480-196879-5 MSD	MW-1039-20220414-01	Total/NA	Water	522	179184

Lab Chronicle

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Client Sample ID: MW-1025M-20220414-01 — Lab Sample ID: 480-196879-1

Date Collected: 04/14/22 10:51 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 16:11	DJB	TAL BUR

Client Sample ID: MW-1033-20220414-01 — Lab Sample ID: 480-196879-2

Date Collected: 04/14/22 12:10 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 16:25	DJB	TAL BUR

Client Sample ID: MW-1036-20220414-01 — Lab Sample ID: 480-196879-3

Date Collected: 04/14/22 12:15 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 16:38	DJB	TAL BUR

Client Sample ID: MW-1034-20220414-01 — Lab Sample ID: 480-196879-4

Date Collected: 04/14/22 13:17 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 16:52	DJB	TAL BUR

Client Sample ID: MW-1039-20220414-01 — Lab Sample ID: 480-196879-5

Date Collected: 04/14/22 13:18 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 17:05	DJB	TAL BUR

Client Sample ID: MW-1026D-20220414-01 — Lab Sample ID: 480-196879-6

Date Collected: 04/14/22 14:50 — **Matrix: Water**
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 17:46	DJB	TAL BUR

Lab Chronicle

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Client Sample ID: MW-1020-20220414-01

Lab Sample ID: 480-196879-7

Date Collected: 04/14/22 15:03
Matrix: Water
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 17:59	DJB	TAL BUR

Client Sample ID: DUP-002-20220414-01

Lab Sample ID: 480-196879-8

Date Collected: 04/14/22 00:02
Matrix: Water
Date Received: 04/15/22 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	522			179184	04/26/22 13:00	RMG	TAL BUR
Total/NA	Analysis	522		1	179283	04/28/22 18:13	DJB	TAL BUR

Laboratory References:

TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Accreditation/Certification Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Laboratory: Eurofins Burlington

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2336	02-25-23
Connecticut	State	PH-0751	09-30-21 *
DE Haz. Subst. Cleanup Act (HSCA)	State	N/A	05-17-22
Florida	NELAP	E87467	06-30-22
Minnesota	NELAP	050-999-436	12-31-22
New Hampshire	NELAP	2006	12-18-22
New Jersey	NELAP	VT972	06-30-22
New York	NELAP	10391	04-01-23
Pennsylvania	NELAP	68-00489	04-30-23
Rhode Island	State	LAO00298	12-30-22
US Fish & Wildlife	US Federal Programs	058448	07-31-22
USDA	US Federal Programs	P330-17-00272	10-30-23
Vermont	State	VT4000	02-10-23
Virginia	NELAP	460209	12-14-22
Wisconsin	State	399133350	08-31-22

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Method	Method Description	Protocol	Laboratory
522	1,4 Dioxane (GC/MS SIM)	EPA	TAL BUR
522	Solid-Phase Extraction (SPE)	EPA	TAL BUR

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL BUR = Eurofins Burlington, 530 Community Drive, Suite 11, South Burlington, VT 05403, TEL (802)660-1990

Sample Summary

Client: ERM-Northeast
Project/Site: IDS Wayland

Job ID: 480-196879-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
480-196879-1	MW-1025M-20220414-01	Water	04/14/22 10:51	04/15/22 10:00
480-196879-2	MW-1033-20220414-01	Water	04/14/22 12:10	04/15/22 10:00
480-196879-3	MW-1036-20220414-01	Water	04/14/22 12:15	04/15/22 10:00
480-196879-4	MW-1034-20220414-01	Water	04/14/22 13:17	04/15/22 10:00
480-196879-5	MW-1039-20220414-01	Water	04/14/22 13:18	04/15/22 10:00
480-196879-6	MW-1026D-20220414-01	Water	04/14/22 14:50	04/15/22 10:00
480-196879-7	MW-1020-20220414-01	Water	04/14/22 15:03	04/15/22 10:00
480-196879-8	DUP-002-20220414-01	Water	04/14/22 00:02	04/15/22 10:00

Login Sample Receipt Checklist

Client: ERM-Northeast

Job Number: 480-196879-1

Login Number: 196879
List Number: 1
Creator: Sabuda, Brendan D

List Source: Eurofins Buffalo

Question	Answer	Comment
Radioactivity either was not measured or, if measured, is at or below background	True	
The cooler's custody seal, if present, is intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	2.6 #1 ICE
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the sample IDs on the containers and the COC.	True	
Samples are received within Holding Time (Excluding tests with immediate HTs)..	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
VOA sample vials do not have headspace or bubble is <6mm (1/4") in diameter.	True	
If necessary, staff have been informed of any short hold time or quick TAT needs	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Sampling Company provided.	True	
Samples received within 48 hours of sampling.	True	
Samples requiring field filtration have been filtered in the field.	True	
Chlorine Residual checked.	True	

Login Sample Receipt Checklist

Client: ERM-Northeast

Job Number: 480-196879-1

Login Number: 196879
List Number: 2
Creator: Khudaier, Zahraa

List Source: Eurofins Burlington
List Creation: 04/21/22 12:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	N/A	Lab does not accept radioactive samples.
The cooler's custody seal, if present, is intact.	True	1784652
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	4.2ºC
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	N/A	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Eurofins TestAmerica, Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone (716) 691-2600 Phone (716) 691-7991

Chain of Custody Record

Bostor #215

eurofins | Environment Testing America

Client Information	Sampler: LUKE JENKINS	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 1 of 2
Client Contact: Luke Jenkins	Phone: 662-202-4046	E-Mail: Becky.Mason@Eurofinset.com	State of Origin: MA	Page: 1 of 1
Company: ERM-Northeast	PWSID:			Job #:
Address: One Beacon Steet 5th Floor	Due Date Requested:			
City: Boston	TAT Requested (days): Standard			
State, Zip: MA, 02108	Compliance Project: Δ Yes Δ No			
Phone: 662-202-4046(Tel)	PO #: 0618685.01			
Email: Luke.Jenkins@ERM.com	WO #:			
Project Name: IDS Wayland	Project #: 48007117			
Site: Wayland, MA	SSOW#:			

Analysis Requested

480-196879 Chain of Custody

Preservation Codes:
A - HCL
B - NaOH
C - Zn Acetate
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)
Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	8260MCP - 8260	1,4 Dioxane	Total Number of c	Special Instructions/Note:
			Preservation Code:				A	E		
MW-1035M-20220414-01	04/14	1051	G	W	N	N		X	1	
MW-1033-20220414-01		1210	G	W	N	N		X	1	
MW-1036-20220414-01		1215	G	W	N	N		X	1	
MW-1034-20220414-01		1317	G	W	N	N		X	1	
MW-1034-20220414-01		1318	G	W	N	Y		X	3	MS/MSD
MW-1026D-20220414-01		1450	G	W	N	N		X	1	
MW-1020-20220414-01		1503	G	W	N	N		X	1	
DUP-002-20220414-01		0002	G	W	N	N		X	1	HOLD

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
	04/14/22 1609	ERM		4/14/22 1609	ERM
	4/14/22 1700	ERM		4/15/22 1000	TAB

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: #1 2.6

Ver: 01/16/2019

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

Environment Testing America

480-196879 Chain of Custody

Client Information (Sub Contract Lab)

Client Contact: Shipping/Receiving
Company: TestAmerica Laboratories, Inc.
Address: 530 Community Drive, Suite 11,
City: South Burlington
State, Zip: VT, 05403
Phone: 802-660-1990(Tel) 802-660-1919(Fax)
Email:
Project Name: IDS Wayland
Site:

Sampler:
Phone:
Lab PM: Mason, Becky C
E-Mail: Becky.Mason@et eurofinsus.com
Due Date Requested: 4/21/2022
TAT Requested (days):
PO #:
WO #:
Project #: 48007117
SSOW#:

Massachusetts
Accreditations Required (See note)

Page 1 of 2
Job #: 480-196879-1

Analysis Requested

Preservation Codes:

A - HCL
B - NaOH
C - Zn Acetate
D - Nitric Acid
E - NaHSO4
F - MeOH
G - Amchlor
H - Ascorbic Acid
I - Ice
J - DI Water
K - EDTA
L - EDA
M - Hexane
N - None
O - AsNaO2
P - Na2O4S
Q - Na2SO3
R - Na2S2O3
S - H2SO4
T - TSP Dodecahydrate
U - Acetone
V - MCAA
W - pH 4-5
Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522/522_CWA_Prep 1,4 Dioxane Low level	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-1025M-20220414-01 (480-196879-1)	4/14/22	10:51 Eastern		Water			X	1	
MW-1033-20220414-01 (480-196879-2)	4/14/22	12:10 Eastern		Water			X	1	
MW-1036-20220414-01 (480-196879-3)	4/14/22	12.15 Eastern		Water			X	1	
MW-1034-20220414-01 (480-196879-4)	4/14/22	13:17 Eastern		Water			X	1	
MW-1039-20220414-01 (480-196879-5)	4/14/22	13 18 Eastern		Water			X	1	
MW-1039-20220414-01 (480-196879-5MS)	4/14/22	13:18 Eastern	MS	Water			X	1	
MW-1039-20220414-01 (480-196879-5MSD)	4/14/22	13.18 Eastern	MSD	Water			X	1	
MW-1026D-20220414-01 (480-196879-6)	4/14/22	14 50 Eastern		Water			X	1	
MW-1020-20220414-01 (480-196879-7)	4/14/22	15 03 Eastern		Water			X	1	

Note Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC

Possible Hazard Identification
Unconfirmed

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*

Deliverable Requested I, II, III, IV, Other (specify) Primary Deliverable Rank: 2

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
[illegible]	4/19/22 1800	[illegible]	[illegible]	4/21/22 10:30	TABUR
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:

Custody Seals Intact: Δ Yes Δ No
Custody Seal No..
Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

Eurofins Buffalo
10 Hazelwood Drive
Amherst, NY 14228-2298
Phone 716-691-2600 Fax: 716-691-7991

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: Mason, Becky C	Carrier Tracking No(s):	COC No: 480-71394.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Becky Mason@et.eurofinsus com	State of Origin: Massachusetts	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note)		Job #: 480-196879-1
Address: 530 Community Drive, Suite 11,	Due Date Requested: 4/21/2022			
City: South Burlington	TAT Requested (days):			
State, Zip: VT, 05403				
Phone: 802-660-1990(Tel) 802-660-1919(Fax)	PO #:			
Email:	WO #:			
Project Name: IDS Wayland	Project #: 48007117			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	522/522_CWA_Prep 1,4 Dioxane Low level	Total Number of containers	Special Instructions/Note:
			Preservation Code:		X	X		X	
DUP-002-20220414-01 (480-196879-8)	4/14/22	00 02 Eastern		Water			X	1	

Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing Northeast, LLC places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing Northeast, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing Northeast, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins Environment Testing Northeast, LLC.

Possible Hazard Identification *Unconfirmed*	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)*** ☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested. I, II, III, IV, Other (specify) Primary Deliverable Rank. 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date.	Time:	Method of Shipment:			
Relinquished by:	Date/Time: 4/19/22 1800	Company: JAB	Received by:	Date/Time: 4/19/22 10:30	Company: TAB	
Relinquished by:	Date/Time.	Company	Received by:	Date/Time	Company	
Relinquished by:	Date/Time	Company	Received by:	Date/Time	Company	

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks

Ver: 06/08/2021

ORIGIN ID:DKKA (716) 691-2600
SAMPLE RECEIPT
EUROFINS BUFFALO
10 HAZELWOOD DR

AMHERST, NY 14228
UNITED STATES US

SHIP DATE: 19APR22
ACTWGT: 22.10 LB
CAD: 846654/CAFE3512
DIMS: 19x15x10 IN

BILL SENDER

TO **SAMPLE MGT.**
EUROFINS BURLINGTON
530 COMMUNITY DRIVE
SUITE 11
SOUTH BURLINGTON VT 05403
(802) 923-1026
REF: TA S BURLINGTON

570C2/BDF9/6F4B

FedEx Express

J211020121101uv

TRK# 0201 **1888 3869 9215**

WED - 20 APR 10:30A
PRIORITY OVERNIGHT

NL BTVA

05403
VT-US **BTV**