

OBG | There's a way

January 17, 2018

Kiera Thompson

Engineering Geologist

NYS Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 11th Floor
Albany, NY 12233-7014

RE: NYSDEC BCP No. C360115 - Groundwater Monitoring Report,
1-5 Holland Avenue, White Plains
FILE: 14206/65459

Dear Ms. Thompson:

In accordance with the *Site Management Plan, BCP No. C360115, 1-5 Holland Avenue, White Plains, New York, December 2014* (SMP), the following is the semi-annual Groundwater Monitoring Report for the above referenced Brownfield site.

This report has been organized into the following sections:

- Section 1 - Background
- Section 2 - Field Activities
- Section 3 - Sample Results
- Section 4 - Remedial Action Objectives Assessment

1. BACKGROUND

As detailed in the *Remedial Investigation Report, BCP No. C360115, 1-5 Holland Avenue, White Plains, New York, April 2014*, results of groundwater sampling indicated the presence of tetrachloroethylene (PCE) in on-site monitoring wells in the source area, in on-site monitoring wells at the downgradient/sidegradient property boundary, and in off-site downgradient monitoring wells, at concentrations above the NYS Class GA groundwater standard of 5 µg/L.

The site cleanup goal for groundwater is, to the extent practicable, to meet NYS Class GA standards. The Class GA standards for the Site's Constituents of Concern (COC) are as follows:

- Tetrachloroethene – 5 µg/L
- cis-1,2-Dichloroethene – 5 µg/L
- Trichloroethene – 5 µg/L
- Vinyl chloride – 2 µg/L



As detailed in the *Interim Remedial Measure Construction Completion Report, BCP No. C360115, 1-5 Holland Avenue, White Plains, New York, October 2014* (IRM), groundwater treatment by In-situ Chemical Oxidation (ISCO) was selected to meet this goal. Two ISCO groundwater treatment injection events were conducted as part of the IRM in June 2013 and September 2014.

As detailed in the SMP, a minimum of two complete (17 wells) rounds of groundwater samples are to be collected per year for three years prior to requesting modification to the scope and frequency of sampling. This report presents groundwater data for the second of two rounds scheduled in 2017 and completes three years of required groundwater sampling. The purpose of the groundwater monitoring is to evaluate concentrations of the Site's COC that exceed Class GA standards, primarily PCE and associated degradation products; to assess the extent of concentration rebound following ISCO treatment; and to monitor the continued attenuation of COC thereafter.

2. FIELD ACTIVITIES

On October 5, 2017, OBG set passive diffusion bags (PDBs) in on-site (MW-1, -2, -2S, -2D, -4S, -4D, -5, -5SB, -5DB) and off-site (MW-6, -6SB, -7, -7SB, -8, -8SB, -9, -9SB) groundwater monitoring wells, as depicted on **Figure 1**. PDBs were retrieved on October 30, 2017. Sampling activities were conducted in accordance with the SMP Field Activities Plan. Groundwater sampling logs and a summary of water quality parameters are presented in **Appendix A**. Groundwater samples were submitted under chain-of-custody to Merit Laboratories, Inc. (Merit), a NYSDOH ELAP certified laboratory, for analysis of volatile organic compounds (VOCs) by USEPA Test Method 8260.

3. SAMPLE RESULTS

Groundwater analytical results for this sampling event and historical sampling events are summarized on **Table 1**. Merit's laboratory analytical report and OBG's *Data Usability Summary Report* (DUSR) for this sampling event are presented in **Appendices B and C**, respectively. These data have been entered into the NYSDEC Environmental Information Management System. A graphical presentation of current and historical groundwater analytical data is presented in **Appendix D**. A summary of groundwater analytical results for this sampling event are as follows:

- Upgradient Off-site Groundwater Characterization

Consistent with prior sampling events, PCE and its degradation compounds were not detected in groundwater samples from the upgradient overburden (MW-6) and shallow bedrock (MW-6SB) wells.

- On-site Groundwater Characterization – Source Area

A summary table of PCE concentrations in source area groundwater since the first ISCO event is presented below.

Well No.	06/10/13	11/14/13	01/14/14	07/17/14	10/10/14	5/8/15	10/09/15	5/04/16	10/25/16	5/18/17	10/30/17	
MW-4S	1,040		10	21 (BD 21)	890	327	460	730	400	107	158	151
MW-4D	5,500		332	317	2,000 (BD 1,750)	54 (BD 63)	29 (BD 25)	2490 (BD 840)	1,300 (BD 1,300)	990 (BD 860)	300 (BD 260)	221 (BD 189)

Notes: ISCO injection events occurred June 11-14, 2013 and September 9-11, 2014 as noted by hatched areas.

Bold values exceed Class GA standards.

Units = ug/L, ppb, BD = Blind Duplicate

Compared to the prior sampling event, the PCE concentration in MW-4D is within the same order of magnitude with a decrease in PCE concentration of approximately 26%. The blind duplicate sample collected at MW-4D also indicates a decrease in concentration of approximately 27% compared to the blind duplicate from the prior sampling event. The PCE concentration in MW-4S is also within the same order of magnitude as previous



sampling events. Compared to the prior sampling event, the PCE concentration in MW-4S decreased approximately 4%. PCE degradation compounds were not detected in source area wells. A review of the current and historical data indicates that the concentrations of PCE have not stabilized in source area wells and groundwater sampling should continue to assess trends.

■ On-site Groundwater Characterization – Downgradient/Sidegradient Property Boundary

A summary table of PCE concentrations in groundwater along the downgradient/sidegradient property boundary since the first ISCO event is presented below.

Well No.	06/10/13	11/15/13	01/14/14	07/17/14	10/10/14	5/8/15	10/9/15	5/4/16	10/25/16	5/18/17	10/30/17
MW-1 (Sidegradient)	2	0.39	3	16	3	10	3	1	2	29	2
MW-2 (Downgradient)	27	6	19	94	158	33	64	55	15	44	83
MW-2SB (Downgradient)	0.78	0.71	1	0.52	0.48	0.34	0.24	0.36	0.22	<1.0	0.37
MW-2DB (Downgradient)	3	0.42	3	4	4	3	3	3	2	2	4
MW-5 (Downgradient)	165	5	67	5	4	4	2	2	32	42	7
MW-5SB (Downgradient)	4	3	3	3	2	2	2	1	2	0.43 J	2
MW-5DB (Downgradient)	1	0.81	0.95	0.41	0.48	0.55	0.39	0.31	0.25	3	0.34

Notes: ISCO injection events occurred June 11-14, 2013 and September 9-11, 2014 as noted by hatched areas.

Bold values exceed Class GA standards.

J = The concentration was detected at a value below the Reporting Limit (RL) and above the MDL.

Units = µg/L, ppb, BD = Blind Duplicate

The most recent round of groundwater data indicates that groundwater from two out of the seven property boundary wells exceeded the GA groundwater standard for PCE. Consistent with the prior round of groundwater sampling, no PCE degradation compounds were detected in these wells above the GA groundwater standard.

■ Downgradient Off-site Groundwater Characterization

A summary table of PCE concentrations in off-site downgradient groundwater since the first ISCO event is presented below.

Well No.	06/10/13	07/17/14	10/10/14	5/7/15	10/9/15	5/4/16	10/25/16	5/18/-6/8/17	10/30/2017
MW-7	14	57	71	47	32	34	15	32	31
MW-7SB	6	7	3	1	0.97	0.86	0.59	0.27 J	<1.0
MW-8	1 (BD <0.67)	4	1	2	1	1	1	3	2
MW-8SB	265	292	3	280	359	240	190	229	271
MW-9	0.18	<1.0	0.38	<1.0	0.25	<1.0	0.31	<1.0	0.31
MW-9SB	0.3	0.34	0.26	0.21	<1.0	<1.0	<1.0	<1.0	<1.0

Notes: ISCO injection events occurred June 11-14, 2013 and September 9-11, 2014 as noted by hatched areas.

Bold values exceed Class GA standards.

J = The concentration was detected at a value below the Reporting Limit (RL) and above the MDL.

Units = µg/L, ppb, BD = Blind Duplicate

Consistent with the previous groundwater sampling event, groundwater from two out of the six downgradient off-site wells exceeded the GA standard for PCE. PCE degradation compounds detected above GA standards included: vinyl chloride at 13 µg/L in MW-8; and cis-1,2-dichloroethene at 8 µg/L and trichloroethene at 14 µg/L in MW-8SB. The GA standards for vinyl chloride, cis-1,2-dichloroethene, and trichloroethene are 2 µg/L, 5 µg/L, and 5 µg/L, respectively.



4. REMEDIAL ACTION OBJECTIVES ASSESSMENT

As detailed in the *Final Engineering Report, NYSDEC Site Number: C360115, 1-5 Holland Avenue, White Plains, New York, December 2014*, the Remedial Action Objectives (RAOs) for groundwater are as follows:

- RAOs for Public Health Protection
 - » Prevent ingestion of groundwater with COC concentrations exceeding drinking water standards.
 - » Prevent contact with, or inhalation of, volatiles from contaminated groundwater.
- RAOs for Environmental Protection
 - » Restore groundwater aquifer to pre-disposal/pre-release conditions, to the extent practicable.
 - » Prevent the discharge of COCs to surface water.
 - » Remove the source of groundwater or surface water COCs.

Based on the groundwater analytical results collected as part of this sampling event and the institutional and engineering controls currently in-place at the site, the remedy is effective for protection of human health and the environment. Institutional and engineering controls currently in-place include:

- Engineering Controls
 - » composite cover system (Cap) to reduce potential contact with contaminated soils; and
 - » sub-slab depressurization system to control the potential for vapor intrusion.
- Institutional Controls
 - » implement, maintain and monitor Engineering Control systems;
 - » prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and
 - » limit the use and development of the Site to Commercial and Industrial uses only.

5. PROPOSED CHANGES TO THE SITE MANAGEMENT PLAN

Based on results from the six rounds of groundwater monitoring completed during the first three years of work under the SMP the following proposed modifications to the scope and frequency of monitoring may be recommended when the Period Review Report is submitted for the Site in the spring of 2018:

- Closure of upgradient off-site groundwater monitoring wells (MW-6 and MW-6SB): These two monitoring wells are located in the parking lot of the adjacent property at 7-11 Holland Avenue that is currently owned by Barjac Realty Corporation. Since their installation in 2011, results from these monitoring wells have routinely showed no detection of PCE or related degradation compounds.
- Reduction of groundwater monitoring frequency from semi-annual to annual monitoring to monitor COC attenuation: Contaminant concentrations continue to trend downward in source area wells over the first three years of monitoring under the SMP. Currently only 2 of 7 property boundary monitoring wells and 2 of 6 off-site monitoring wells have PCE or PCE degradation compounds detected above the GA standards. As such, reduction from semi-annual to annual monitoring is appropriate to monitor the continued attenuation of COCs at the Site.

Should you have any questions or concerns regarding this matter, please feel free to contact me at (781) 883-6432.

Very truly yours,
O'BRIEN & GERE ENGINEERS, INC.



Mark A. Randazzo, CHMM, CPG, CSP
Project Manager

Appendices: Table 1 – Historical Summary of Groundwater Monitoring Data
 Figure 1 – Groundwater Monitoring Well Location Map
 Appendix A – Groundwater Sampling Logs
 Appendix B – Merit's Laboratory Analytical Report
 Appendix C – Data Usability Summary Report
 Appendix D - Graphical Presentation of PCE Groundwater Concentrations

cc: David Crosby – NYSDEC
 Stephanie Selmer – NYSDOH
 Karen Puckett – OHAD
 Neal Frink, Esq. – The Frink Law Firm, LLC
 Douglas Crawford, PE – OBG
 Guy Swenson, CPG – OBG



Tables

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Notes:

6 NYCRR Part 703 and TOGS 1.1.1 = Division of Water Technical and Operational Guidance Series:

Ambient Water Quality Standards and Guidance Values and Groundwater Effluent

Limitations.

ft above msl = feet above mean sea level

BOLD = Exceeds TOGS 1.1.1 Class GA Groundw

* = Analyzed for but Not Detected at the Method Detection Limit

J = The concentration was detected at a value below

above the MPL.

R = The result was rejected during data validation.

R = Diluted sample result

D = Diluted sample result

NA = Not Available

NA = Not Available

NC = No Criteria

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB			
	Screen Interval (ft above msl):	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	181.4 - 191.4	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3			
	Date Sampled:	11/14/2013 (Post ISCO)	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	5/5/2011	10/20/2011	5/2/2012	6/10/2013 (Post ISCO)	11/14/2013 (Post ISCO)		
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																	
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.27	<1	<1		
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.27	<1	<1		
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.46	<1	<1		
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.34	<1	<1		
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.15	<1	<1		
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.410	<0.710	<0.410	<0.27	<1	<1		
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.25	<1	<1		
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.24	<1	<1		
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.660	<0.00855	<0.00855	<0.0080	<0.05	<0.05		
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.12	<1	<1		
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.13	<1	<1		
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.17	<1	<1		
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.18	<1	<1		
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.20	<1	<1		
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.18	<1	<1		
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<3	<1	<3	<1	<20.2 R	<22.5 R	<0.301	<0.97	<5	<5	
2-Butanone (MEK)	ug/L	50	<10	0.69 J	0.56 J	<10	<10	<10	0.34 J	13	<10	<0.510	<0.630	<0.550	3.4 J	<10	1.15 J	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.19	<10	<10		
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	<10	0.15 J	<10	<10	<0.410	<0.510	<0.350	<0.35	<10	<10	
Acetone	ug/L	50	0.96 J	1.92 J	3.36 J	<10	1.39 J	<10	2.04 J	11	<10	2.11 J	<0.610	<0.870	<0.280	<4.0	1.23 J	5.22 J
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<0.250	<0.430	<0.250	<0.11	<1	<1		
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.36	<1	<1		
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.350	<0.260	<0.19	<1	<1		
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.35	<1	<1		
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.18	<1	<1		
Carbon disulfide	ug/L	NC	<1	<1	<1	0.18 J	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.13	<1	<1		
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.19	<1	<1		
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.16	<1	<1		
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.780	<0.360	<0.21	<1	<1		
Chloroform	ug/L	7	<1	<1	<1	<1	<1	<1	<1	<1	2.41	<0.340	<0.220	0.26 J	<1	<1		
Chloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.350	<0.280	<0.20	<1	<1		
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	0.15 J	<1	<0.560	<0.380	<0.300	<0.21	<1	<1		
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.360	<0.250	<0.17	<1	<1		
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<0.230	<0.460	<0.380	<0.32	<1	<1		
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.360	<0.240	<0.20	<1	<1		
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.420	<0.290	<0.57	<1	<1		
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.340	<0.220	<0.10	<1	<1		
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.300	<0.390	<0.210	<0.12	<1	<1		
Methyl acetate	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<0.600	<0.350	<0.220	<0.20	<1	<1		
Methyl tert-butyl ether (MTBE)	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<0.450	<0.380	<0.240	<0.13	<1	<1		
Methylcyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<0.290	<0.460	<0.360	<0.16	<1	<1		
Methylene chloride	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1.98	<1.98	<1.98	<0.13	<1	<1		
Styrene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.380	<0.330	<0.250	<0.25	<1	<1		
Tetrachloroethene	ug/L	5	6	19	94	158	33	64	55	15	44	83	4.83	4.96	4.41	3	0.42 J	
Toluene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	1.19	<0.390	<0.270	<0.17	<1	<1		
trans-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.500	<0.550	<0.350	<0.58	<1	<1		
trans-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<0.450	<0.320	<0.220	<0.14	<1	<1		
Trichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	0.15 J	<1	<0.440	<0.550	<0.270	<0.20	<1	<1	
Trichlorofluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<0.220	<0.660	<0.450	<0.29	<1	<1		
Vinyl Chloride	ug/L	2	<1	<1	<1	<1	<1	<1	<1	<1	<0.300	<0.460	<0.290	<0.28	<1	<1		
Xylenes (Total)	ug/L	5	<3	<3	<3	<3	<3	<3	<3	<3	<0.660	<0.630	<0.690	<0.24	<3	<3		
Total VOCs	ug/L	NA	6.96 J	21.61 J	97.92 J	158.18 J	34.39 J	64	57.38 J	39.45	44.0	85.11 J	8.43	4.96	4.41	6.66 J	1.65 J	9.37 J

Notes

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Ambient Water Quality Standards and Guidance Values and Groundwater Effluent

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* = Analyzed for but Not Detected at the Method Detection Limit (MDL)

J = The concentration was detected at a value below the Reporting Limit (RL) and

above the MPL.

R = The result was rejected during data validation.

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Table 1
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Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2SB	MW-2SB	MW-2SB	(DUP) MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	
	Screen Interval (ft above msl):	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	126.3 - 136.3	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	148.9 - 158.9	
	Date Sampled:	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	5/5/2011	10/21/2011	5/2/2012	5/2/2012	6/10/2013 (Post ISCO)	11/14/2013 (Post ISCO)	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)
	6 NYCCR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.330	<0.27	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.320	<0.27	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.420	<0.46	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.220	<0.34	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.260	<0.15	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.210	<0.25	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.200	<0.24	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.660	<0.00855	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.00855	<0.12	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.230	<0.13	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.200	<0.17	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.250	<0.18	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.230	<0.20	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.230	<0.18	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<5	<5	<5	<3	<1	<3	<0.301	<0.225 R	<0.301	<0.301	<0.97	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	0.54 J	<10	<10	<10	<10	12	<0.510	<0.630	<0.550	<0.550	4.7 J	<10	0.62 J	0.64 J	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.370	<0.19	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	0.15 J	<0.410	<0.510	<0.350	<0.350	<0.35	<10	<10	<10	
Acetone	ug/L	50	2.07 J	<10	1.30 J	<10	<10	13	<0.610	<0.870	<0.280	<0.280	5.0 J	1.38 J	3.13 J	3.81 J	
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<0.510	<0.430	<0.250	<0.250	<0.11	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.300	<0.36	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<0.440	<0.350	<0.260	<0.260	<0.19	<1	<1	<1	
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.460	<0.35	<1	<1	<1	
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.250	<0.18	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.300	<0.13	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.360	<0.19	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.220	<0.16	<1	<1	<1	
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.480	<0.780	<0.360	<0.360	<0.21	<1	<1	<1	
Chloroform	ug/L	7	0.30 J	0.19 J	<1	0.24 J	<1	0.16 J	<1	13	2.69	2.5	2.49	1	0.96 J	0.84 J	
Chloromethane	ug/L	5	<1	0.24 J	<1	<1	<1	<1	<0.430	<0.350	<0.280	<0.280	<0.20	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.560	<0.380	<0.300	<0.300	<0.21	<1	<1	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<0.360	<0.360	<0.250	<0.250	<0.17	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.230	<0.460	<0.380	<0.380	<0.32	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<0.430	<0.360	<0.240	<0.240	<0.20	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.420	<0.290	<0.290	<0.57	<1	<1		

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Notes

6 NYCRR Part 703 and TOGS 1.1.1 = Division of Water Technical and Operational Guidance Series

Ambient Water Quality Standards and Guidance Values and Groundwater Effluent

Limitations.

ft above msl = feet above mean sea level

BOLD = Exceeds TOGS 1.1.1 Class GA Groundwater Standards/Criteria

* = Analyzed for but Not Detected at the Method Detection Limit (MDL)

J = The concentration was detected at a value below the Reporting Limit (RL) and

above the MDL.

R = The result was rejected during data validation.

D = Diluted sample result

units = ug/L or parts

NA = Not Available

NC = No Criteria

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	DUP (MW-4D)	MW-4D	DUP (MW-4D)	MW-4D	DUP (MW-4D)	MW-4D	DUP (MW-4D)	MW-4D	DUP (MW-4D)	MW-4D	(DUP) MW-4D	MW-4D	(DUP) MW-4D	MW-4S	MW-4S	MW-4S	
	Screen Interval (ft above msl):	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	158 - 168	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	
	Date Sampled:	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/19/2011	5/1/2012	6/10/2013
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
VOLATILE ORGANIC COMPOUNDS (VOCs) Units																		
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.50	<3.30	<14	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.10	<3.20	<13	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.40	<4.20	<23	
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.60	<2.20	<17	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.30	<2.60	7.3	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<7.10	<4.10	<13	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.20	<2.10	<12	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<0.00855	<0.00855	<6.1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.60	<2.30	<6.7	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.20	<2.00	<8.6	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<5.20	<2.50	<9.1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.20	<2.30	<10	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.30	<2.30	<9.0	
1,4-Dioxane	ug/L	NC	<5	<5	<5	<3	<3	<1	<3	<3	<3	<3	<1	<1	<0.301	<0.301	<0.97	
2-Butanone (MEK)	ug/L	50	<10	<10	<10	20 J	2.9 J	<1000	<1000	<500	<500	<500	1.5 J	<10	<6.30	<5.50	<160	
2-Hexanone	ug/L	50	<10	<10	<10	<500	<100	<1000	<1000	<500	<500	<500	<50	<10	<2.60	<3.70	<9.4	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<500	<100	<1000	<1000	<500	<500	<500	<50	<10	<5.10	<3.50	<18	
Acetone	ug/L	50	<10	1.97 J	2.02 J	<500	<100	<1000	<1000	<500	<500	<500	4.4 J	3.81 J	<8.70	<2.80	<200	
Benzene	ug/L	1	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.30	<2.50	<5.6	
Bromochloromethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.70	<3.00	<18	
Bromodichloromethane	ug/L	50	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.50	<2.60	<9.6	
Bromoform	ug/L	50	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<2.60	<4.60	<18	
Bromomethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<5.10	<2.50	<9.2	
Carbon disulfide	ug/L	NC	0.19 J	<1	0.28 J	<50	<10	<100	<100	<50	<50	<50	<5	<1	<6.70	<3.00	<6.3	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<5.00	<3.60	<9.4	
Chlorobenzene	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.00	<2.20	<7.8	
Chloroethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<4.80	<3.60	<11	
Chloroform	ug/L	7	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.40	<2.20	<7.5	
Chloromethane	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.50	<2.80	<9.8	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.80	<3.00	<11	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<5	<1	<3.60	<2.50	<8.4	
Cyclohexane	ug/L	NC	<1	<1	<1	<50	<10	<100	<100	<								

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-4S	MW-4S	DUP (MW-4S)	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-5	MW-5	MW-5	MW-5	
	Screen Interval (ft above msl):	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	178.4 - 188.5	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	
	Date Sampled:	11/14/2013 (Post ISCO)	1/14/2014 (Post ISCO)	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/21/2011	5/2/2012	6/10/2013 (Post ISCO)	11/15/2013 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards															
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units															
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.350	<0.330	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.310	<0.320	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.440	<0.420	
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.360	<0.220	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.430	<0.260	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.420	<0.210	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.390	<0.200	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.00855	<0.00855	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.00855	<0.00855	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.360	<0.230	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.420	<0.200	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.520	<0.250	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.420	<0.230	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.330	<0.230	
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<5	<3	<3	<3	<1	<1	<22.5 R	<0.301	
2-Butanone (MEK)	ug/L	50	<10	0.71 J	1.00 J	<100	<10	<200	3.0 J	<100	9.1 J	<10	<10	<0.630	<0.550	
2-Hexanone	ug/L	50	<10	<10	<100	<10	<200	<100	<100	<10	<10	<10	<10	<0.260	<0.370	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<100	<10	<200	<100	<100	0.12 J	<10	<10	<10	<0.510	<0.350	
Acetone	ug/L	50	3.71 J	2.65 J	3.06 J	9.3 J	4.6 J	<200	<100	<100	11	<10	2.46 J	<0.870	<0.280	
Benzene	ug/L	1	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.430	<0.250	
Bromochloromethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.470	<0.300	
Bromodichloromethane	ug/L	50	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.350	<0.260	
Bromoform	ug/L	50	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.260	<0.460	
Bromomethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.670	<0.250	
Carbon disulfide	ug/L	NC	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.500	<0.300	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.400	<0.360	
Chlorobenzene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.480	<0.220	
Chloroethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.780	<0.360	
Chloroform	ug/L	7	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.340	<0.220	
Chloromethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.350	<0.280	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.380	<0.300	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.360	<0.250	
Cyclohexane	ug/L	NC	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.460	<0.380	
Dibromochloromethane	ug/L	50	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.360	<0.240	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.420	<0.290	
Ethylbenzene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.340	<0.220	
Isopropylbenzene	ug/L	5	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.390	<0.210	
Methyl acetate	ug/L	NC	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.350	<0.220	
Methyl tert-butyl ether (MTBE)	ug/L	NC	<1	<1	<1	<10	<1	<20	<10	<10	<1	<1	<1	<0.380	<0.240	
Methylcyclohexane	ug/L</															

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5DB	MW-5DB	MW-5DB	MW-5DB	DUP (MW-5DB)	MW-5DB	MW-5DB		
	Screen Interval (ft above msl):	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	179.7 - 189.7	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3		
	Date Sampled:	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	5/5/2011	10/21/2011	5/2/2012	6/10/2013 (Post ISCO)	11/15/2013 (Post ISCO)	11/15/2013 (Post ISCO)	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.27	<1	<1	<1		
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.27	<1	<1	<1		
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.46	<1	<1	<1		
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.34	<1	<1	<1		
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.15	<1	<1	<1		
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.25	<1	<1	<1		
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.24	<1	<1	<1		
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.660	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05		
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.12	<1	<1	<1		
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.13	<1	<1	<1		
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.17	<1	<1	<1		
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.18	<1	<1	<1		
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.20	<1	<1	<1		
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.18	<1	<1	<1		
1,4-Dioxane	ug/L	NC	<5	<5	<5	<3	<1	<3	<0.20	<22.5 R	<0.301	<0.97	<5	<5	<5		
2-Butanone (MEK)	ug/L	50	0.84 J	<10	<10	0.39 J	9.0 J	<10	<0.510	<0.630	<0.550	4.8 J	<10	0.47 J	0.79 J		
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.19	<10	<10	<10		
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	0.14 J	<10	<0.410	<0.510	<0.350	<0.35	<10	<10	<10		
Acetone	ug/L	50	6.02 J	<10	0.69 J	<10	2.40 J	9.9 J	<10	2.39 J	<0.610	<0.870	<0.280	<4.0	<10	0.89 J	
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<0.250	<0.430	<0.250	<0.11	<1	<1	<1		
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.36	<1	<1	<1		
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<0.350	<0.350	<0.260	<0.19	<1	<1	<1		
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.35	<1	<1	<1		
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.18	<1	<1	<1		
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.13	<1	<1	<1		
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.19	<1	<1	<1		
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.16	<1	<1	<1		
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.480	<0.780	<0.360	<0.21	<1	<1	<1		
Chloroform	ug/L	7	<1	<1	<1	<1	<1	0.11 J	<1	<1	1.54	0.425 J	<0.220	0.26 J	0.27 J		
Chloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.430	<0.350	<0.280	<0.20	<1	<1	0.44 J		
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.560	<0.380	<0.300	<0.21	<1	<1	<1		
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<0.360	<0.360	<0.250	<0.17	<1	<1	<1		
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.230	<0.460	<0.380	<0.32	<1	<1	<1		
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<0.430	<0.360	<0.240	<0.20	<1	<1	<1		
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.420	<0.290	<0.57	<1	<1	<1		
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.340	<0.340	<0.220	<0.10	<1	<1	<1		
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.300	<0.390	<0.210	<0.12	<1	<1	<1		
Methyl acetate	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.600	<0.350	<0.220	<0.20	<1	<1	<1		
Methyl tert-butyl ether (MTBE)																	

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	
	Screen Interval (ft above msl):	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	
	Date Sampled:	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	5/5/2011	10/25/2011	5/2/2012	6/10/2013 (Post ISCO)	11/15/2013	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<0.410	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.660	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<5	<5	<3	<1	<3	<20.2	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	<10	<10	<10	<10	10	<0.510	<0.630	<0.550	<3.3	<10	0.70 J	0.64 J	<10	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	0.38 J	<10	<10	<10	0.15 J	<10	<0.410	<0.510	<0.35	<10	<10	<10	<10	<10	
Acetone	ug/L	50	<10	1.63 J	<10	2.01 J	9.9 J	<10	2.23 J	10.2	<0.870	<0.280	<4.0	0.86 J	3.86 J	4.27 J	
Benzene	ug/L	1	<1	<1	<1	<1	<1	<0.250	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.350	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	0.85 J	<1	<0.480	<0.780	<0.360	<0.21	<1	<1	0.35 J	
Chloroform	ug/L	7	0.25 J	0.30 J	0.25 J	0.26 J	0.23 J	0.29 J	0.25 J	4.22	3.12	0.533 J	0.56 J	0.50 J	0.55 J	0.40 J	
Chloromethane	ug/L	5	0.52 J	0.46 J	<1	<1	0.29 J	0.37 J	<1	<0.430	<0.350	<0.280	<0.20	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<0.560	<0.380	<0.300	<0.21	<1	<1	<1	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<0.360	<0.360	<0.250	<0.17	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<0.230	<0.460	<0.380	<0.32	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<0.430	<0.360	<0.240	<0.20	<1	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<0.420	<0.420	<0.290	<0.5					

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-5SB	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6	MW-6
	Screen Interval (ft above msl):	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	145.1 - 155.1	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6	179.6 - 189.6
	Date Sampled:	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	8/3/2011	10/18/2011	4/30/2012	6/10/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
Off-Site Upgradient Locations																	
VOLATILE ORGANIC COMPOUNDS (VOCs)		Units															
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1
1,1-Dichloroethylene	ug/L	5	<1	<1	<1	<1	<1	<0.410	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	<1
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.02	<0.05	<0.05	<0.05	<0.660	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1
1,4-Dioxane	ug/L	NC	<3	<1	<3	<3	<1	<20.2	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<3
2-Butanone (MEK)	ug/L	50	<10	<10	13	<10	<10	2.33	<0.630	<0.550	6.2 J	0.83 J	<10	<10	<10	<10	<10
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	0.19 J	<10	<10	<0.410	<0.510	<0.350	<0.35	<10	<10	<10	<10	<10	<10
Acetone	ug/L	50	<10	1.23 J	21	<10	2.49 J	17.7	<0.870	<0.280	<4.0	4.96 J	<10	1.31 J	<10	0.99 J	45
Benzene	ug/L	1	<1	<1	<1	<1	<1	<0.250	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.350	<0.550	<0.260	<0.19	<1	<1	<1	<1	<1	<1
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1
Chloroethane	ug/L	5	<1	0.43 J	0.41 J	<1	<1	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1
Chloroform	ug/L	7	0.32 J	0.26 J	0.24 J	0.31 J	<1	11.1	<0.340	<0.220	<0.15	<1	<1	<1	<1	<1	<1
Chlormethane	ug/L	5	<1	<1	0.15 J	0.47 J	<1	<0.430	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene	ug/L	5	<1	<1	0.11 J	<1	<1	<0.560	<0.380	<0.300	<0.21	<1	<1	<			

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-6	MW-6SB ¹	MW-6SB	DUP (MW-6SB)	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-7	MW-7	
	Screen Interval (ft above msl):	179.6 - 189.6	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	151.9 - 161.9	174.7 - 184.7	174.7 - 184.7	
	Date Sampled:	10/30/2017 (Post ISCO)	8/3/2011	10/18/2011	10/18/2011	4/30/2012	6/10/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	5/4/2016 (Post ISCO)	5/18/2017 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/18/2011	5/1/2012	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																		
Off-Site Downgradient Locations																			
VOLATILE ORGANIC COMPOUNDS (VOCs) Units																			
1,1,1-Trichloroethane	ug/L	5	<1	<0.420	<0.350	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.330
1,1,2-Tetrachloroethane	ug/L	5	<1	<0.280	<0.310	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.310	<0.320
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<0.320	<0.440	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.420
1,1,2-Trichloroethane	ug/L	1	<1	<0.570	<0.360	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.220
1,1-Dichloroethane	ug/L	5	<1	<0.440	<0.430	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.260
1,1-Dichloroethene	ug/L	5	<1	<0.410	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.710	<0.410
1,2,3-Trichlorobenzene	ug/L	5	<1	<0.550	<0.420	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.210
1,2,4-Trichlorobenzene	ug/L	5	<1	<0.340	<0.390	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.390	<0.200
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.660	<0.00855	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.00855	<0.00855
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<0.400	<0.00855	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.00855	<0.00855
1,2-Dichlorobenzene	ug/L	3	<1	<0.340	<0.360	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.230
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<0.460	<0.420	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.200
1,2-Dichloropropane	ug/L	1	<1	<0.460	<0.520	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.250
1,3-Dichlorobenzene	ug/L	3	<1	<0.410	<0.420	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.230
1,4-Dichlorobenzene	ug/L	3	<1	<0.430	<0.330	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.230
1,4-Dioxane	ug/L	NC	<1	<20.2	<22.5 R	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<3	<1	<3	<1	<22.5 R	<0.301
2-Butanone (MEK)	ug/L	50	<10	<0.510	<0.630	<0.630	<0.550	6.4 J	0.88 J	<10	<10	<10	<10	<12	<10	<10	<10	<0.630	<0.550
2-Hexanone	ug/L	50	<10	<0.370	<0.260	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.260	<0.370
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<0.410	<0.510	<0.510	<0.350	<0.35	<10	<10	<10	<10	<10	0.15 J	<10	<10	<10	<0.510	<0.350
Acetone	ug/L	50	2.24 J	1.37	<0.870	<0.870	<0.280	<4.0	5.39 J	<10	1.50 J	<10	1.68 J	13	<10	2.62 J	<0.870	<0.280	
Benzene	ug/L	1	<1	<0.250	<0.430	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.250
Bromochloromethane	ug/L	5	<1	<0.560	<0.470	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.470	<0.300
Bromodichloromethane	ug/L	50	<1	0.767 J	<0.350	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.260
Bromoform	ug/L	50	<1	<0.520	<0.260	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.260	<0.460
Bromomethane	ug/L	5	<1	<0.680	<0.670	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.670	<0.250
Carbon disulfide	ug/L	NC	<1	<0.330	<0.500	<0.500	<0.300	<0.13	<1	<1	<1	<1	0.32 J	<1	<1	<1	<1	<0.500	<0.300
Carbon tetrachloride	ug/L	5	<1	<0.290	<0.400	<0.400	<0.360	<0.19	<1	<1	<1	<1	<						

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7	MW-7SB	MW-7SB	MW-7SB	MW-7SB	MW-7SB	MW-7SB	MW-7SB	
	Screen Interval (ft above msl):	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	
	Date Sampled:	6/11/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/19/2011	5/2/2012	6/11/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)	10/9/2015 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																
1,1,1-Trichloroethane	ug/L	5	<0.10	<1	<1	<1	<1	<1	<1	<0.350	<0.330	<0.10	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.067	<1	<1	<1	<1	<1	<1	<0.310	<0.320	<0.067	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.15	<1	<1	<1	<1	<1	<1	<0.440	<0.420	<0.15	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<0.039	<1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.039	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<0.041	<1	<1	<1	<1	<1	<1	<0.430	<0.260	<0.041	<1	<1	<1	<1	
1,1-Dichloroethylene	ug/L	5	<0.055	<1	<1	<1	<1	<1	<1	<0.710	<0.410	<0.055	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<0.030	<1	<1	<1	<1	<1	<1	<0.420	<0.210	0.040 JB	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	0.020 JB	<1	<1	<1	<1	<1	<1	<0.390	<0.200	0.040 JB	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.0080	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.045	<1	<1	<1	<1	<1	<1	<0.0855	<0.00855	<0.045	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<0.053	<1	<1	<1	<1	<1	<1	<0.360	<0.230	<0.053	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.039	<1	<1	<1	<1	<1	<1	<0.420	<0.200	<0.039	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<0.045	<1	<1	<1	<1	<1	<1	<0.520	<0.250	<0.045	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<0.027	<1	<1	<1	<1	<1	<1	<0.420	<0.230	<0.027	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<0.036	<1	<1	<1	<1	<1	<1	<0.330	<0.230	<0.036	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<0.97	<5	<5	<5	<3	<1	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	4.3 J	0.79 J	<10	<10	<10	11	<10	<0.630	<0.550	4.6 J	0.65 J	<10	<10	<10	
2-Hexanone	ug/L	50	<0.30	<10	<10	<10	<10	<10	<10	<0.260	<0.370	<0.30	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.14	<10	<10	<10	<10	0.14 J	<10	<0.510	<0.350	<0.14	<10	<10	<10	<10	
Acetone	ug/L	50	<3.0	5.40 J	<10	1.57 J	<10	1.79 J	13	<10	2.14 J	<0.870	<0.280	<3.0	5.50 J	<10	1.43 J
Benzene	ug/L	1	<0.014	<1	<1	<1	<1	<1	<1	<0.430	<0.250	0.030 J	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<0.13	<1	<1	<1	<1	<1	<1	<0.470	<0.300	<0.13	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<0.025	<1	<1	<1	<1	<1	<1	<0.350	<0.260	<0.025	<1	<1	<1	<1	
Bromoform	ug/L	50	<0.035	<1	<1	<1	<1	<1	<1	<0.260	<0.460	<0.035	<1	<1	<1	<1	
Bromomethane	ug/L	5	<0.13	<1	<1	<1	<1	<1	<1	<0.510	<0.250	<0.13	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<0.028	<1	<1	<1	<1	<1	<1	<0.670	<0.300	<0.028	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<0.025	<1	<1	<1	<1	<1	<1	<0.500	<0.360	<0.025	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<0.032	<1	<1	<1	<1	<1	<1	<0.400	<0.220	<0.032	<1	<1	<1	<1	
Chloroethane	ug/L	5	<0.11	<1	<1	<1	<1	<1	<1	<0.480	<0.360	<0.11	<1	<1	<1	<1	
Chloroform	ug/L	7	0.080 J	<1	<1	<1	<1	<1	<1	0.635 J	0.868 J	0.810 J	0.92 J	0.72 J	0.22 J	<1	
Chloromethane	ug/L	5	<0.072	<1	<1	<1	<1	<1	<1	<0.350	<0.280	<0.072	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<0.045	<1	0.22 J	<1	<1	<1	0.26 J	<1	1.03	<0.300	<0.045	<1	<1	0.29 J	
cis-1,3-Dichloropropene	ug/L	0.4	<0.019	<1	<1	<1	<1	<1	<1	<0.360	<0.250	<0.019	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<0.11	<1	<1	<1	<1	<1	<1	<0.460	<0.380	<0.11	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<0.031	<1	<1	<1	<1	<1	<1	<0.360	<0.240	<0.031	<1	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<0.058	<1	<1	<1	<1	<1	<1	<0.420	<0.290	<0.058	<				

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-7SB	MW-7SB	MW-7SB	MW-7SB	MW-8	MW-8	DUP (MW-8)	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	MW-8	
	Screen Interval (ft above msl):	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	
	Date Sampled:	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/20/2011	4/30/2012	6/10/2013	6/10/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	6/8/2017 (Post ISCO)	10/30/2017 (Post ISCO)	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																	
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<0.350	<0.330	<0.27	<1.4	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<0.310	<0.320	<0.27	<1.3	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<0.440	<0.420	<0.46	<2.3	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<0.360	<0.220	<0.34	7	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<0.430	<0.260	<0.15	<0.73	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethylene	ug/L	5	<1	<1	<1	<1	<0.710	<0.410	<0.27	<1.3	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<0.420	<0.210	<0.25	<1.2	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<0.390	<0.200	<0.24	<1.2	<1	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.02	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<0.00855	<0.00855	<0.12	<0.61	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<0.360	<0.230	<0.13	<0.67	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<0.420	<0.200	<0.17	<0.86	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<0.520	<0.250	<0.18	<0.91	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<0.420	<0.230	<0.20	<1.0	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<0.330	<0.230	<0.18	<0.90	<1	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<1	<3	<3	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<3	<1	<1	
2-Butanone (MEK)	ug/L	50	0.56 J	13	<10	<10	<0.630	<0.550	6.3 J	<16	0.75 J	<10	<10	<10	12	<10	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<0.260	<0.370	<0.19	<0.94	<10	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	0.18 J	<10	<10	<0.510	<0.350	<0.35	<1.8	<10	<10	<10	<10	0.13 J	<10	<10	
Acetone	ug/L	50	3.06 J	17	<10	2.21 J	<0.870	<0.280	<4.0	<20	5.26 J	<10	1.53 J	<10	1.2 J	13	<10	2.21 J
Benzene	ug/L	1	<1	<1	<1	<1	<0.430	<0.250	<0.11	<0.56	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<0.470	<0.300	<0.36	<1.8	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<0.350	<0.260	<0.19	<0.96	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<1	<1	<1	<0.260	<0.460	<0.35	<1.8	<1	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<1	<1	<1	<0.510	<0.250	<0.18	<0.92	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<0.670	<0.300	<0.13	<0.63	<1	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<0.500	<0.360	<0.19	<0.94	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<0.400	<0.220	<0.16	<0.78	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<1	<1	<1	<0.480	<0.360	<0.21	<1.1	<1	<1	<1	<1	<1	<1	<1	
Chloroform	ug/L	7	<1	<1	<1	<1	<0.340	<0.220	<0.15	<0.75	<1	<1	<1	<1	<1	<1	<1	
Chloromethane	ug/L	5	<1	<1	<1	<1	<0.350	<0.280	<0.20	<0.98	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	0.15 J	1	2	2.21	8.56	5	4.8 J	2	5	5	2	5	4	4	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<0.360	<0.250	<0.17	<0.84	<1	<1	<1	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<0.460	<0.380	<0.32	<1.6	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<1														

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-8SB	MW-9	MW-9	MW-9	MW-9	
	Screen Interval (ft above msl):	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	141.7 - 151.7	175.8 - 185.8	175.8 - 185.8	175.8 - 185.8	175.8 - 185.8	
	Date Sampled:	10/20/2011	4/30/2012	6/10/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	6/8/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/20/2011	5/1/2012	6/10/2013 (Post ISCO)	7/17/2014 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards															
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units															
1,1,1-Trichloroethane	ug/L	5	<0.700	<0.330	<1.4	<5	<1	<10	<5	<10	<20	<1	<5	<0.350	<0.330	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.620	<0.320	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<0.310	<0.320	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.880	<0.420	<2.3	<5	<1	<10	<5	<10	<20	<1	<5	<0.440	<0.420	
1,1,2-Trichloroethane	ug/L	1	<0.720	<0.220	<1.7	<5	<1	<10	<5	<10	<20	<1	<5	<0.360	<0.220	
1,1-Dichloroethane	ug/L	5	<0.860	<0.260	<0.73	<5	<1	<10	<5	<10	<20	<1	<5	<0.430	<0.260	
1,1-Dichloroethene	ug/L	5	<1.42	<0.410	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<0.710	<0.410	
1,2,3-Trichlorobenzene	ug/L	5	<0.840	<0.210	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<0.420	<0.210	
1,2,4-Trichlorobenzene	ug/L	5	<0.780	<0.200	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<0.390	<0.200	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.00855	<0.00855	<0.61	<5	<1	<10	<5	<10	<20	<1	<5	<0.00855	<0.00855	
1,2-Dichlorobenzene	ug/L	3	<0.720	<0.230	<0.67	<5	<1	<10	<5	<10	<20	<1	<5	<0.360	<0.230	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.840	<0.200	<0.86	<5	<1	<10	<5	<10	<20	<1	<5	<0.420	<0.200	
1,2-Dichloropropane	ug/L	1	<1.04	<0.250	<0.91	<5	<1	<10	<5	<10	<20	<1	<5	<0.520	<0.250	
1,3-Dichlorobenzene	ug/L	3	<0.840	<0.230	<1.0	<5	<1	<10	<5	<10	<20	<1	<5	<0.420	<0.230	
1,4-Dichlorobenzene	ug/L	3	<0.660	<0.230	<0.90	<5	<1	<10	<5	<10	<20	<1	<5	<0.330	<0.230	
1,4-Dioxane	ug/L	NC	<45.1 R	<0.301	<0.97	<5	<5	<3	<1	<1	<22.5 R	<30.1	<0.97	<5	<0.97	
2-Butanone (MEK)	ug/L	50	<1.26	<0.550	<16	<50	<10	<100	1.7 J	<100	<200	<10	<50	<0.630	<0.550	
2-Hexanone	ug/L	50	<0.520	<0.370	<0.94	<50	<10	<100	<50	<100	<200	<10	<50	<0.260	<0.370	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<1.02	<0.350	<1.8	<50	<10	<100	<50	<100	<200	<10	<50	<0.510	<0.350	
Acetone	ug/L	50	<1.74	<0.280	<20	6.9 J	<10	<100	<50	<100	<200	<10	<50	<0.870	<0.280	
Benzene	ug/L	1	<0.860	<0.250	<0.56	<5	<1	<10	<5	<10	<20	<1	<5	<0.430	<0.250	
Bromochloromethane	ug/L	5	<0.940	<0.300	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<0.470	<0.300	
Bromodichloromethane	ug/L	50	<0.700	<0.260	<0.96	<5	<1	<10	<5	<10	<20	<1	<5	<0.350	<0.260	
Bromoform	ug/L	50	<0.520	<0.460	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<0.260	<0.460	
Bromomethane	ug/L	5	<1.34	<0.250	<0.92	<5	<1	<10	<5	<10	<20	<1	<5	<0.670	<0.250	
Carbon disulfide	ug/L	NC	<1.00	<0.300	<0.63	<5	<1	<10	<5	<10	<20	<1	<5	<0.500	<0.300	
Carbon tetrachloride	ug/L	5	<0.800	<0.360	<0.94	<5	<1	<10	<5	<10	<20	<1	<5	<0.400	<0.360	
Chlorobenzene	ug/L	5	<0.960	<0.220	<0.78	<5	<1	<10	<5	<10	<20	<1	<5	<0.480	<0.220	
Chloroethane	ug/L	5	<1.56	<0.360	<1.1	<5	<1	<10	<5	<10	<20	<1	<5	<0.780	<0.360	
Chloroform	ug/L	7	2.23	<0.220	<0.75	<5	5	<10	<5	<10	<20	<1	<5	9.28	<0.220	
Chlormethane	ug/L	5	<0.700	<0.280	<0.98	<5	<1	<10	<5	<10	<20	<1	<5	<0.350	<0.280	
cis-1,2-Dichloroethene	ug/L	5	7.32	3.98	4.4 J	9	<1	10	10	8.3 J	9.6 J	9	8	<0.380	<0.300	
cis-1,3-Dichloropropene	ug/L	0.4	<0.720	<0.250	<0.84	<5	<1	<10	<5	<10	<20	<1	<5	<0.360	<0.250	
Cyclohexane	ug/L	NC	<0.920	<0.380	<1.6	<5	<1	<10	<5	<10	<20	<1	<5	<0.460	<0.380	
Dibromochloromethane	ug/L	50	<0.720	<0.240	<1.00	<5	<1	<10	<5	<10	<20	<1	<5	<0.360	<0.240	
Dichlorodifluoromethane	ug/L	5	<0.840	<0.290	<2.9	<5	<1	<10	<5	<10	<20	<1	<5	<0.420	<0.290	
Ethylbenzene	ug/L	5	<0.680	<0.220	<0.51	<5	<1	<10	<5	<10	<20	<1	<5	<0.340	<0.220	
Isopropylbenzene	ug/L	5	<													

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-9	MW-9	MW-9	MW-9	MW-9	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	MW-9SB	
	Screen Interval (ft above msl):	175.8 - 185.8	175.8 - 185.8	175.8 - 185.8	175.8 - 185.8	175.8 - 185.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	144.8 - 155.8	
	Date Sampled:	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)	10/20/2011	5/2/2012	6/10/2013	7/17/2014	10/10/2014 (Post ISCO)	5/7/2015 (Post ISCO)	10/9/2015 (Post ISCO)	5/4/2016 (Post ISCO)	10/26/2016 (Post ISCO)	5/18/2017 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units																
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethylene	ug/L	5	<1	<1	<1	<1	<1	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.02	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<5	<3	<1	<3	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<3	
2-Butanone (MEK)	ug/L	50	<10	<10	<10	<10	<10	<0.630	<0.550	<3.3	0.69 J	<10	<10	<10	<10	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	<0.510	<0.350	<0.35	<10	<10	<10	<10	0.10 J	<10	
Acetone	ug/L	50	1.60 J	<10	2.63 J	41	<10	2.01 J	<0.870	<0.280	<4.0	4.63 J	<10	1.70 J	<10	1.29 J	
Benzene	ug/L	1	<1	<1	<1	<1	<1	2	<0.250	<0.11	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	
Chloroform	ug/L	7	<1	<1	<1	0.11 J	<1	<1	3.81	0.563 J	<0.94 J	0.88 J	0.88 J	0.86 J	0.83 J	0.61 J	
Chlormethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	0.70 J	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	1.55	1.14	0.36 J	<1	<1	<1	<1	0.15 J	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<0.360	<0.250	<0.17	<1	<1	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<0.460	<0.380	<0.32	<1	<1	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.360	<0.240	<0.20	<1	<1	<1	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.290	<0.57	<1	<1	<1	<1	<1	<1	
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<0.340	<0.220	<0.10	<1	<1	<1	<1</td			

Table 1
Groundwater Quality VOC Data Summary
Groundwater Sampling Report
Brownfield Cleanup Program No. C360115
1-5 Holland Avenue, White Plains, NY

Parameter	Well ID:	MW-9SB	
	Screen Interval (ft above msl):	144.8 - 155.8	
	Date Sampled:	10/30/2017 (Post ISCO)	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards		
VOLATILE ORGANIC COMPOUNDS (VOCs)	Units		
1,1,1-Trichloroethane	ug/L	5	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1
1,1,2-Trichloroethane	ug/L	1	<1
1,1-Dichloroethane	ug/L	5	<1
1,1-Dichloroethene	ug/L	5	<1
1,2,3-Trichlorobenzene	ug/L	5	<1
1,2,4-Trichlorobenzene	ug/L	5	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1
1,2-Dichlorobenzene	ug/L	3	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<1
1,2-Dichloropropane	ug/L	1	<1
1,3-Dichlorobenzene	ug/L	3	<1
1,4-Dichlorobenzene	ug/L	3	<1
1,4-Dioxane	ug/L	NC	<1
2-Butanone (MEK)	ug/L	50	<10
2-Hexanone	ug/L	50	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10
Acetone	ug/L	50	2.61 J
Benzene	ug/L	1	<1
Bromochloromethane	ug/L	5	<1
Bromodichloromethane	ug/L	50	<1
Bromoform	ug/L	50	<1
Bromomethane	ug/L	5	<1
Carbon disulfide	ug/L	NC	<1
Carbon tetrachloride	ug/L	5	<1
Chlorobenzene	ug/L	5	<1
Chloroethane	ug/L	5	<1
Chloroform	ug/L	7	0.40 J
Chlormethane	ug/L	5	<1
cis-1,2-Dichloroethene	ug/L	5	<1
cis-1,3-Dichloropropene	ug/L	0.4	<1
Cyclohexane	ug/L	NC	<1
Dibromochloromethane	ug/L	50	<1
Dichlorodifluoromethane	ug/L	5	<1
Ethylbenzene	ug/L	5	<1
Isopropylbenzene	ug/L	5	<1
Methyl acetate	ug/L	NC	<1
Methyl tert-butyl ether (MTBE)	ug/L	NC	<1
Methylcyclohexane	ug/L	NC	<1
Methylene chloride	ug/L	5	<1
Styrene	ug/L	5	<1
Tetrachloroethene	ug/L	5	<1
Toluene	ug/L	5	<1
trans-1,2-Dichloroethene	ug/L	5	<1
trans-1,3-Dichloropropene	ug/L	0.4	<1
Trichloroethene	ug/L	5	<1
Trichlorofluoromethane	ug/L	5	<1
Vinyl Chloride	ug/L	2	<1
Xylenes (Total)	ug/L	5	<3
Total VOCs	ug/L	NA	3.01 J

Notes:

6 NYCRR Part 703 and TOGS 1.1.1 = Division of Water Technical and Operational Guidance Series

Ambient Water Quality Standards and Guidance Values and Groundwater Effluent

Limitations.

ft above msl = feet above mean sea level

BOLD = Exceeds TOGS 1.1.1 Class GA Groundwater Standards/Criteria

* = Analyzed for but Not Detected at the Method Detection Limit (MDL)

J = The concentration was detected at a value below the Reporting Limit (RL) and above the MDL.

R = The result was rejected during data validation.

D = Diluted sample result

units = ug/L or parts per billion

NA = Not Available

NC = No Criteria



Figures



This document was developed in color. Reproduction in B/W may not represent the data as intended.

FIGURE 1

N

LEGEND

- ◆ OVERBURDEN MONITORING WELL
- ◆ SHALLOW BEDROCK MONITORING WELL
- ◆ DEEP BEDROCK MONITORING WELL
- PROPERTY BOUNDARY

SITE MANAGEMENT PLAN
BROWNFIELD CLEANUP
PROGRAM NO. C360115
1-5 HOLLAND AVENUE
WHITE PLAINS, NY

**GROUNDWATER
MONITORING WELL
LOCATIONS**

0 60 120 240
Feet

JUNE 2015
14206.60464

O'BRIEN & GERE

Appendices





Groundwater Sampling Logs

SUMMARY OF FIELD WATER QUALITY PARAMETERS

Location ID	Ground Elevation (ft amsl)	Well Casing Elevation (ft amsl)	Well Screen Interval (ft)		Well Screen Interval (ft bgs)	Hydrogeologic Screen Interval	Date Deployment	Time Deployment	Depth to GW (PVC)	Date Retrieval/Sample Collection	Time Collected	Depth to GW (PVC)	Field Parameters					
			Top	Bottom									pH	Temp. (°C)	Spec. Conductance (mS/cm)	ORP (mV)	TDS (ppm)	Dis. Ox. (mg/L)
MW-1	198.9	198.61	192.7	182.7	5.9-15.9	Overburden	10/5/2017	1505	12.98	10/30/2017	1415	13.05	7.23	16.12	1.71	80.5	114	4.27
MW-2	204.7	204.39	191.4	181.4	13-23	Overburden	10/5/2017	1420	19.05	10/30/2017	1330	18.89	7.39	15.49	1.58	123.1	106	6.6
MW-2DB	204.3	204.04	136.3	126.3	68-78	Deep Bedrock	10/5/2017	1355	18.25	10/30/2017	1345	18.48	7.96	13.36	0.34	43.5	23	0.52
MW-2SB	203.9	203.55	158.9	148.9	45-55	Shallow Bedrock	10/5/2017	1410	17.82	10/30/2017	1400	18.09	7.93	13.66	0.36	-66.1	24	0.54
MW-4S	202.5	202.27	188.5	178.4	14-24	Overburden	10/5/2017	1530	16.37	10/30/2017	1445	16.51	10.41	14.79	0.67	30.7	45	3.51
MW-4D	202.5	202.07	168.0	158.0	34.5-44.5	Shallow Bedrock	10/5/2017	1540	16.22	10/30/2017	1500	16.29	8.77	14.39	0.48	35.3	32	15.84
MW-5	203.7	203.39	189.7	179.7	14-24	Overburden	10/5/2017	1452	18.11	10/30/2017	1200	17.88	7.37	14.7	0.25	50.5	17	6.27
MW-5DB	203.4	203.07	115.4	105.4	88-98	Deep Bedrock	10/5/2017	1445	17.46	10/30/2017	1130	17.95	8.86	12.56	0.34	-71.4	23	0.29
MW-5SB	203.1	202.80	155.1	145.1	48-58	Shallow Bedrock	10/5/2017	1435	17.2	10/30/2017	1145	17.34	8.06	12.87	0.56	-152	37	0.47
MW-6	204.0	203.63	190.0	180.0	14-24	Overburden	10/5/2017	1335	17.6	10/30/2017	830	17.63	7.61	15.82	0.02	97.2	1	7.45
MW-6SB	204.2	203.83	162.4	152.4	41.9-51.9	Shallow Bedrock	10/5/2017	1130	17.88	10/30/2017	840	18.09	7.45	14.29	0.54	123.7	36	8.55
MW-7	200.2	199.73	185.2	175.2	15-25	Overburden	10/5/2017	1710	16.02	10/30/2017	910	14.29	7.01	13.33	0.25	118.4	17	8.99
MW-7SB	200.2	199.79	156.2	146.2	44-54	Shallow Bedrock	10/5/2017	1705	15.19	10/30/2017	930	15.14	7.75	12.59	2.80	50.5	187	0.81



SUMMARY OF FIELD WATER QUALITY PARAMETERS

Location ID	Ground Elevation (ft amsl)	Well Casing Elevation (ft amsl)	Well Screen Interval (ft)		Well Screen Interval (ft bgs)	Hydrogeologic Screen Interval	Date Deployment	Time Deployment	Depth to GW (PVC)	Date Retrieval/Sample Collection	Time Collected	Depth to GW (PVC)	Field Parameters					
			Top	Bottom									pH	Temp. (°C)	Spec. Conductance (mS/cm)	ORP (mV)	TDS (ppm)	Dis. Ox. (mg/L)
MW-8	197.6	197.34	182.6	172.6	15-25	Overburden	10/5/2017	1640	13.1	10/30/2017	1045	12.06	6.61	15.87	5.01	-73.9	336	0.82
MW-8SB	197.3	196.68	152.3	142.3	45-55	Shallow Bedrock	10/5/2017	1635	12.16	10/30/2017	1100	11.9	7.21	13.21	2.52	28.1	169	0.74
MW-9	201.3	200.80	186.3	176.3	15-25	Overburden	10/5/2017	1625	17.12	10/30/2017	1000	16.56	6.97	14.3	0.49	146.4	33	7.33
MW-9SB	201.3	200.76	155.3	145.3	46-56	Shallow Bedrock	10/5/2017	1615	16.5	10/30/2017	1020	16.31	7.72	12.26	0.98	-54.2	65.4	0.46

Field Notes: Blind Duplicate Installed: MW-4D
 MS/MSD Installed: MW-2SB
 TDS calculation = (TDS) ppm = Conductivity mS/cm x 0.67 x 1,000
 Heavy rain in the AM during retrieval.

Sampler Deployment: Mark Randazzo
 Sampler Retrieval: Mark Randazzo





O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-1

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 15.9 ft. bmp*
Depth to Water: 13.05 ft. bmp*
Column (LWC): 2.85 ft.
PDB Midpoint: 14.5 ft.

* Measurement Point:
 Well Casing
 Protective Casing
 Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-2

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 23 ft. bmp*
Depth to Water: 18.5 ft. bmp*
Column (LWC): 4.1 ft.
PDB Midpoint: 21 ft.

- * Measurement Point:
 - Well Casing
 - Protective Casing
 - Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-2SB

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 55 ft. bmp*
Depth to Water: 18.10 ft. bmp*
Column (LWC): 36.9 ft.
PDB Midpoint: 50 ft.

* Measurement Point:
 Well Casing
 Protective Casing
 Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

RDB Groundwater Sampling Log

Well ID: MW-2DB

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 78 ft. bmp*
Depth to Water: 18.5 ft. bmp*
Column (LWC): 59.5 ft.
PDB Midpoint: 73 ft.

- * Measurement Point:
 - Well Casing
 - Protective Casing
 - Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-4S

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 24 ft. bmp*
Depth to Water: 16.5 ft. bmp*
Length of Water Column (LWC): 7.5 ft.
PDB Midpoint: 7.8 ft. 20.25

* Measurement Point:
 Well Casing
 Protective Casing
 Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GEBE

PDB Groundwater Sampling Log

Well ID: MW-4D

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 44.5 ft. bmp*
Depth to Water: 16.3 ft. bmp*
Column (LWC): 28.2 ft.
PDB Midpoint: 39.5 ft.

* Measurement Point:

- Well Casing
- Protective Casing
- Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-5D3

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 98 ft. bmp*
Depth to Water: 13 ft. bmp*
Length of Water Column (LWC): 80 ft.
PDB Midpoint: 9.3 ft.

* Measurement Point:

- Well Casing
- Protective Casing
- Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



O'BRIEN & GERE

PDB Groundwater Sampling Log

Well ID: MW-6

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 24 ft. bmp*
Depth to Water: 17.6 ft. bmp*
Column (LWC): 6.4 ft.
PDB Midpoint: 20.8 ft.

- * Measurement Point:
 - Well Casing
 - Protective Casing
 - Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



PDB Groundwater Sampling Log

Well ID: MW-6SB

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 51.9 ft. bmp*
Depth to Water: 18.1 ft. bmp*
Length of Water Column (LWC): 33.8 ft.
PDB Midpoint: 46.9 ft.

* Measurement Point:

X Well Casing

Protective Casing

Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



PDB Groundwater Sampling Log

Well ID: MW-7

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 25 ft. bmp*
Depth to Water: 14.3 ft. bmp*
Column (LWC): 10.7 ft.
PDB Midpoint: 30 ft.

* Measurement Point:

- Well Casing
- Protective Casing
- Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



PDB Groundwater Sampling Log

Well ID: MW-753

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 54 ft. bmp*
Depth to Water: 15.1 ft. bmp*
Length of Water Column (LWC): 38.9 ft.
PDB Midpoint: 49 ft.

* Measurement Point:

- Well Casing
- Protective Casing
- Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



PDB Groundwater Sampling Log

Well ID: MW - S

Project No.: 65459
Site Name: 1-5 Holland Avenue
Site Loc.: One Holland Avenue Development

Field Personnel: MAR
Date: 10/30/2017
Weather: Cloudy

Well Information:

Depth of Well: 25 ft. bmp*
Depth to Water: 12.1 ft. bmp*
Length of Water Column (LWC): 12.9 ft.
PDB Midpoint: 20 ft.

* Measurement Point:

- Well Casing
- Protective Casing
- Other:

PDB Installation Date: 10/5/2017
PDB Removal Date: 10/30/2017

Samples collected:

Notes:



**Merit's Laboratory
Analytical Report**





Analytical Laboratory Report

Report ID: S84784.01(01)
Generated on 11/14/2017

Report to

Attention: Mark Randazzo
O'Brien & Gere Engineers
50 Main St, Suite 1060
White Plains, NY 10606

Phone: 781-883-6432 FAX:
Email: mark.randazzo@obg.com

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S84784.01-S84784.21
Project: 65459/OHAD SMP / 1-5 Holland Ave
Collected Date: 10/30/2017
Submitted Date/Time: 10/31/2017 09:40
Sampled by: Mark Randazzo
P.O. #: 11700359

Table of Contents

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Sample Summary (Page 5)

A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak
Technical Director



Analytical Laboratory Report

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.

Methods may be modified for improved performance.

Results reported on a dry weight basis where applicable.

'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).

40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.

QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.

Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.

Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Report shall not be reproduced except in full, without the written approval of Merit Laboratories, Inc.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)

Report Narrative

There is no additional narrative for this analytical report



Analytical Laboratory Report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods



Analytical Laboratory Report

Method Summary

Method	Version
N/A	Not Applicable
SW5030C/8260C	SW 846 Method 8260C Revision 3 August 2006 / 5030C Revision 3 May 2003
SW8260B - SIM	SW 846 Method 8260B Revision 2 December 1996 SIMs



Analytical Laboratory Report

Sample Summary (21 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S84784.01	MW-1	Groundwater	10/30/17 14:15
S84784.02	MW-2	Groundwater	10/30/17 13:30
S84784.03	MW-2SB	Groundwater	10/30/17 14:00
S84784.04	MW-2SB MS	Groundwater	10/30/17 14:00
S84784.05	MW-2SB MSD	Groundwater	10/30/17 14:00
S84784.06	MW-2DB	Groundwater	10/30/17 13:45
S84784.07	MW-4S	Groundwater	10/30/17 14:45
S84784.08	MW-4D	Groundwater	10/30/17 15:00
S84784.09	MW-5	Groundwater	10/30/17 12:00
S84784.10	MW-5SB	Groundwater	10/30/17 11:45
S84784.11	MW-5DB	Groundwater	10/30/17 11:30
S84784.12	MW-6	Groundwater	10/30/17 08:30
S84784.13	MW-6SB	Groundwater	10/30/17 08:40
S84784.14	MW-7	Groundwater	10/30/17 09:10
S84784.15	MW-7SB	Groundwater	10/30/17 09:30
S84784.16	MW-8	Groundwater	10/30/17 10:45
S84784.17	MW-8SB	Groundwater	10/30/17 11:00
S84784.18	MW-9	Groundwater	10/30/17 10:00
S84784.19	MW-9SB	Groundwater	10/30/17 10:20
S84784.20	BD-1	Groundwater	10/30/17 00:01
S84784.21	TB-10/30/17	Liquid	10/30/17 00:01



Analytical Laboratory Report

Lab Sample ID: S84784.01

Sample Tag: MW-1

Collected Date/Time: 10/30/2017 14:15

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 17:07	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 17:07	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.18	
Acetone	2.44	ug/L	10	SW5030C/8260C	11/02/17 18:09	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:09	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:09	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:09	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.28	
Tetrachloroethene	2	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.01 (continued)

Sample Tag: MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 18:09	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:09	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.02

Sample Tag: MW-2

Collected Date/Time: 10/30/2017 13:30

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 17:27	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 17:27	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.18	
Acetone	2.11	ug/L	10	SW5030C/8260C	11/02/17 18:31	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:31	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:31	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:31	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.28	
Tetrachloroethene	83	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.02 (continued)

Sample Tag: MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 18:31	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:31	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.03

Sample Tag: MW-2SB

Collected Date/Time: 10/30/2017 14:00

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 16:46	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 16:46	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.18	
Acetone	4.96	ug/L	10	SW5030C/8260C	11/02/17 17:47	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:47	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.26	
Chloroform	0.32	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	J
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:47	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:47	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.28	
Tetrachloroethene	0.37	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.03 (continued)

Sample Tag: MW-2SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 17:47	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:47	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.04

Sample Tag: MW-2SB MS

Collected Date/Time: 10/30/2017 14:00

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	0.09	ug/L	0.05	SW8260B - SIM	11/09/17 15:04	JGH	1	
1,4-Dioxane*	62	ug/L	1	SW8260B - SIM	11/09/17 15:04	JGH	2	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	52	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.18	2
Acetone	49	ug/L	10	SW5030C/8260C	11/02/17 15:13	JGH	0.56	2
Carbon disulfide	46	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.24	2
Methyl Acetate	47	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.25	2
tert-Methyl butyl ether (MTBE)	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.19	2
2-Butanone (MEK)	49	ug/L	10	SW5030C/8260C	11/02/17 15:13	JGH	0.26	2
Dichlorodifluoromethane	35	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.50	2
Chloromethane	43	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.26	2
Vinyl chloride	45	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.31	2
Bromomethane	45	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.32	2
Chloroethane	45	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.34	2
Trichlorofluoromethane	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.33	2
1,1-Dichloroethene	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.27	2
Methylene chloride	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.29	2
trans-1,2-Dichloroethene	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
1,1-Dichloroethane	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
cis-1,2-Dichloroethene	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.26	2
Chloroform	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
Bromochloromethane	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.38	2
1,1,1-Trichloroethane	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.28	2
Cyclohexane	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.29	2
4-Methyl-2-pentanone (MIBK)	49	ug/L	10	SW5030C/8260C	11/02/17 15:13	JGH	0.14	2
2-Hexanone	50	ug/L	10	SW5030C/8260C	11/02/17 15:13	JGH	0.29	2
Carbon tetrachloride	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
Benzene	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
1,2-Dichloroethane	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.16	2
Trichloroethene	48	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.23	2
1,2-Dichloropropane	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	2
Bromodichloromethane	51	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.23	2
Methyl cyclohexane	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.21	2
cis-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.19	2
Toluene	49	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.25	2
trans-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.25	2
1,1,2-Trichloroethane	50	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.28	2

1-Spiked at 0.1ug/L

2-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84784.04 (continued)

Sample Tag: MW-2SB MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Tetrachloroethene	43	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	1
Dibromochloromethane	53	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.24	1
1,2-Dibromoethane	52	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.30	1
Chlorobenzene	52	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.17	1
Ethylbenzene	52	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.26	1
Total Xylenes	157	ug/L	3	SW5030C/8260C	11/02/17 15:13	JGH	0.66	1
Styrene	53	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.18	1
Isopropylbenzene	53	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.25	1
Bromoform	51	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.22	1
1,1,2,2-Tetrachloroethane	53	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.18	1
1,3-Dichlorobenzene	55	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.24	1
1,4-Dichlorobenzene	55	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.23	1
1,2-Dichlorobenzene	55	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.28	1
1,2,4-Trichlorobenzene	54	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.19	1
1,2,3-Trichlorobenzene	54	ug/L	1	SW5030C/8260C	11/02/17 15:13	JGH	0.20	1

1-Spiked at 50ug/l



Analytical Laboratory Report

Lab Sample ID: S84784.05

Sample Tag: MW-2SB MSD

Collected Date/Time: 10/30/2017 14:00

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	0.11	ug/L	0.05	SW8260B - SIM	11/09/17 15:24	JGH	1	
1,4-Dioxane*	61	ug/L	1	SW8260B - SIM	11/09/17 15:24	JGH	2	
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.18	2
Acetone	45	ug/L	10	SW5030C/8260C	11/02/17 15:35	JGH	0.56	2
Carbon disulfide	48	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.24	2
Methyl Acetate	50	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.25	2
tert-Methyl butyl ether (MTBE)	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.19	2
2-Butanone (MEK)	52	ug/L	10	SW5030C/8260C	11/02/17 15:35	JGH	0.26	2
Dichlorodifluoromethane	37	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.50	2
Chloromethane	46	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.26	2
Vinyl chloride	47	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.31	2
Bromomethane	47	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.32	2
Chloroethane	48	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.34	2
Trichlorofluoromethane	50	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.33	2
1,1-Dichloroethene	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.27	2
Methylene chloride	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.29	2
trans-1,2-Dichloroethene	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
1,1-Dichloroethane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
cis-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.26	2
Chloroform	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
Bromochloromethane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.38	2
1,1,1-Trichloroethane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.28	2
Cyclohexane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.29	2
4-Methyl-2-pentanone (MIBK)	52	ug/L	10	SW5030C/8260C	11/02/17 15:35	JGH	0.14	2
2-Hexanone	53	ug/L	10	SW5030C/8260C	11/02/17 15:35	JGH	0.29	2
Carbon tetrachloride	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
Benzene	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
1,2-Dichloroethane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.16	2
Trichloroethene	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.23	2
1,2-Dichloropropane	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	2
Bromodichloromethane	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.23	2
Methyl cyclohexane	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.21	2
cis-1,3-Dichloropropene	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.19	2
Toluene	51	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.25	2
trans-1,3-Dichloropropene	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.25	2
1,1,2-Trichloroethane	52	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.28	2

1-Spiked at 0.1ug/L

2-Spiked at 50ug/L



Analytical Laboratory Report

Lab Sample ID: S84784.05 (continued)

Sample Tag: MW-2SB MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Tetrachloroethene	44	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	1
Dibromochloromethane	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.24	1
1,2-Dibromoethane	55	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.30	1
Chlorobenzene	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.17	1
Ethylbenzene	55	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.26	1
Total Xylenes	163	ug/L	3	SW5030C/8260C	11/02/17 15:35	JGH	0.66	1
Styrene	56	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.18	1
Isopropylbenzene	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.25	1
Bromoform	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.22	1
1,1,2,2-Tetrachloroethane	56	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.18	1
1,3-Dichlorobenzene	56	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.24	1
1,4-Dichlorobenzene	56	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.23	1
1,2-Dichlorobenzene	56	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.28	1
1,2,4-Trichlorobenzene	54	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.19	1
1,2,3-Trichlorobenzene	53	ug/L	1	SW5030C/8260C	11/02/17 15:35	JGH	0.20	1

1-Spiked at 50ug/l



Analytical Laboratory Report

Lab Sample ID: S84784.06

Sample Tag: MW-2DB

Collected Date/Time: 10/30/2017 13:45

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 17:48	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 17:48	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.18	
Acetone	2.21	ug/L	10	SW5030C/8260C	11/02/17 18:53	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:53	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:53	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 18:53	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.28	
Tetrachloroethene	4	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.06 (continued)

Sample Tag: MW-2DB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 18:53	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 18:53	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.07

Sample Tag: MW-4S

Collected Date/Time: 10/30/2017 14:45

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 18:10	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 18:10	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.18	
Acetone	2.46	ug/L	10	SW5030C/8260C	11/02/17 19:15	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:15	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:15	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:15	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.28	
Tetrachloroethene	151	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.07 (continued)

Sample Tag: MW-4S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 19:15	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:15	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.08

Sample Tag: MW-4D

Collected Date/Time: 10/30/2017 15:00

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 18:31	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 18:31	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.92	Y
Acetone	4.4	ug/L	50	SW5030C/8260C	11/03/17 16:26	JGH	2.8	JY
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
Methyl Acetate	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.95	Y
2-Butanone (MEK)	1.5	ug/L	50	SW5030C/8260C	11/03/17 16:26	JGH	1.3	JY
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	2.5	Y
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.3	Y
Vinyl chloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.5	Y
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.6	Y
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.7	Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.6	Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.3	Y
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.99	Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y
cis-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.3	Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.9	Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y
Cyclohexane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:26	JGH	0.71	Y
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.98	Y
Benzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.00	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.78	Y
Trichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.1	Y
Methyl cyclohexane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.97	Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.3	Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.08 (continued)

Sample Tag: MW-4D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Tetrachloroethene	221	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.5	Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.84	Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.3	Y
Total Xylenes	Not detected	ug/L	20	SW5030C/8260C	11/03/17 16:26	JGH	3.3	Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.89	Y
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.1	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.90	Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.2	Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.1	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.4	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	0.96	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:26	JGH	1.0	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84784.09

Sample Tag: MW-5

Collected Date/Time: 10/30/2017 12:00

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 18:51	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 18:51	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.18	
Acetone	2.39	ug/L	10	SW5030C/8260C	11/02/17 19:38	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:38	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:38	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 19:38	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.28	
Tetrachloroethene	7	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.09 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 19:38	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 19:38	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.10

Sample Tag: MW-5SB

Collected Date/Time: 10/30/2017 11:45

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 19:12	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 19:12	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.18	
Acetone	2.49	ug/L	10	SW5030C/8260C	11/02/17 20:00	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:00	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.26	
Vinyl chloride	0.38	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.31	J
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:00	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:00	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.16	
Trichloroethene	1	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.28	
Tetrachloroethene	2	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.10 (continued)

Sample Tag: MW-5SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 20:00	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:00	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.11

Sample Tag: MW-5DB

Collected Date/Time: 10/30/2017 11:30

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 19:33	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 19:33	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.18	
Acetone	2.23	ug/L	10	SW5030C/8260C	11/02/17 20:22	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:22	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.26	
Vinyl chloride	0.46	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.31	J
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.26	
Chloroform	0.25	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	J
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:22	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:22	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.28	
Tetrachloroethene	0.34	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.11 (continued)

Sample Tag: MW-5DB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 20:22	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:22	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.12

Sample Tag: MW-6

Collected Date/Time: 10/30/2017 08:30

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 19:54	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 19:54	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.18	
Acetone	2.24	ug/L	10	SW5030C/8260C	11/02/17 20:44	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:44	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:44	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 20:44	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.12 (continued)

Sample Tag: MW-6

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 20:44	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 20:44	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.13

Sample Tag: MW-6SB

Collected Date/Time: 10/30/2017 08:40

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 20:15	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 20:15	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.18	
Acetone	2.62	ug/L	10	SW5030C/8260C	11/02/17 21:06	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:06	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:06	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:06	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.13 (continued)

Sample Tag: MW-6SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 21:06	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:06	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.14

Sample Tag: MW-7

Collected Date/Time: 10/30/2017 09:10

Matrix: Groundwater

COC Reference: 108386

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 20:36	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 20:36	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.18	
Acetone	2.14	ug/L	10	SW5030C/8260C	11/02/17 21:28	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:28	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:28	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:28	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.28	
Tetrachloroethene	31	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.14 (continued)

Sample Tag: MW-7

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 21:28	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:28	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.15

Sample Tag: MW-7SB

Collected Date/Time: 10/30/2017 09:30

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 20:57	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 20:57	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.18	
Acetone	2.21	ug/L	10	SW5030C/8260C	11/02/17 21:50	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:50	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
cis-1,2-Dichloroethene	2	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:50	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 21:50	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.16	
Trichloroethene	2	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.15 (continued)

Sample Tag: MW-7SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 21:50	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 21:50	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.16

Sample Tag: MW-8

Collected Date/Time: 10/30/2017 10:45

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 21:18	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 21:18	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.18	
Acetone	2.21	ug/L	10	SW5030C/8260C	11/02/17 22:11	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 22:11	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.26	
Vinyl chloride	13	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.29	
trans-1,2-Dichloroethene	0.24	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	J
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	
cis-1,2-Dichloroethene	4	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 22:11	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 22:11	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.16	
Trichloroethene	0.50	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.23	J
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.28	
Tetrachloroethene	2	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.16 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 22:11	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 22:11	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.17

Sample Tag: MW-8SB

Collected Date/Time: 10/30/2017 11:00

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/13/17 16:58	JML		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/13/17 16:58	JML		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.92	Y
Acetone	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:48	JGH	2.8	Y
Carbon disulfide	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
Methyl Acetate	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.95	Y
2-Butanone (MEK)	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
Dichlorodifluoromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	2.5	Y
Chloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
Vinyl chloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.5	Y
Bromomethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.6	Y
Chloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.7	Y
Trichlorofluoromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.6	Y
1,1-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
Methylene chloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
trans-1,2-Dichloroethene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.99	Y
1,1-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y
cis-1,2-Dichloroethene	8	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
Chloroform	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y
Bromochloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.9	Y
1,1,1-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
Cyclohexane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:48	JGH	0.71	Y
2-Hexanone	Not detected	ug/L	50	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
Carbon tetrachloride	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.98	Y
Benzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.00	Y
1,2-Dichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.78	Y
Trichloroethene	14	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
1,2-Dichloropropane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y
Bromodichloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.1	Y
Methyl cyclohexane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y
cis-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.97	Y
Toluene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
trans-1,3-Dichloropropene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
1,1,2-Trichloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
Tetrachloroethene	271	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84784.17 (continued)

Sample Tag: MW-8SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
1,2-Dibromoethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.5	Y
Chlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.84	Y
Ethylbenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.3	Y
Total Xylenes	Not detected	ug/L	20	SW5030C/8260C	11/03/17 16:48	JGH	3.3	Y
Styrene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.89	Y
Isopropylbenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
Bromoform	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.1	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.90	Y
1,3-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.2	Y
1,4-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.1	Y
1,2-Dichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.4	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	0.96	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	5	SW5030C/8260C	11/03/17 16:48	JGH	1.0	Y

Y-Elevated reporting limit due to high target concentration



Analytical Laboratory Report

Lab Sample ID: S84784.18

Sample Tag: MW-9

Collected Date/Time: 10/30/2017 10:00

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 22:00	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 22:00	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.18	
Acetone	2.01	ug/L	10	SW5030C/8260C	11/03/17 15:42	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/03/17 15:42	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/03/17 15:42	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/03/17 15:42	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.28	
Tetrachloroethene	0.31	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.18 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/03/17 15:42	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 15:42	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.19

Sample Tag: MW-9SB

Collected Date/Time: 10/30/2017 10:20

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 22:21	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 22:21	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.18	
Acetone	2.61	ug/L	10	SW5030C/8260C	11/03/17 16:04	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/03/17 16:04	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.26	
Chloroform	0.40	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	J
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/03/17 16:04	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/03/17 16:04	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.19 (continued)

Sample Tag: MW-9SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/03/17 16:04	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/03/17 16:04	JGH	0.20	



Analytical Laboratory Report

Lab Sample ID: S84784.20

Sample Tag: BD-1

Collected Date/Time: 10/30/2017 00:01

Matrix: Groundwater

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 22:42	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 22:42	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.18	
Acetone	3.81	ug/L	10	SW5030C/8260C	11/02/17 23:38	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 23:38	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 23:38	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 23:38	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.28	
Tetrachloroethene	189	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.20 (continued)

Sample Tag: BD-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 23:38	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.24	
1,4-Dichlorobenzene	0.31	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.23	J
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 23:38	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.21

Sample Tag: TB-10/30/17

Collected Date/Time: 10/30/2017 00:01

Matrix: Liquid

COC Reference: 108387

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	4.3	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Extraction / Prep.								
pH check for VOCs*	<2	STD Units		N/A	11/02/17 14:00	JML		
Organics - Volatiles								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	11/09/17 16:25	JGH		
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	11/09/17 16:25	JGH		
TCL Volatile Organics 8260								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.18	
Acetone	1.56	ug/L	10	SW5030C/8260C	11/02/17 17:25	JGH	0.56	J
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:25	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.27	
Methylene chloride	0.47	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.29	J
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:25	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	11/02/17 17:25	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL



Analytical Laboratory Report

Lab Sample ID: S84784.21 (continued)

Sample Tag: TB-10/30/17

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
Organics - Volatiles (continued)								
TCL Volatile Organics 8260 (continued)								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	11/02/17 17:25	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	11/02/17 17:25	JGH	0.20	



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C.O.C. PAGE # 1 OF 2

108386

REPORT TO

CONTACT NAME **Mark A. Randazzo**
COMPANY **O'Brien & Gere Engineers, INC.**
ADDRESS **50 Main St, Suite 1060**
CITY **White Plains**
PHONE NO. **781-883-6432** FAX NO.
E-MAIL ADDRESS **Mark.randazzo@obg.com**
P.O. NO. QUOTE NO.

CHAIN OF CUSTODY RECORD

CONTACT NAME **SAME** SAME
COMPANY
ADDRESS
CITY
PHONE NO. STATE ZIP CODE
E-MAIL ADDRESS

INVOICE TO

PROJECT NO./NAME **15 Holland Ave**

SAMPLER(S) - PLEASE PRINT/SIGN NAME
Mark Randazzo

TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER

DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER

MATRIX **GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID**
CODE: **SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE**

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives					02/26/0	Certifications	
	DATE	TIME				None	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH		
84784.01	10/30/17	1415	MW-1	GW	3	X							
	02	10/30/17 1330	MW-2	GW	3	X							
	03/04/17	10/30/17 1400	MW-2SB	GW	3	X							
	06	10/30/17 1315	MW-2DB	GW	3	X							
	07	10/30/17 1445	MW-4S	GW	3	X							
	08	10/30/17 1500	MW-4D	GW	3	X							
	09	10/30/17 1200	MW-5	GW	3	X							
	10	10/30/17 1145	MW-5SB	GW	3	X							
	11	10/30/17 1130	MW-5DB	GW	3	X							
	12	10/30/17 0830	MW-6	GW	3	X							
	13	10/30/17 0840	MW-6SB	GW	3	X							
	14	10/30/17 0910	MW-7	GW	3	X							

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION			
RELINQUISHED BY: SIGNATURE/ORGANIZATION			
RECEIVED BY: SIGNATURE/ORGANIZATION			
RELINQUISHED BY: SIGNATURE/ORGANIZATION			
RECEIVED BY: SIGNATURE/ORGANIZATION			

RELINQUISHED BY: SIGNATURE/ORGANIZATION	DATE	TIME		
RECEIVED BY: SIGNATURE/ORGANIZATION				
RELINQUISHED BY: SIGNATURE/ORGANIZATION				
RECEIVED BY: SIGNATURE/ORGANIZATION				
RELINQUISHED BY: SIGNATURE/ORGANIZATION				
RECEIVED BY: SIGNATURE/ORGANIZATION				
SEAL NO.	SEAL INTACT	INITIALS	NOTES:	TEMP. ON ARRIVAL
	YES <input type="checkbox"/>	NO <input type="checkbox"/>		43
SEAL NO.	SEAL INTACT	INITIALS	NOTES:	Shipped FedEx
	YES <input type="checkbox"/>	NO <input type="checkbox"/>		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Merit
Laboratories, Inc.

2680 East Lansing Dr., East Lansing, MI 48823
Phone (517) 332-0167 Fax (517) 332-4034
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C.O.C. PAGE # 2 OF 2

108387

REPORT TO

CONTACT NAME	Mark A. Randa 780		
COMPANY	O'Brien & Gere Engineers, Inc.		
ADDRESS	50 Main St., Suite 1060		
CITY	White Plains	STATE	ZIP CODE
PHONE NO.	781-883-6432	FAX NO.	P.O. NO.
E-MAIL ADDRESS	Mark.Randa@oog.com		

CHAIN OF CUSTODY RECORD

INVOICE TO

CONTACT NAME	SAME		
COMPANY			
ADDRESS			
CITY	STATE	ZIP CODE	
PHONE NO.	E-MAIL ADDRESS		

ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)

PROJECT NO./NAME	1-5 Holland Ave	SAMPLER(S) - PLEASE PRINT/SIGN NAME
------------------	-----------------	-------------------------------------

TURNAROUND TIME REQUIRED 1 DAY 2 DAYS 3 DAYS STANDARD OTHER

DELIVERABLES REQUIRED STD LEVEL II LEVEL III LEVEL IV EDD OTHER

MATRIX GW=GROUNDWATER WW=WASTEWATER S=SOIL L=LIQUID SD=SOLID
CODE: SL=SLUDGE DW=DRINKING WATER O=OIL WP=WIPE A=AIR W=WASTE

Containers &
Preservatives

8260

Certifications	
<input type="checkbox"/> OHIO VAP	<input type="checkbox"/> Drinking Water
<input type="checkbox"/> DoD	<input type="checkbox"/> NPDES
Project Locations	
<input type="checkbox"/> Detroit	<input checked="" type="checkbox"/> New York
<input type="checkbox"/> Other	

Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	NONE	HCl	HNO ₃	H ₂ SO ₄	NaOH	MeOH	OTHER
	DATE	TIME										
84784.15	10/30/17	0930	MW-7SB	GW	3	X				X		
.16	10/30/17	1045	MW-8	GW	3	X				X		
.17	10/30/17	1100	MW-8SB	GW	3	X				X		
.18	10/30/17	1000	MW-9	GW	3	X				X		
.19	10/30/17	1020	MW-9SB	GW	3	X				X		
.20	10/30/17	-	BD-1	GW	3	X				X		
.21	-	-	TB-10/30/17	-	1	X				X		

RELINQUISHED BY: SIGNATURE/ORGANIZATION	Mark A. Randa	Sampler	DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION				
RELINQUISHED BY: SIGNATURE/ORGANIZATION	RedEx		DATE	TIME
RECEIVED BY: SIGNATURE/ORGANIZATION	JM Smith		DATE	TIME

RELINQUISHED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
RECEIVED BY: SIGNATURE/ORGANIZATION		DATE	TIME	
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES:	TEMP. ON ARRIVAL
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS		

PLEASE NOTE: SIGNING ACKNOWLEDGES ADHERENCE TO MERIT'S SAMPLE ACCEPTANCE POLICY ON REVERSE SIDE



Data Usability Summary Report



DATA VALIDATION MEMORANDUM

TO: Mark Randazzo, CPG
FROM: KA Storne
RE: Data Usability Summary Report for One Holland Avenue Site, Sampling October 2017
FILE: 14206/65459.100.016/100
DATE: January 15, 2018

cc: Douglas Crawford, PE

This Data Usability Summary Report (DUSR) presents the results of data validation performed for groundwater samples collected by O'Brien & Gere (OBG) in October 2017 as part of the 1-5 Holland Avenue, Site Management Plan (SMP) in White Plains, New York.

Merit Laboratories, Inc. (Merit) of East Lansing, Michigan performed the laboratory analyses for the sampling event. The laboratory packages contain summary forms for quality control analysis and supportive raw data.

The analysis performed for this sampling event is summarized in Table 1.

Table 1. Analytical Methods and References

Parameter	Method	Reference
Volatile Organic Compounds (VOCs)	USEPA Method 8260B/8260C/SIM	1

Notes:

1. United States Environmental Protection Agency (USEPA). 2006. *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods, SW-846*, 3rd Edition. Washington D.C.

2. **SIM indicates selected ion monitoring.**

The samples submitted for data validation are summarized in attached Table 2. Table 3 presents the specific data validation approach applied to data generated for this investigation. Table 4 presents the Laboratory QA/QC analysis definitions.

Full validation was performed on the samples collected for this sampling event.

The analytical data generated for this investigation were evaluated by O'Brien & Gere using the quality assurance/quality control (QA/QC) information presented in the following document:

- O'Brien & Gere. 2010. *Quality Control Document (QCD), 1 - 5 Holland Avenue Site White Plains, New York*. Syracuse, New York.

Data affected by excursions from the previously mentioned QA/QC criteria were qualified using the following USEPA data validation guidance and professional judgment:

- USEPA. 2014. *USEPA Region II Validating Volatile Organic Compounds by Gas Chromatography/Mass Spectrometry SW-846 Method 8260B & 8260C, SOP HW-24 Revision 4*.

Qualifiers were applied to data that failed to meet the quality control criteria presented in the USEPA methods and the QCD applying professional judgement.

The validation included evaluating the following audit parameters:

- QCD compliance
- Chain-of-custody record
- Sample collection
- Holding times



DATA VALIDATION MEMORANDUM

- Calibrations
- Blank analysis
- Surrogate results
- Matrix spike/ matrix spike duplicate (MS/MSD) analysis
- Laboratory control sample (LCS) analysis
- Internal standards performance
- Field duplicate analysis
- Gas chromatography/mass spectrometry (GC/MS) instrument performance check
- Target analyte quantitation, identification, and quantitation limits (QLs); and
- Documentation completeness.

The following sections of this report present the results of the comparison of the analytical data to the QA/QC criteria specified above. Based on the QA/QC information review, an overall evaluation of data usability is also presented in the final section.

VOLATILE ORGANIC COMPOUND DATA EVALUATION SUMMARY

The following QA/QC parameters were found to meet method and validation criteria or did not result in additional qualification of sample results:

- QCD compliance
- Sample collection
- Holding times
- Surrogate results
- MS/MSD analysis
- LCS analysis
- Internal standards performance
- Field duplicate analysis
- GC/MS instrument performance check
- Target analyte identification

Excursions from method or validation criteria and additional observations are described below.

I. CHAIN OF CUSTODY RECORD

For the samples collected 10/30/17, the courier tracking number was not listed on the chain-of-custody record.

II. DOCUMENTATION COMPLETENESS

Supplemental laboratory information and revised data was requested during data validation. This was required to complete the validation process.

III. CALIBRATIONS

The following results were qualified as approximate (UJ, J) due to minor calibration accuracy excursions:



DATA VALIDATION MEMORANDUM

- Results for dichlorodifluoromethane in samples MW-1, MW-2, MW-2SB, MW-2DB, MW-4S, MW-5, MW-5SB, MW-5DB, MW-6, MW-6SB, MW-7, MW-7SB, MW-8, BD-1 [MW-4D] and TB-10/30/17.
- Results for 1,2-dibromo-3-chloropropane in samples MW-1, MW-2, MW-2SB, MW-2DB, MW-4S, MW-4D, MW-5, MW-5SB, MW-5DB, MW-6, MW-6SB, MW-7, MW-7SB, MW-8, MW-8SB, MW-9, MW-9SB, BD-1 [MW-4D] and TB-10/30/17.

IV. BLANK ANALYSIS

The following results were qualified as non-detected (U) due to minor blank representativeness excursions:

- Result for acetone in samples MW-1, MW-2, MW-2SB, MW-2DB, MW-4S, MW-4D, MW-5, MW-5SB, MW-5DB, MW-6, MW-6SB, MW-7, MW-7SB, MW-8, MW-9, MW-9SB and BD-1 [MW-4D].

V. TARGET ANALYTE QUANTITATION AND QLS.

Samples were analyzed for VOCs using dilution analyses since target analyte concentrations were detected above the analytical calibration range.

Sample results detected at concentrations greater than laboratory MDLs but less than laboratory QLs were qualified as approximate (J).

DATA USABILITY

The groundwater samples collected as part of the 1-5 Holland Avenue Site in White Plains, New York were evaluated based on QA/QC criteria established by methods as listed in Table 1 and the data validation approach as described in Table 3.

Major deficiencies in the data generation process would have resulted in results being rejected, indicating that the rejected data are considered unusable for either quantitative or qualitative purposes. Major excursions were not identified during the validation process. Minor deficiencies in the data generation process resulted in sample data being characterized as approximate or non-detected as specified above.

A discussion of the data quality with regard to the data usability parameters follows:

Precision: Data were not rejected for precision excursions.

Sensitivity: Sensitivity is established by QLs, which represent measurable concentrations of analytes which can be determined with a designated level of confidence, that meet project requirements. Dilutions were performed for analyses due to elevated concentrations of target analytes in the samples.

Accuracy: Results were not rejected due to major accuracy excursions.

Representativeness: Results were not rejected due to major representativeness excursions.

Comparability: Data usability with respect to comparability is 100 percent, as standardized analytical methods, QLs, reference materials, and data deliverables were used throughout the data generation process for this project.

Completeness: Overall data usability with respect to completeness is 100 percent for the complete data set. Therefore, the data were identified as usable for qualitative and quantitative purposes.

TABLE 2 | SAMPLE CROSS REFERENCE TABLE

Sample collected and submitted for data validation

Laboratory Name	Date Collected	Laboratory Identification	Client Identification	Matrix	Analysis Required
Merit	10/30/2017	S84784.01	MW-1	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.02	MW-2	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.03	MW-2SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.04	MW-2SB MS	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.05	MW-2SB MSD	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.06	MW-2DB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.07	MW-4S	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.08	MW-4D	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.09	MW-5	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.10	MW-5SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.11	MW-5DB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.12	MW-6	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.13	MW-6SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.14	MW-7	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.15	MW-7SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.16	MW-8	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.17	MW-8SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.18	MW-9	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.19	MW-9SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.20	BD-1 [MW-4D]	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	10/30/2017	S84784.21	TB-10/30/17	Aqueous	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260

Note:

Merit indicates Merit Laboratories, Inc. of East Lansing, Michigan.

VOCs indicates volatile organic compounds.

SIM indicates selected ion monitoring.

TB indicates trip blank.

MS/MSD indicates matrix spike/matrix spike duplicate.

BD indicates field duplicate.

The location in brackets indicates the field duplicate sampling location.



TABLE 3

O'Brien & Gere Data validation approach based on USEPA Region II data validation guidelines for the following SW-846 analytical method: VOCs (8260C)

General Validation Approach	The validation approach taken by O'Brien & Gere is a conservative one; qualifiers are applied to sample data to indicate both major and minor excursions so that data associated with any type of excursion are identified to the data user. Major excursions result in data being rejected (R), indicating that the data are considered unusable for either quantitative or qualitative purposes. Minor excursions result in sample data being qualified as approximate (J, UJ, JN) or non-detected (U) that is otherwise usable for quantitative or qualitative purposes.
Applying professional judgment	Excursions are subdivided into excursions that are within the laboratory's control and those that are out of the laboratory's control. Excursions involving laboratory control sample recovery, calibration response, method blank excursions, low or high spike recovery due to inaccurate spiking solutions or poor instrument response, holding times, interpretation errors, and quantitation errors are within the control of the laboratory. Excursions resulting from matrix spike recovery, serial dilution recovery, surrogate, and internal standard performance due to interference from the matrix of the samples are examples of those excursions that are not within the laboratory's control if the laboratory has followed proper method procedures, including performing appropriate cleanup techniques.
Validation Parameter	USEPA data validation directs professional judgment to be used when applying qualifiers in some cases. When utilizing professional judgment, provide justification for actions taken in the associated validation notes.
Validation Qualifiers - Organics	O'Brien & Gere Data Validation Approach based on Region II guidelines for SW-846 method. Since Region II guidelines available for metals apply only to the CLP method, only the general approach to applying qualifiers was utilized for metals and inorganics. U - The analyte was analyzed for, but was not detected at a level greater than or equal to the level of the quantitation limit (QL). J - The analyte was positively identified and the associated numerical value is the approximate concentration of the analyte in the sample (due either to the quality of the data generated because certain quality control criteria were not met, or the concentration of the analyte was below the QL). NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration. UJ - The analyte was not detected at a level greater than or equal to the QL. However, the QL is approximate and may be inaccurate or imprecise. R - The sample results are unusable due to the quality of the data generated because certain criteria were not met. The analyte may or may not be present in the sample.
Cooler Temperature	Results for samples submitted for organic and inorganic analyses that are impacted by coolers that did not contain ice, or if the ice melted upon receipt and the cooler temperatures are greater than 10°C, are qualified as approximate (UJ, J). If samples are delivered to the laboratory the same day as sample collection and samples did not have sufficient time to reach 10°C, samples are not qualified, unless proper preservation was not provided for samples between sample collection and sample receipt at the laboratory. Results for samples received at ambient temperature involved in extended shipment-day issues may be rejected, applying professional judgment.



TABLE 3

O'Brien & Gere Data validation approach based on USEPA Region II data validation guidelines for the following SW-846 analytical method: VOCs (8260C)

Holding Time	Results for samples analyzed less than two times the holding time window established in the method or the QAPP for preparation and/or analysis are qualified as approximate (UJ, J). Non-detected results for samples analyzed greater than two times the holding time window for preparation and/or analysis are rejected (R). Detected results for samples analyzed greater than two times the holding time window for preparation and/or analysis are qualified as approximate (J). The entire sample target list for a VOC sample impacted by a holding time excursion is qualified.
General Calibration Actions	Due to relative standard deviation (RSD) calibration excursions, detected results for analytes in samples associated with the calibration are qualified as approximate (J). Non-detected results associated with RSD excursions may be qualified as approximate (UJ) based on professional judgment. If the RSD calibration excursion is greater than 90, detected results for analytes in samples associated with the calibration are qualified as approximate (J) and non-detected results may be rejected (R), applying professional judgment.
VOCs Calibration Evaluation	Due to %D calibration verification excursions, detected and non-detected results for analytes in samples associated with the calibration are qualified as approximate (J, UJ). The response direction and detection of target analytes in associated sample may be considered in applying qualifiers. For response factor excursions, detected results are qualified as approximate (J) and non-detected results are rejected (R). For initial calibration verifications (ICV) excursions, detected and non-detected results for analytes in samples associated with the calibration are qualified as approximate (J, UJ). The response direction and detection of target analytes in associated sample may be considered in applying qualifiers.
Associating samples with Field and Laboratory QC Samples	VOC target analytes are evaluated using the criteria of 20 percent relative standard deviation (%RSD) or correlation coefficient of 0.990 for initial calibration curves. Calibration verifications are evaluated using a criterion of 20 percent difference (%D) for target analytes. Initial calibrations and calibration verifications are also evaluated using the response factor (RF) criteria described in the method Table 4. If not listed on the Table, RF ≥ 0.05 , RF ≥ 0.01 for other poor responding analytes. ICV recoveries are evaluated using laboratory control limits if available or 70 to 130%.
	Trip blanks are associated with samples in the same sample cooler. Equipment blanks (Rinsate blanks) are associated with samples collected in the same day (or sampling event) using the same sample collection equipment and decontamination solutions. When sampling equipment or decontamination solutions are changed, a new equipment blank should be collected. Each sample should be associated with one equipment blank, which is collected as close to the sample collection date/time as possible. Use professional judgment. Field blanks are associated with the sample containers used to collect samples. When sampling container lots are changed, a new field blank should be collected.

TABLE 3

O'Brien & Gere Data validation approach based on USEPA Region II data validation guidelines for the following SW-846 analytical method: VOCs (8260C)

	<p>Method blanks are associated with samples prepared at the same time (if preparation is required) or analyzed in the same analytical batch as the samples. Method blanks should reflect the sample matrix type (aqueous, low level solid, medium level solid).</p>
	<p>LCSs are associated with samples prepared at the same time (if preparation is required) or analyzed in the same analytical batch as the samples.</p>
	<p>MS/MSD and laboratory duplicate samples are collected in the field. The laboratory must prepare using project samples. MS/MSDs and laboratory duplicates are associated with samples prepared at the same time or close to the same time (if preparation is required) with the same matrix type.</p>
	<p>Field duplicates are collected in the field and are associated with samples of the same matrix type.</p>
	<p>In the case that insufficient QC samples are provided due to field or laboratory problems, use professional judgment to associate each sample with a QC sample that reflects the sample matrix and analysis conditions. If insufficient QC samples are available to properly associate samples, record the impact in the DV notes.</p>
Evaluation and Action for MS/MSD, LCS,	<p>The laboratory control limit (CL) is used to assess MS/MSD, LCS, surrogate and laboratory duplicate data. Refer to Region II guidelines if laboratory control limits are not available.</p>
Surrogate and Laboratory Duplicate Data for VOCs	<p>In the case that excursions are identified in more than one quality control sample of the same matrix within one sample delivery group, samples are batched according to sample preparation or analysis date and qualified accordingly (see batching description above)</p> <p>If percent recoveries are less than laboratory CLs but greater than 10%, non-detected and detected results are qualified as approximate (UJ, J).</p> <p>If percent recoveries are greater than laboratory CLs, detected results are qualified as approximate (J).</p> <p>If percent recoveries are less than 10%, detected results are qualified as approximate (J) and non-detected results are qualified as rejected (R).</p> <p>If RPDs for MSDs or laboratory duplicates are outside of laboratory CLs, detected results are qualified as approximate (J). Non-detected results may not be qualified, applying professional judgment.</p> <p>Qualification is performed only when both MS and MSD recoveries are outside of laboratory CLs.</p> <p>Organic data are rejected (R) in the case that both MS/MSD recoveries are less than 10%.</p> <p>Qualification is not performed if MS/MSD or surrogate recoveries are outside of laboratory CLs with an analysis that applied a dilution factor of 10 times or more, applying professional judgment.</p> <p>Qualification of data associated with MS/MSD or field duplicate excursions is limited to the un-spiked sample or the field duplicate pair, respectively.</p> <p>Field duplicate data are evaluated against relative percent difference (RPD) criteria of less than 50 percent for aqueous samples and less than 100 percent for soils when results are greater than or equal to five times the QL. When a field duplicate result is less than five times the QL, a control limit of plus or minus two times the QL (difference criterion) is applied. If RPDs or differences are outside of criterion, detected and non-detected results are qualified as approximate (UJ, J) to indicate minor excursions.</p>
Evaluation of MS/MSD, Surrogate, and Field Duplicate Data for VOCs	

O'Brien & Gere Data validation approach based on USEPA Region II data validation guidelines for the following SW-846 analytical method: VOCs (8260C)

Blanks are not qualified due to contamination of another blank.

Sample results qualified as non-detected (U) are treated as hits when qualifying for surrogate or calibration excursions.

The following approach is utilized for applying qualifiers, using twice the quantitation limit (QL) for methylene chloride, 2-butanone and acetone:

1. For blank results less than the QL, samples with concentrations less than the QL are reported at the QL and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL are not qualified or may apply the Blank Rule Option.
2. For blank results greater than the QL, samples with concentrations less than the QL are reported at the QL and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL and less than the blank contamination level are reported and qualified as non-detected (U). Samples with concentrations greater than or equal to the QL and greater than or equal to the blank contamination level are not qualified or may apply the Blank Rule Option.
3. For blank results equal to the QL, sample concentrations less than the QL are reported at the QL value and qualified as non-detected (U). Samples greater than or equal to the QL are not qualified or may apply the Blank Rule Option.
4. For gross contamination in blanks (saturated peaks, interference peaks, poor baselines), all associated sample detected results are rejected (R) or qualified as non-detected (U) using professional judgment.

Blank Rule Option:

If methylene chloride, acetone or 2-butanone is detected in the sample at a concentration that is less than ten times the concentration in the associated blank, the sample result is qualified as "U". If other target analytes are detected in the sample at a concentration that is less than five times the concentration detected in the associated blank, the sample result is qualified as "U".

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TABLE 4

Table 4. Laboratory QA/QC analysis definitions

QA/QC Term	Definition
Accuracy	The closeness or agreement of the observed value or test response to the true or acceptable reference value or the test response from a reference method. It is influenced by both random error (precision) and systematic error (bias). The terms "bias" and "precision" are often used in lieu of "accuracy".
Precision	A measure of mutual agreement between two or more individual measurements of the same property, obtained under similar conditions.
Representativeness	A measure of the degree to which data accurately and precisely characterize a population; the correspondence between the analytical result and the actual quality or condition experienced by a contaminant receptor.
Sensitivity	The capability of a method or instrument to discriminate between measurement responses representing different levels of a variable of interest.
Completeness	A measure of the amount of valid data obtained from a measurement system as compared to the planned amount, usually expressed as a percentage; also a measure of the degree to which the sampling scheme represents the available range in something, regardless of what was planned.
Detection limit	The lowest concentration or amount of the target analyte that can be determined to be different from zero by a single measurement at a stated level of probability.
Quantitation limit	The level above which numerical results may be obtained with a specified degree of confidence; the minimum concentration of an analyte in a specific matrix that can be identified and quantified above the method detection limit and within specified limits of precision and bias during routine analytical operating conditions.
Method detection limit	The minimum concentration of an analyte that undergoes preparation similar to the environmental samples and can be reported with a stated level of confidence that the analyte concentration is greater than zero.
Instrument detection limit	The lowest concentration of a metal target analyte that, when directly inputted and processed on a specific analytical instrument, produces a signal/response that is statistically distinct from the signal/response arising from equipment "noise" alone.
Gas chromatography/mass spectrometry (GC/MS) instrument performance check	Performed to verify mass resolution, identification, and to some degree, instrument sensitivity. These criteria are not sample specific; conformance is determined using standard materials.
Control limits	The variation in a process data set expressed as plus/minus standard deviations from the mean, generally placed on a chart to indicate the upper and lower acceptable ranges of process data and to judge whether the process is in or out of statistical limitations.
Calibration	Compliance requirements for satisfactory instrument calibration are established to verify that the instrument is capable of producing acceptable quantitative data. Initial calibration demonstrates that the instrument is capable of acceptable performance at the beginning of analysis and calibration verifications document satisfactory maintenance and adjustment of the instrument on a day-to-day basis.
Relative Response Factor	A measure of the relative mass spectral response of an analyte compared to its internal standard. Relative Response Factors are determined by analysis of standards and are used in the calculation of concentrations of analytes in samples.

TABLE 4

QA/QC Term	Definition
Relative standard deviation	The standard deviation divided by the mean; a unit-free measure of variability.
Correlation coefficient	A measure of the strength of the relationship between two variables.
Relative Percent Difference	Used to compare two values; the relative percent difference is based on the mean of the two values, and is reported as an absolute value, i.e., always expressed as a positive number or zero.
Percent Difference	Used to compare two values; the percent difference indicates both the direction and the magnitude of the comparison, i.e., the percent difference may be either negative, positive, or zero.
Drift	The deviation in instrument response from its set or reference value over a period of time.
Percent Recovery	The act of determining whether or not the methodology measures all of the target analytes contained in a sample.
Blanks	Several types of blanks are analyzed by the laboratory. Corrective action procedures are implemented for blank analyses if target compounds are detected at concentrations greater than the method criteria. The criteria for evaluation of blanks apply to any blank associated with a group of samples. If problems with a blank exist, data associated with the project are evaluated to determine whether or not there is an inherent variability in the data for the project or if the problem is an isolated occurrence not affecting other data.
Reagent blank	Consists of laboratory target analyte-free water and any reagents added to a sample during analysis. This type of blank is analyzed to evaluate whether contamination occurred during the analysis of the sample due to reagent contamination. A reagent blank is usually analyzed following highly contaminated samples to assess the potential for cross-contamination during analysis.
Instrument blank	Consists of clean solvent spiked with the surrogates and analyzed on each GC column and instrument used for sample analysis by GC. This type of blank is analyzed to evaluate whether contamination occurred during the analysis of the sample due to instrument contamination.
Calibration blank	Consists of acids and reagent water used to prepare metal samples for analysis. This type of blank is analyzed to evaluate whether contamination is occurring during the preparation and analysis of the sample.
Method blank	A water or soil blank that undergoes the preparation procedures applied to a sample (i.e., extraction, digestion, clean-up). These samples are analyzed to examine whether sample preparation, clean-up, and analysis techniques result in sample contamination.
Field/equipment	Collected and submitted for laboratory analysis, where appropriate. Field/equipment blanks are handled in the same manner as environmental samples. Equipment/field blanks are analyzed to assess contamination introduced during field sampling procedures.
Trip blank	Consist of samples of analyte-free water that have undergone shipment from the sampling site to the laboratory in coolers with the environmental samples submitted for volatile organic compound (VOC) analysis. Trip blanks will be analyzed for VOCs to determine if contamination has taken place during sample handling and/or shipment. Trip blanks will be utilized at a frequency of one each per cooler sent to the laboratory for VOC analysis.



TABLE 4

QA/QC Term	Definition
Storage blank	Consists of sample vials filled with laboratory analyte-free water. The vials are stored at the laboratory with the samples collected for VOC analysis, under the same conditions as the samples. The storage blank is analyzed with the VOC samples to evaluate for contamination due to sample storage.
Internal standards performance	Compounds not found in environmental samples which are spiked into samples and quality control samples at the time of sample preparation for organic analyses. Internal standards must meet retention time and recovery criteria specified in the analytical method. Internal standards are used as the basis for quantitation of the target analytes.
Surrogate recovery	Compounds similar in nature to the target analytes but not expected to be detected in the environmental media which are spiked into environmental samples, blanks, and quality control samples prior to sample preparation for organic analyses. Surrogates are used to evaluate analytical efficiency by measuring recovery.
Laboratory control sample Matrix spike blank analyses	Standard solutions that consist of known concentrations of the target analytes spiked into laboratory analyte-free water or sand. They are prepared or purchased from a certified manufacturer from a source independent from the calibration standards to provide an independent verification of the calibration procedure. They are prepared and analyzed following the same procedures employed for environmental sample analysis to assess method accuracy independently of sample matrix effects.
Laboratory duplicate	Two or more representative portions taken from one homogeneous sample by the analyst and analyzed in the same laboratory.
Matrix	The material of which the sample is composed or the substrate containing the analyte of interest, such as drinking water, waste water, air, soil/sediment, biological material.
Matrix Spike (MS)	An aliquot of a matrix (water or soil) fortified (spiked) with known quantities of specific target analytes and subjected to the entire analytical procedure in order to indicate the appropriateness of the method for the matrix by measuring recovery.
Matrix spike duplicate (MSD)	A second aliquot of the same matrix as the matrix spike that is spiked in order to determine the precision of the method.
Retention time	The time a target analyte is retained on a GC column before elution. The identification of a target analyte is dependent on a target compound's retention time falling within the specified retention time window established for that compound.
Relative retention time	The ratio of the retention time of a compound to that of a standard.
Resolution	The separation between peaks on a chromatogram.
Interference	An element, compound, or other matrix effect present in a sample which disturbs the detection of a target analyte leading to inaccurate concentration results for the target analyte.
Percent Moisture	An approximation of the amount of water in a soil/sediment sample made by drying an aliquot of the sample.
Raw data	The documentation generated during sampling and analysis which includes, but is not limited to, field notes, hardcopies of electronic data, disks, un-tabulated sample results, QC sample results, printouts of chromatograms, instrument outputs, and handwritten notes.

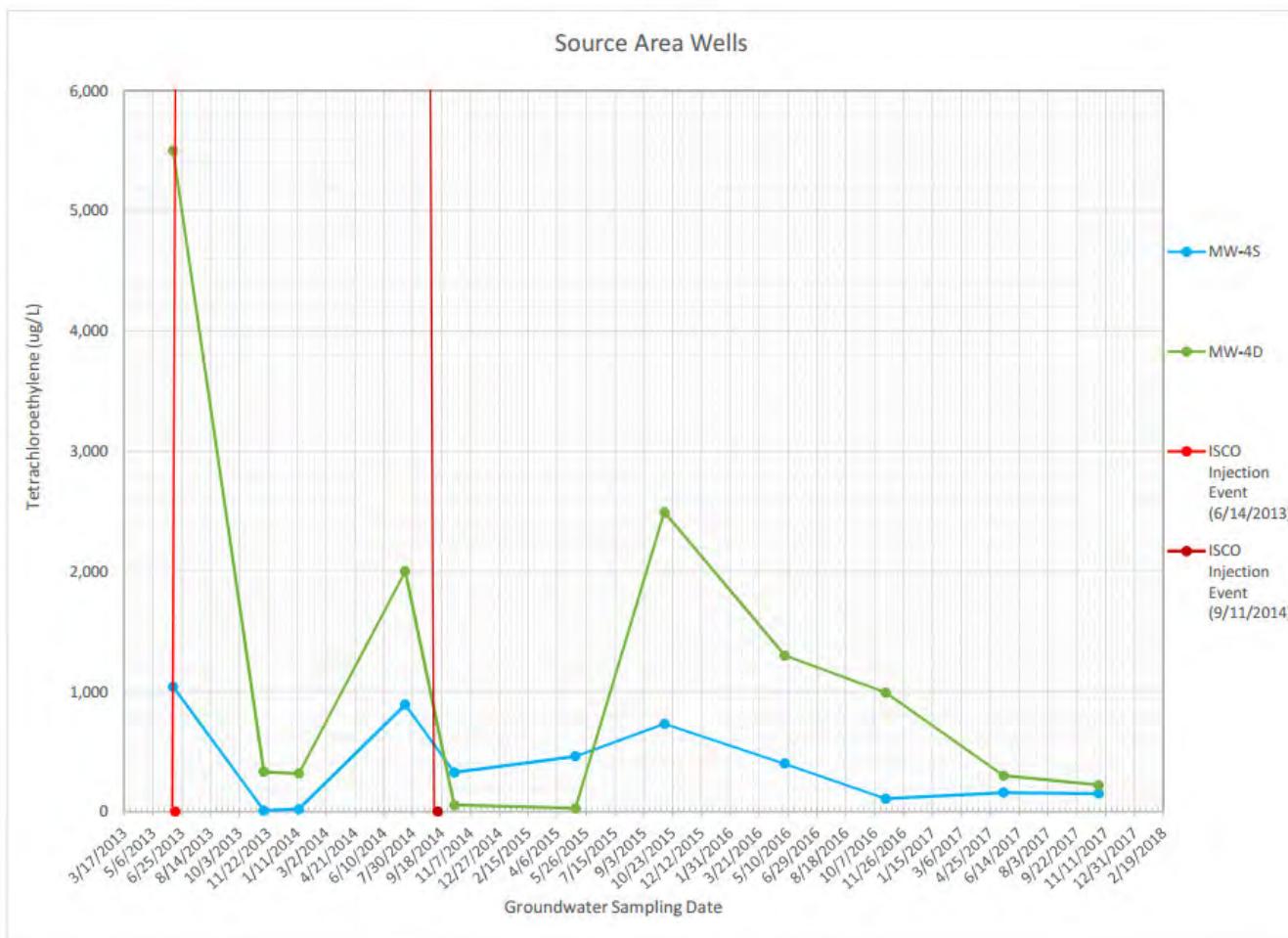
Source: O'Brien & Gere



Graphical Presentation of PCE Groundwater Data

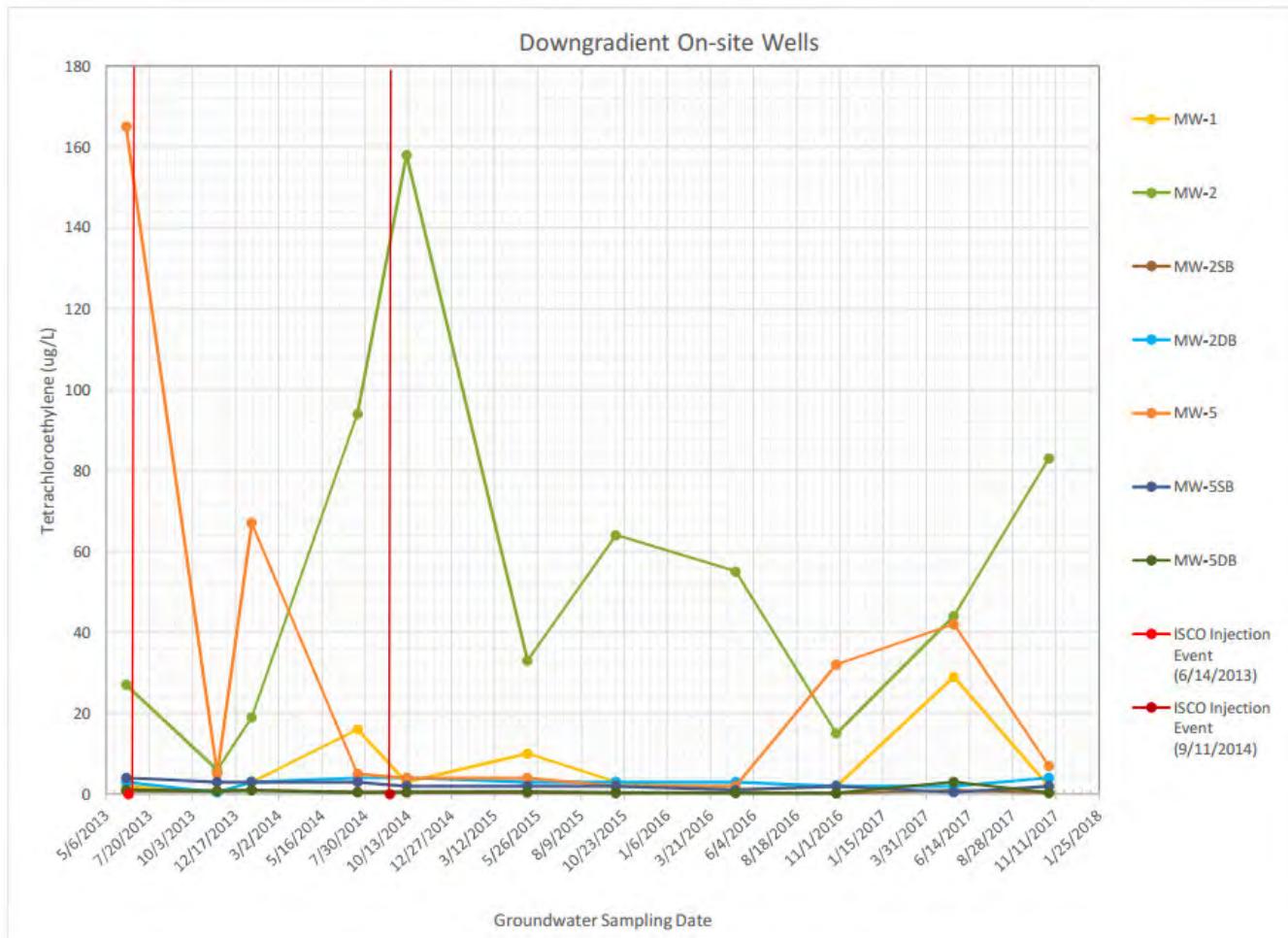
GRAPHICAL PRESENTATION OF PCE GROUNDWATER CONCENTRATIONS
BCP C360115
1-5 HOLLAND AVENUE
WHITE PLAINS, NEW YORK

SOURCE AREA WELLS



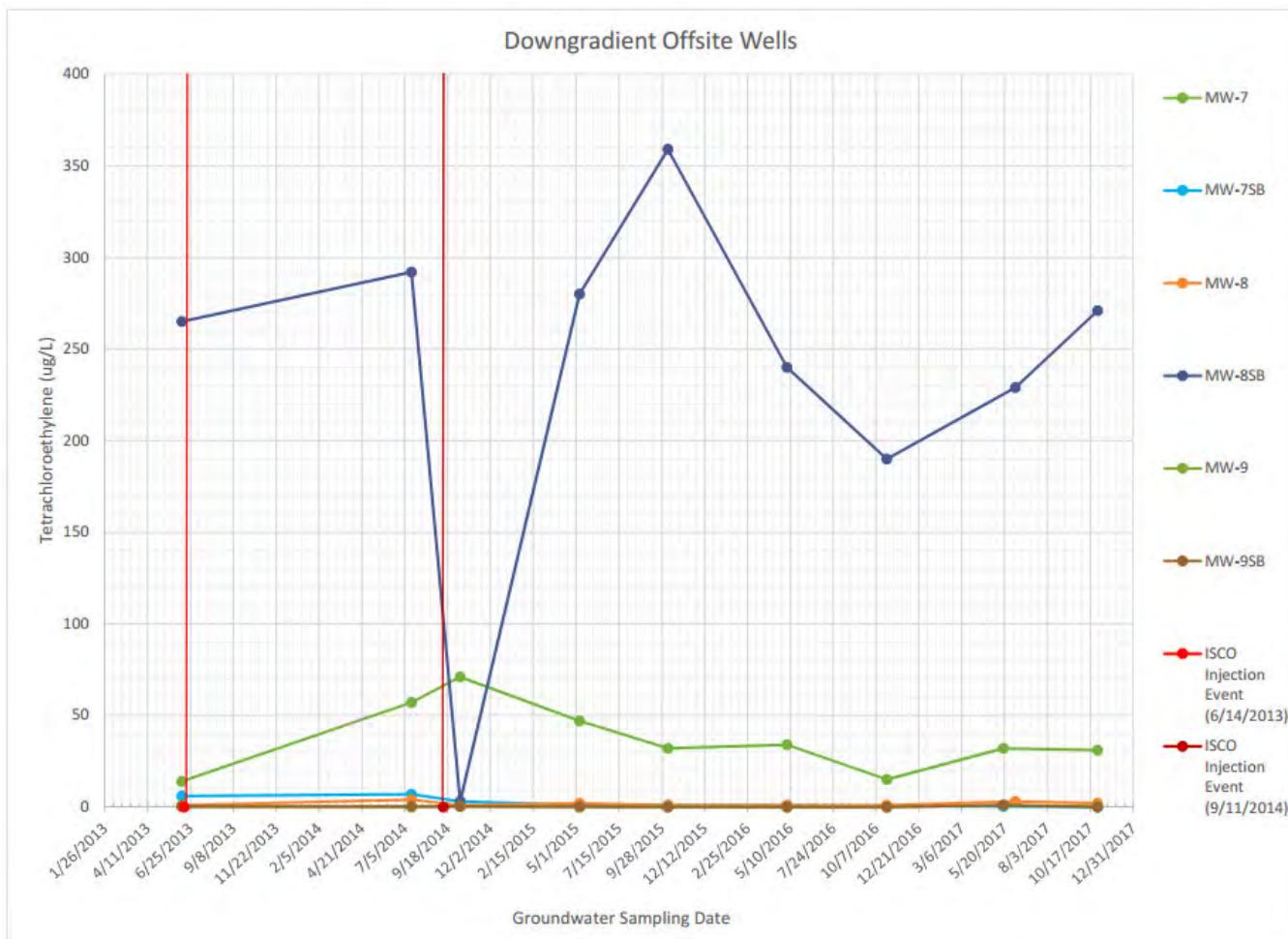
GRAPHICAL PRESENTATION OF PCE GROUNDWATER CONCENTRATIONS
BCP C360115
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WHITE PLAINS, NEW YORK

ON-SITE DOWNGRADIENT WELLS



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