

**REPORT**

## **Periodic Review Report**

**Brownfield Cleanup Program No. C360115**  
**1-5 Holland Avenue**  
**White Plains, New York**

**Prepared for:**  
*One Holland Avenue Development, LLC*

**Prepared by:**  
*O'Brien & Gere Engineers, Inc.*

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## Periodic Review Report

**1-5 Holland Avenue Site  
White Plains, New York**

Prepared for:

One Holland Avenue Development, LLC  
11280 Cornell Park Drive  
Cincinnati, Ohio 45242

Prepared by:

O'Brien & Gere Engineers, Inc.  
50 Main Street, Suite 1060  
White Plains, New York 10101  
(781) 883-6432

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PERIODIC REVIEW REPORT

## EXECUTIVE SUMMARY

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### Site Summary

The 1-5 Holland Avenue Site, located in White Plains, New York, is an approximately 0.72-acre property that is fully developed with a building and parking lots. Past commercial/industrial use of the Site resulted in contamination of groundwater, soil, and subsurface soil-vapor with tetrachloroethylene (PCE) and its degradation products. Observed concentrations of PCE in groundwater are highest near the suspected source area (former floor drains), and PCE was also found exceeding groundwater standards at the downgradient property boundary and in downgradient off-site wells. Concentrations of contaminants in soils were generally found to be within regulatory criteria (6 NYCRR Part 375-6 Commercial and Protection of Groundwater Soil Cleanup Objectives) with the exception of low levels of lead, mercury, copper, arsenic and semi-volatile organic compounds attributed to historic urban fill at the Site. The property was enrolled in the Brownfield Cleanup Program in December 2010 by the former owner One Holland Avenue Development LLC (OHAD). The remedial program was developed, approved by New York State Department of Environmental Conservation (NYSDEC), and implemented between March 2011 and December 2014. The NYSDEC issued a Certificate of Completion for the Site on December 23, 2014. The following NYSDEC approved changes to the Site Management Plan (SMP) have occurred since its approval in 2014:

- Potential vapor intrusion monitoring at 2 Holland Avenue was eliminated
- Groundwater sampling frequency was reduced from semi-annual to annual
- Upgradient off-site wells were decommissioned

### Remedial Program and Effectiveness

A Remedial Program was implemented that includes the following major elements: 1) two rounds of *in situ* chemical oxidation (ISCO) were used to treat groundwater in the suspected source area, 2) an engineering control (EC) comprising a sub-slab depressurization (SSD) system was installed to mitigate potential for vapor intrusion (VI) at the Site and the neighboring 7-11 Holland Avenue building, 3) an EC comprising a composite site cover system was employed at the Site to prevent exposure to residual soil contamination, 4) Institutional Controls (ICs) recorded in an environmental easement to limit Site use to commercial/industrial use and to prohibit groundwater use, and 5) an Operations, Maintenance and Monitoring Plan that outlines the activities to be performed to verify that remedy performance, effectiveness and protectiveness are maintained and evaluated under the requirements of the *Site Management Plan, BCP No. C360115, 1-5 Holland Avenue, White Plains, New York* (SMP) dated December 2014 (OBG, 2014a). Off-site VI monitoring at 2 Holland Avenue has been removed from the SMP as directed by NYSDEC's Periodic Review Report (PRR) acceptance letter dated September 29, 2017. The SMP was revised to reflect this change and submitted to the NYSDEC in February 2018. In addition, in accordance with NYSDEC PRR acceptance letter dated October 17, 2018, upgradient wells MW-6 and MW-6SB were decommissioned in December 2018 and groundwater sampling frequency was reduced from semi-annual to annual sampling.

The Remedial Program is proving effective at meeting remedial objectives for the Site. Groundwater monitoring for both on-site and off-site wells was successfully completed in May 2018. These data indicate:

- Upgradient Off-site wells – Consistent with all prior sampling rounds these wells did not exhibit concentrations of PCE
- Source area wells – A review of current and historical data indicates that the concentrations of PCE in the source area may have stabilized; however, additional data is necessary to assess if these concentrations have reached asymptotic levels.
- On-site downgradient/sidegradient wells – The 2018 round of groundwater data indicates that groundwater from two out of the seven property boundary wells exceeded the New York State Class GA groundwater standard for PCE, which is similar to the 2017 data. Consistent with the 2017 data, no PCE degradation compounds were detected in these wells above the Class GA groundwater standards.

- Downgradient Off-site wells – Consistent with the prior seven groundwater sampling events, groundwater from two (MW-7 and MS-8SB) out of the six downgradient off-site wells exceeded the Class GA standard for PCE. As detailed in the Remedial Investigation (RI) Report (OBG, 2014b), it is believed that PCE detected in these wells is the result of a source other than 1-5 Holland Avenue.

A review of the arithmetic average of PCE concentration detected in wells MW-7 and 8SB since 2011 is 36.4 µg/l and 246.3 µg/l<sup>1</sup>, respectively. This is compared to the most recent concentrations of PCE in wells MW-7 and MW-8SB detected at 68 and 360 µg/l, respectively.

#### Compliance

No areas of non-compliance regarding major elements of the SMP were identified. Periodic site inspections indicated the Site is being used and managed in compliance with the IC/EC Plan, the Monitoring Plan, and the Operations, Maintenance and Monitoring Plan.

#### Recommendations

At present no changes to the SMP are recommended.

In accordance with the SMP, the following is the Periodic Review Report for the Reporting Period of March 23, 2018 to March 23, 2019.

## 1. BACKGROUND AND SITE DESCRIPTION

One Holland Avenue Development, LLC (OHAD), located in White Plains, New York, entered into a Brownfield Cleanup Agreement (BCA) with the New York State Department of Environmental Conservation (NYSDEC) in December 2010 (last amended in August 2014), to investigate and remediate a 0.72-acre property located at 1-5 Holland Avenue, White Plains, Westchester County, New York (See **Figure 1**). The Site is bounded by Holland Avenue to the north, White Plains Rural Cemetery to the south, commercial buildings at 7-11 Holland Avenue to the east, and Harlem Line of Metro North Railroad tracks and parking area to the west (see **Figure 2**). The property was remediated to commercial use and received a NYSDEC Brownfield Cleanup Program (BCP) Certificate of Completion on December 23, 2014.

Based on historical reports and data collected during the Remedial Investigation (RI), the source of tetrachloroethylene (PCE) is believed to be from historical metal degreasing operations at the Site and possible releases through cracks in floor drains, which discharged to the sanitary sewer. The primary constituents of concern (COCs) associated with historical operations include PCE and associated degradation products: trichloroethene (TCE), 1,2-dichloroethene (cis-1,2-DCE), and vinyl chloride (VC). Secondary COCs include semi-volatile organic compounds (SVOCs) and metals in shallow soils (less than 4 feet below grade). The source of the secondary COCs is believed to be associated with urban development (*e.g.*, historical backfill, asphalt constituents) and not Site related.

As documented in the RI Report (OBG, 2014b), the nature and extent of contamination prior to implementation of remedial measures was as follows:

- **Soil:** COCs detected in soils were generally less than the regulatory screening values (6 NYCRR Part 375-6 Commercial and Protection of Groundwater Soil Cleanup Objectives(SCOs)) with some isolated exceptions.
  - » Metals in the surface and subsurface fill with concentrations exceeding the regulatory screening values were primarily limited to lead, mercury, copper and arsenic. These exceedances are considered to be related to the historic urban fill under the entire Site, and not related to historical Site activities.
  - » SVOCs were observed in the surface soil samples in the front and rear of the building. SVOC exceedances of 6 NYCRR Part 375 Restricted Commercial and Protection of Groundwater SCOS were limited to surface soil samples collected from the rear of the building. These SVOCs may be a result of vehicle emissions, asphalt dust, sealcoat paving operations and other urban factors, and are not considered to be related to historical Site activities.
- **Groundwater:** Results of groundwater sampling indicated the presence of PCE in overburden and bedrock groundwater, on-Site and along the hydraulically downgradient western edge of the property, at concentrations above the New York State (NYS) Class GA groundwater standard of 5 µg/l. The groundwater sampling event in June 2013, prior to the first of two groundwater *in situ* chemical oxidation (ISCO) treatment events, indicated the highest concentrations of PCE in suspected source area (near historic floor drains FD-2 and FD-3) wells MW-4S (overburden) and MW-4D (shallow bedrock) at 1,040 µg/l and 5,500 µg/l, respectively.

The principal transport pathway of PCE is as a dissolved constituent in the overburden groundwater. Overburden groundwater flow, and PCE transport, is to the west/northwest toward the Bronx River. Groundwater transport of PCE, toward the Bronx River, also occurs in the upper bedrock zone.

## 2. SUMMARY OF SITE REMEDY

A summary of remedial measures and objectives is as follows:

### Remedial Measures

As documented in the *Final Engineering Report* (OBG, 2014c), remedial measures for the Site are described below and detailed on **Figure 3**.

- **Surface Soil Excavation and Cover System Placement**: Surface soil excavation was conducted at the Site to remove exposed surface soil exhibiting concentrations greater than 6 NYCRR Part 375 SCOs for Commercial Use. These excavated areas were backfilled with 12 inches of clean soil or granular stone, asphalt pavement, or concrete. Excavation activities were conducted in July and September 2013 and February 2014.
- **In Situ Chemical Oxidation Groundwater Treatment**: Groundwater treatment was implemented to address chlorinated VOCs in groundwater detected at concentrations greater than the NYS Class GA groundwater standards. The groundwater treatment remedial measure consisted of ISCO using an activated sodium persulfate process to treat PCE in subsurface soil, bedrock, and groundwater. Ten injection well (IW) clusters (three injection points discharging at different depths per cluster) were installed in the suspected source area in 2013. ISCO groundwater treatment events were conducted in June 2013 and September 2014.

As detailed in the SMP, four additional components were added to the site remedy:

- Institutional Controls (ICs) in the form of an Environmental Easement
- Engineering Controls (ECs) including a Site Cover System and on-going operation of a SSD System to control the potential for VI
- Monitoring Plan to assess concentrations of COCs in groundwater, effectiveness of the SSD System to control VI, and integrity of site cover system
- Operations, Maintenance, and Monitoring Plan to maintain the existing SSD System.

### Remedial Action Objectives

Based on the results of the RI, the following Remedial Action Objectives (RAOs) were identified for this Site and were included in the Decision Document dated November 2014 (NYSDEC, 2014).

- **Groundwater RAOs**

RAOs for Public Health Protection

- » Prevent ingestion of groundwater with contaminant levels 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 contaminants from groundwater to surface water
- » Remove the source of ground or surface water contamination.

- **Soil RAOs**

RAOs for Public Health Protection

- » Prevent ingestion/direct contact with contaminated soil
- » Prevent exposure to contaminants volatilizing from contaminated soil.

RAOs for Environmental Protection

- » Prevent migration of contaminants that would result in groundwater or surface water contamination.
- Soil Vapor RAOs
  - RAOs for Public Health Protection
    - » Mitigate impacts to public health resulting from existing, or the potential for, soil vapor intrusion into buildings at and adjacent to the Site.

### 3. EVALUATION OF REMEDY PERFORMANCE, EFFECTIVENESS, AND PROTECTIVENESS

The evaluation of remedy performance, effectiveness and protectiveness for groundwater, soil, and soil vapor is presented below.

#### ■ Groundwater

The ISCO groundwater treatment combined with natural attenuation processes have resulted in substantial reduction of PCE concentrations in groundwater.

The most recent groundwater sampling results from May 2018 indicate that PCE concentrations in:

- » Upgradient Off-site wells – Consistent with all prior sampling rounds these wells (MW-6 and -6D) did not exhibit concentrations of PCE. These wells were decommissioned in December 2018.
- » Source area wells – Compared to the prior two sampling events, the PCE concentration in MW-4D and -4S are within the same order of magnitude. The absence of a significant trend in concentrations increasing or decreasing over the last three sampling events suggest that PCE concentrations may have stabilized in these wells; however, additional data is necessary to assess if concentrations have reached asymptotic levels.
- » Two out of the seven on-site hydraulically downgradient/sidegradient wells exceeded the Class GA groundwater standard, which is similar to the June 2013 results prior to ISCO groundwater treatment events.
- » Two out of the six downgradient off-site wells exceeded the Class GA groundwater standard, which is consistent with the prior six groundwater sampling events.

A review of the arithmetic mean of PCE concentration detected in wells MW-7 and 8SB since 2011 is 36.4 µg/l and 246.3 µg/l<sup>1</sup>, respectively. This mean does not include the October 10, 2014 data point of 3 ug/L, which appears to be an anomaly. This is compared to the most recent concentrations of PCE in wells MW-7 and MW-8SB detected at 68 and 360 µg/l, respectively.

A summary of PCE concentrations from 2011 to 2018 is presented below.

	10/1/11	5/1/12	6/10/13	7/17/14	10/10/14	5/7/15	10/9/15	5/04/16	10/26/16	5/18/17	10/30/17	5/15/18
<b>Source Area Wells</b>												
MW-4D	6070	6140	5500	2000	54	29	2490	1300	990	300	221	300
MW-4S	1410	1020	1040	890	327	460	730	400	107	158	151	180
<b>On-site Wells</b>												
MW-1	58	17	2	16	3	10	3	1	2	29	2	34
MW-2	72	189	27	94	158	33	64	55	15	44	83	123
MW-2DB	5	4	3	3	4	3	3	3	2	2	4	4
MW-2SB	0.67	0.1	0.78	0.52	0.48	0.34	0.24	0.36	0.22	0.2	0.37	0.43
MW-5	9	3	165	5	4	4	2	2	32	42	7	4
MW-5DB	2	4	1	0.41	0.48	0.55	0.39	0.31	0.25	3	0.34	0.28
MW-5SB	6	24	4	3	2	2	2	1	2	0.43	2	4

	10/1/11	5/1/12	6/10/13	7/17/14	10/10/14	5/7/15	10/9/15	5/04/16	10/26/16	5/18/17	10/30/17	5/15/18
<b>Off-site Wells</b>												
MW-7	<b>26.2</b>	<b>9.53</b>	14	<b>57</b>	<b>71</b>	47	32	34	15	32	<b>31</b>	68
MW-7SB	<b>24.7</b>	<b>16</b>	6	<b>7</b>	3	1	0.97	1	0.59	0.27	0.2	0.32
MW-8	<b>21.3</b>	<b>26.3</b>	1	4	1	2	1	1	1	3	2	1
MW-8SB	<b>250</b>	<b>217</b>	265	<b>292</b>	3	<b>280</b>	<b>359</b>	<b>240</b>	<b>190</b>	<b>229</b>	<b>271</b>	360
MW-9	0.47	0.33	0.18	0.2	0.38	0.1	0.25	0.25	0.31	0.2	0.31	<1
MW-9SB	1.23	1.09	0.3	0.34	0.26	0.21	0.21	0.25	0.2	0.2	0.2	0.28

**Note:** Bolded values indicate exceedance to NYS Class GA standard.  
Green highlights indicate values below NYS Class GA standard.

## ■ Soil

As detailed in the Monitoring Compliance Report (Section 5), site wide inspection of the cover system presented in the SMP continues to document that the cover system is intact and, therefore, effective at protecting the public, on-site workers, and potential utility workers from exposures of COCs.

## ■ Soil Vapor

On-site/7-11 Holland Avenue: The Site remedy to address the potential for VI includes a SSD System and Operations, Maintenance and Monitoring Plan (OMM Plan). Based on the January 7, 2019 inspection of the SSD System and assessment of negative pressure under 1-5 and 7-11 Holland Avenue, the remedy is performing as designed and is protective of on-site workers and patrons that may enter the buildings.

## 4. INSTITUTIONAL CONTROL/ENGINEERING CONTROL PLAN COMPLIANCE REPORT

Due to the presence of residual concentrations of constituents in soil, groundwater, and soil vapor beneath the Site, Institutional Controls and Engineering Controls (IC/ECs) were established to protect human health and the environment. This PRR describes the IC/ECs in place, their objectives, and performance over the PRR time period.

### ■ Engineering Controls

Two engineering controls have been implemented at the Site, which include a composite cover system and sub-slab depressurization system. A review of these ECs and their performance is presented below.

#### » Composite Cover System

The objective of the cover system is to prevent human exposure to remaining contamination in soil/fill at the Site. This cover system comprises a combination of 12 inches of clean soil or granular stone, asphalt pavement, concrete-covered sidewalks, and concrete building foundation slabs. This EC is coupled with an Excavation Work Plan that is required to be implemented in the event the cover system is breached, penetrated or temporarily removed, and underlying remaining contaminated soil is disturbed.

The composite cover system was inspected on December 20, 2018 in accordance with Section 3.4 *Site-Wide Inspection* and Attachment H *Site-Wide Inspection Form* of the SMP. Results of this inspection indicated that the composite cover system was performing as expected. A completed SMP cover system inspection form is presented in **Attachment A**.

#### » VI Mitigation Sub-Slab Depressurization System

The SSD System was installed with the objective of maintaining acceptable indoor air concentrations at the 1-5 Holland Ave and 7-11 Holland Ave buildings by inducing a sub-slab vacuum. A visual inspection of the SSD System was conducted on January 7, 2019 in accordance with the OMM Plan presented in Appendix J of the SMP. This inspection was conducted to verify that the SSD System installed at 1-5 Holland Avenue was operating as designed, and providing depressurization beneath the slab at 1-5 Holland Avenue and in the western portion of 7-11 Holland Avenue. Some components of the SSD System installed at 1-5 Holland Avenue are no longer accessible due to building modifications (five of the eleven system suction points are not accessible following installation of the storage units); however, the system fans are electronically monitored to indicate they are still in operation.

Results of the SSD inspection did not identify needed corrective actions to the SSD System. The completed SSD System inspection forms are presented in **Attachment A**. Additional information on the SSD Systems' performance and corrective actions taken are detailed in the OMM Plan Compliance Report presented in Section 6.

The SSD System will be operational until a request to terminate the system along with supporting environmental data is submitted to and approved by the NYSDEC and NYSDOH.

### ■ Institutional Controls

Institutional Controls required by the BCP Decision Document (NYSDEC, 2014) include: (1) implement, maintain and monitor Engineering Control systems; (2) prevent future exposure to remaining contamination by controlling disturbances of the subsurface contamination; and, (3) limit the use and development of the Site to Commercial and Industrial uses only. Adherence to these Institutional Controls on the Site is required by the Environmental Easement (Westchester County, Control No. 542943402).

Institutional Controls currently in-place in the form of required activities identified in the Environmental Easement are as follows:

- » Compliance with the Environmental Easement and SMP
- » Operation and maintenance of ECs

- » Implementing an inspection program for ECs
- » Monitoring of groundwater
- » Reporting data and information collected as part of the SMP at the required frequency.

Institutional Controls currently in-place in the form of Site restrictions identified in the Environmental Easement are as follows:

- » The property may only be used for restricted commercial and industrial use
- » The property may not be used for a higher level of use, such as unrestricted, residential or restricted residential use without additional remediation and amendment of the Environmental Easement, as approved by the NYSDEC
- » All future activities on the property that will disturb remaining contaminated material must be conducted in accordance with the SMP
- » The use of the groundwater underlying the property is prohibited without treatment rendering it safe for intended use
- » The potential for vapor intrusion must be evaluated for any new structure on the property, or any horizontal expansion of an existing structure on the property, and any potential impacts that are identified must be monitored or mitigated
- » Vegetable gardens and farming on the property are prohibited

The completed and New York State Professional Engineer signed IC/EC Certification Form is presented in **Attachment B**.

## 5. MONITORING PLAN COMPLIANCE REPORT

### ■ Components of Monitoring Plan

The Monitoring Plan for the Site consists of the following three components:

- » Groundwater monitoring for VOCs is conducted annually and includes fifteen groundwater monitoring wells. Monitoring is conducted to assess the performance of the ISCO injection events conducted in 2013/2014 and natural attenuation of COCs. As requested in the PRR for reporting year March 23, 2017 – March 23, 2018 and subsequent approval by NYSDEC upgradient wells (MW-6 and MW-6D) were decommissioned in December 2018 and groundwater sampling frequency was changed from semi-annual to annual. The SMP was updated to reflect these changes and copies were provided to the NYSDEC- Headquarters, White Plains Public Library and NYSDEC Region 3 office in accordance with Citizen Participation Plan (OBG, 2011) requirements.
- » Site-Wide Inspections are to be conducted once per year at the level of detail necessary to assess compliance with ICs, condition and effectiveness of ECs, including sub-slab depressurization at 7-11 Holland Avenue.

### ■ Summary of PRR Monitoring Activities

Monitoring conducted during this PRR period was as follows:

- » Groundwater sampling was conducted on May 15, 2018. A groundwater monitoring report for this event, which incorporates field and laboratory data, tables, figures and conclusions are presented in **Attachment C**. Well locations are detailed on **Figure 4**. The groundwater monitoring program was compliant with requirements with the SMP.
- » Monitoring well inspections and site wide cover system were completed on December 7 and 20, 2018, respectively. Completed inspection forms are presented in **Attachment A**.

### ■ Comparisons with Remedial Objectives

#### » Groundwater

A summary table of historical PCE concentrations in groundwater is presented in **Table 1**. Groundwater analytical results exceeding NYS Class GA groundwater standards for the May 15, 2018 sampling event is presented on **Figure 4**.

A comparison of the pre-ISCO June 10, 2013 and May 15, 2018 data indicates:

- » Upgradient Off-site wells – Consistent with all prior sampling rounds these wells did not exhibit concentrations of PCE
- » Source area wells – A review of the current and historical data indicates that the concentrations of PCE in the source area (represented by MW-4S and MW-4D) may have stabilized; however, additional data is necessary to assess if concentrations have reached asymptotic levels.
- » On-site downgradient wells – Shallow and deep bedrock groundwater continues to exhibit PCE concentrations below the New York State Class GA standard; overburden wells exhibit PCE concentrations at the same or within 1 order of magnitude above the GA standard.
- » Downgradient Off-site wells – Of these three well clusters (overburden/shallow bedrock) one overburden and one shallow bedrock well exhibited concentrations of PCE between 1 and 2 orders of magnitude above the GA standard. Remaining wells did not exhibit detectable concentrations of PCE or values were below the GA standard.

## 6. OPERATIONS, MAINTENANCE AND MONITORING PLAN COMPLIANCE REPORT

Operations, maintenance and monitoring activities for the Site pertain to the operation of the SSD System. Annual inspections are conducted to assess System performance and to conduct a visual inspection of the structure and the System's installation, both indoors and outdoors. The latest SSD System annual inspection report, which includes a completed copy of the systems inspection forms, detailed in the SMP, is presented in **Attachment A**. In general, the inspection included:

- Structure – Checking for changes in the structure that could affect the system's performance.
- Fan and Electrical – Recording suction point vacuums and comparison with the prior commissioned vacuums as well as inspections of electrical connections.
- Piping, Slab and Wall – Inspecting piping supports, connections, and exhaust stack; checking for visible new cracks in walls and floors.

The most recent inspection was conducted on January 7, 2019 to assess that the SSD System installed at 1-5 Holland Avenue was operating as designed, and was providing depressurization beneath the slab at 1-5 and 7-11 Holland Avenue. Some components of the SSD System installed at 1-5 Holland Avenue are no longer accessible due to building modifications (five of the eleven system suction points are not accessible following installation of the storage units). Visual inspection of accessible SSD System components similarly indicated that the SSD System components are operating as designed. Results of the SSD assessment did not identify needed corrective actions to the SSD System.

## 7. PERIODIC REVIEW REPORT CONCLUSIONS AND RECOMMENDATIONS

As documented in this PRR the Site is being managed in compliance with the SMP.

- Groundwater Monitoring

A review of current and historical data indicates that the concentrations of PCE in the source area (as represented by MW-4S and MW-4D) may have stabilized; however, additional data is necessary to assess if these concentrations have reached asymptotic levels.

- SSD System

Based on the SSD system inspections conducted on January 7, 2019, the SSD system continues to operate as designed.

- Composite Cover System

Based on OBG's site inspection on December 20, 2018, the cover system does not have any breaches and is effective at protecting the public and on-site workers from exposures of COCs.

## REFERENCES

- OBG, 2011. *Remedial Investigation Work Plan, 1 – 5 Holland Avenue Site, White Plains, New York*, March 2011 (Appendix D)
- OBG, 2014a. *Site Management Plan, 1-5 Holland Avenue, Brownfield Cleanup Program, Site No. C360115, White Plains, New York*. December 2014 (Updated February 2018).
- OBG, 2014b. *Remedial Investigation Report, BCP No. C360115, 1-5 Holland Avenue, White Plains, New York*. April 2014.
- OBG, 2014c. *Final Engineering Report, 1-5 Holland Avenue, Brownfield Cleanup Program, Site No. C360115, White Plains, New York*. December 2014.
- OBG, 2017. *Periodic Review Report, Brownfield Cleanup Program No. C360115, White Plains, New York*, April 2017.
- NYSDEC, 2014. *Decision Document, 1-5 Holland Avenue, Brownfield Cleanup Program, White Plains, Westchester County, Site No. C360115*, November 2014.



## Tables

**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: Screen Interval (ft above msl): Date Sampled: 6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2			
		182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	181.4 - 191.4			
		10/19/2011	5/1/2012	6/10/2013	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)	05/15/2018 (Post ISCO)	10/21/2011	5/2/2012		
		6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>		<b>On-Site Locations</b>																	
1,1,1-Trichloroethane	ug/L	5	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.330	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.310	<0.320	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.420	
1,1,2-Trichloroethane	ug/L	1	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.220	
1,1-Dichloroethane	ug/L	5	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.260	
1,1-Dichloroethene	ug/L	5	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.710	<0.410	
1,2,3-Trichlorobenzene	ug/L	5	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.210	
1,2,4-Trichlorobenzene	ug/L	5	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<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	<0.05	<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	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.00855	<0.00855	
1,2-Dichlorobenzene	ug/L	3	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.230	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.200	
1,2-Dichloropropane	ug/L	1	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.250	
1,3-Dichlorobenzene	ug/L	3	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.230	
1,4-Dichlorobenzene	ug/L	3	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.230	
1,4-Dioxane	ug/L	NC	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<5	<3	<1	<3	<1	<1	<1	<22.5 R	<0.301	
2-Butanone (MEK)	ug/L	50	<0.630	<0.550	3.4 J	<10	0.79 J	0.63 J	<10	<10	0.43 J	8.3 J	<10	<10	1.30 J	<0.630	<0.550		
2-Hexanone	ug/L	50	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.260	<0.370	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.510	<0.350	<0.35	<10	<10	<10	0.37 J	<10	<10	<10	<10	<10	<10	<10	<0.510	<0.350	
Acetone	ug/L	50	<0.870	<0.280	<4.0	1.38 J	4.24 J	2.67 J	<10	1.27 J	<10	2.89 J	18	<10	2.44 J	4.60 J	<0.870	<0.280	
Benzene	ug/L	1	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.250	
Bromochloromethane	ug/L	5	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.470	<0.300	
Bromodichloromethane	ug/L	50	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.260	
Bromoform	ug/L	50	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.260	<0.460	
Bromomethane	ug/L	5	<0.510	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.670	<0.250	
Carbon disulfide	ug/L	NC	<0.670	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.500	<0.300	
Carbon tetrachloride	ug/L	5	<0.500	<0.360	.....	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.360	
Chlorobenzene	ug/L	5	<0.400	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.220	
Chloroethane	ug/L	5	<0.480	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.780	<0.360	
Chloroform	ug/L	7	<0.340	<0.220	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.20 J	<0.340	<0.220
Chloromethane	ug/L	5	<0.3																

**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 Guide

## Ambient Water Nitrate

**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)

**↓** = 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

**NA** = Not Available

**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-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2DB	MW-2SB	MW-2SB	(DUP) 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	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	
	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)	05/15/2018 (Post ISCO)	5/5/2011	10/21/2011	5/2/2012	5/2/2012
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards															
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>															
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.350	<0.330	<0.330	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.280	<0.310	<0.320	<0.320	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.320	<0.440	<0.420	<0.420	
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.570	<0.360	<0.220	<0.220	
1,1-Dichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.430	<0.260	<0.15	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.410	<0.710	<0.410	<0.27	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.550	<0.420	<0.210	<0.25	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.390	<0.200	<0.24	
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	<0.05	<0.660	<0.00855	<0.00855	<0.00855	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.00855	<0.00855	<0.12	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.360	<0.230	<0.13	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.420	<0.200	<0.17	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.520	<0.250	<0.18	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.410	<0.420	<0.230	<0.20	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.330	<0.230	<0.18	
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	
2-Butanone (MEK)	ug/L	50	<10	1.15 J	0.54 J	<10	<10	<10	12	<10	1.80 J	<0.510	<0.630	<0.550	4.7 J	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.370	<0.260	<0.370	<0.19	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	<10	0.15 J	<10	0.29 J	<0.410	<0.510	<0.350	<0.35	
Acetone	ug/L	50	1.23 J	5.22 J	2.07 J	<10	1.30 J	<10	13	<10	2.21 J	2.49 J	<0.610	<0.870	<0.280	5.0 J
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.510	<0.430	<0.250	<0.11	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.560	<0.470	<0.300	<0.36	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.350	<0.260	<0.19	
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.260	<0.460	<0.35	
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.680	<0.670	<0.250	<0.18	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.500	<0.300	<0.13	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.290	<0.400	<0.360	<0.19	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.480	<0.220	<0.16	
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.780	<0.360	<0.21	
Chloroform	ug/L	7	<1	<1	0.30 J	0.19 J	<1	0.24 J	<1	0.16 J	<1	<1	13	2.69	2.5	
Chlormethane	ug/L	5	<1	<1	<1	0.24 J	<1	<1	<1	<1	<1	<0.430	<0.350	<0.280	<0.20	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.560	<0.380	<0.300	<0.21	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.360	<0.250	<0.17	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.230	<0.460	<0.380	<0.32	
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.360	<0.240	<0.20	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.420	<0.290	<0.57	
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.340	<0.220	<0.10	
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.300	<0.390	<0.210	<0.12	
Methyl acetate	ug/L	NC	<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-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-4D	MW-4D	MW-4D	MW-4D			
	Screen Interval (ft above msl):	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	148.9 - 158.9	148.9 - 158.9	158 - 168	158 - 168	158 - 168	158 - 168			
	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)	05/15/2018 (Post ISCO)	5/5/2011	10/19/2011	5/1/2012	6/10/2013 (Post ISCO)		
	6 NYCCR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																	
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<17.5	<16.5	<54	<1		
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.60	<15.5	<16.0	<53	<1		
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.40	<22.0	<21.0	<93	<1		
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.4	<18.0	<11.0	<69	<1		
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.80	<21.5	<13.0	<29	<1		
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.20	<35.5	<20.5	<54	<1		
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.0	<21.0	<10.5	<49	<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	<0.05	<13.2	<0.00855	<0.00855	<0.0080	<0.05		
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.00	<0.00855	<0.00855	<24	<1		
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.80	<18.0	<11.5	<27	<1		
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.20	<21.0	<10.0	<34	<1		
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.20	<26.0	<12.5	<36	<1		
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.20	<21.0	<11.5	<40	<1		
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.60	<16.5	<11.5	<36	<1		
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<3	<1	<3	<1	<404	<1130 R	<301	<97	<5		
2-Butanone (MEK)	ug/L	50	<10	0.62 J	0.64 J	<10	<10	<10	<10	12	<10	2.76 J	<10.2	<31.5	<27.5	<650	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<7.40	<13.0	<18.5	<37	<10		
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	<10	0.17 J	<10	0.35 J	<8.20	<25.5	<17.5	<70	<10		
Acetone	ug/L	50	1.38 J	3.13 J	3.81 J	<10	2.26 J	<10	2.07 J	13	53 J	4.96 J	7.60 J	<12.2	<43.5	<14.0	<800	5.06 J
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.00	<21.5	<12.5	<22	<1		
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.2	<23.5	<15.0	<72	<1		
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<7.00	<17.5	<13.0	<38	<1		
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10.4	<13.0	<23.0	<70	<1		
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13.6	<33.5	<12.5	<37	<1		
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.60	<25.0	<15.0	<25	<1		
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.80	<20.0	<18.0	<38	<1		
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<24.0	<11.0	<31	<1		
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.60	<39.0	<18.0	<43	<1		
Chloroform	ug/L	7	0.96 J	0.84 J	0.60 J	0.63 J	0.55 J	0.36 J	0.36 J	0.32 J	0.25 J	0.32 J	0.23 J	<8.20	<17.0	<11.0	<30	<1
Chloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.60	<17.5	<14.0	<39	<1		
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.2	<19.0	<15.0	<42	<1		
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<7.20	<18.0	<12.5	<33	<1		
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<4.60	<23.0	<19.0	<65	<1		
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.60	<18.0	<12.0	<40	<1		
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<21.0	<14.5	<110	<1		
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.80	<17.0	<11.0	<20	<1		
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.00	<19.5	<10.5	<23	<1		
Methyl acetate	ug/L	NC	<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-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-4D	(DUP) MW-4D	MW-4D	
	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	158 - 168	158 - 168	158 - 168	
	Date Sampled:	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	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)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																	
1,1,1-Trichloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1,2-Tetrachloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1-Dichloroethane	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1-Dichloroethene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2,3-Trichlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2,4-Trichlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichloropropane	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,3-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,4-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<5	<3	<1	<3	<3	<5	<5	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	0.78 J	<200	<200	<10	<10	<10	20 J	2.9 J	<1000	<1000	<500	<500	<500	<500	1.5 J	
2-Hexanone	ug/L	50	<10	<200	<200	<10	<10	<10	<500	<100	<1000	<1000	<500	<500	<500	<500	<50	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<200	<200	<10	<10	<10	<500	<100	<1000	<1000	<500	<500	<500	<500	<50	
Acetone	ug/L	50	4.61 J	12 J	<200	<10	<10	1.97 J	2.02 J	<500	<1000	<1000	<500	<500	<500	<500	4.4 J	
Benzene	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromochloromethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromodichloromethane	ug/L	50	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromoform	ug/L	50	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromomethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Carbon disulfide	ug/L	NC	<1	<20	<20	0.35 J	0.19 J	<1	0.28 J	<50	<10	<100	<100	<50	<50	<50	<5	
Carbon tetrachloride	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloroform	ug/L	7	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloromethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
cis-1,2-Dichloroethene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Cyclohexane	ug/L	NC	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Dibromochloromethane	ug/L	50	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Dichlorodifluoromethane	ug/L	5	<1	<20	<20	<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:	(DUP) MW-4D	MW-4D	(DUP) MW-4D	MW-4S	MW-4S	MW-4S	DUP (MW-4S)	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	
	Screen Interval (ft above msl):	158 - 168	158 - 168	158 - 168	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	178.4 - 188.5	178.4 - 188.5	
	Date Sampled:	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	05/15/2018 (Post ISCO)	10/19/2011	5/1/2012	6/10/2013	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)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																
1,1,1-Trichloroethane	ug/L	5	<1	<10	<10	<3.50	<3.30	<14	<1	<1	<1	<10	<1	<20	<10	<10	
1,1,2-Tetrachloroethane	ug/L	5	<1	<10	<10	<3.10	<3.20	<13	<1	<1	<1	<10	<1	<20	<10	<10	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<10	<10	<4.40	<4.20	<23	<1	<1	<1	<10	<1	<20	<10	<10	
1,1-Dichloroethane	ug/L	1	<1	<10	<10	<3.60	<2.20	<17	<1	<1	<1	<10	<1	<20	<10	<10	
1,1-Dichloroethene	ug/L	5	<1	<10	<10	<4.30	<2.60	<b>7.3</b>	<1	<1	<1	<10	<1	<20	<10	<10	
1,2,3-Trichlorobenzene	ug/L	5	<1	<10	<10	<4.20	<2.10	<12	<1	<1	<1	<10	<1	<20	<10	<10	
1,2,4-Trichlorobenzene	ug/L	5	<1	<10	<10	<3.90	<2.00	<12	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<10	<10	<0.00855	<0.00855	<6.1	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichlorobenzene	ug/L	3	<1	<10	<10	<3.60	<2.30	<6.7	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<10	<10	<4.20	<2.00	<8.6	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichloropropane	ug/L	1	<1	<10	<10	<5.20	<2.50	<9.1	<1	<1	<1	<10	<1	<20	<10	<10	
1,3-Dichlorobenzene	ug/L	3	<1	<10	<10	<4.20	<2.30	<10	<1	<1	<1	<10	<1	<20	<10	<10	
1,4-Dichlorobenzene	ug/L	3	0.31 J	<10	<10	<3.30	<2.30	<9.0	<1	<1	<1	<10	<1	<20	<10	<10	
1,4-Dioxane	ug/L	NC	<1	<1	<1	<225 R	<0.301	<0.97	<5	<5	<5	<5	<5	<5	<3	<3	
2-Butanone (MEK)	ug/L	50	<10	<100	<100	<6.30	<5.50	<160	<10	0.71 J	1.00 J	<100	<10	<200	3.0 J	<100	
2-Hexanone	ug/L	50	<10	<100	<100	<2.60	<3.70	<9.4	<10	<10	<10	<100	<10	<200	<100	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<100	<100	<5.10	<3.50	<18	<10	<10	<10	<100	<10	<200	<100	0.12 J	
Acetone	ug/L	50	3.81 J	28.3 J	30.2 J	<8.70	<2.80	<200	3.71 J	2.65 J	3.06 J	9.3 J	4.6 J	<200	<100	11	
Benzene	ug/L	1	<1	<10	<10	<4.30	<2.50	<5.6	<1	<1	<1	<10	<1	<20	<10	<1	
Bromochloromethane	ug/L	5	<1	<10	<10	<4.70	<3.00	<18	<1	<1	<1	<10	<1	<20	<10	<1	
Bromodichloromethane	ug/L	50	<1	<10	<10	<3.50	<2.60	<9.6	<1	<1	<1	<10	<1	<20	<10	<1	
Bromoform	ug/L	50	<1	<10	<10	<2.60	<4.60	<18	<1	<1	<1	<10	<1	<20	<10	<1	
Bromomethane	ug/L	5	<1	<10	<10	<5.10	<2.50	<9.2	<1	<1	<1	<10	<1	<20	<10	<1	
Carbon disulfide	ug/L	NC	<1	<10	<10	<6.70	<3.00	<6.3	<1	<1	<1	<10	<1	<20	<10	<1	
Carbon tetrachloride	ug/L	5	<1	<10	<10	<5.00	<3.60	<9.4	<1	<1	<1	<10	<1	<20	<10	<1	
Chlorobenzene	ug/L	5	<1	<10	<10	<4.00	<2.20	<7.8	<1	<1	<1	<10	<1	<20	<10	<1	
Chloroethane	ug/L	5	<1	<10	<10	<4.80	<3.60	<11	<1	<1	<1	<10	<1	<20	<10	<1	
Chloroform	ug/L	7	<1	<10	<10	<3.40	<2.20	<7.5	<1	<1	<1	<10	<1	<20	<10	<1	
Chlormethane	ug/L	5	<1	<10	<10	<3.50	<2.80	<9.8	<1	<1	<1	<10	<1	<20	<10	0.16 J	
cis-1,2-Dichloroethene	ug/L	5	<1	<10	<10	<3.80	<3.00	<11	<1	<1	<1	<10	<1	<20	<10	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<10	<10	<3.60	<2.50	<8.4	<1	<1	<1	<10	<1	<20	<10	<1	
Cyclohexane	ug/L	NC	<1	<10	<10	<4.60	<3.80	<16	<1	<1	<1	<10	<1	<20	<10	<1	
Dibromochloromethane	ug/L	50	<1	<10	<10	<3.60	<2.40	<10.0	<1	<1	<1	<10	<1	<20	<10	<1	
Dichlorodifluoromethane	ug/L	5	<1	<10	<10	<4.20	<2.90	<29	<1	<1	<1	<10	<1	<20	<10	<1	
Ethylbenzene	ug/L	5	<1	<10	<10	<3.40	<2.20	<5.1	<1	<1	<1	<10	<1	<20	<10	<1	
Isopropylbenzene	ug/L	5	<1	<10													

**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	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	
	Screen Interval (ft above msl):	178.4 - 188.5	178.4 - 188.5	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	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	
	Date Sampled:	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	10/21/2011	5/2/2012	6/10/2013	11/15/2013 (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)	5/15/2018 (Post ISCO)	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																	
1,1,1-Trichloroethane	ug/L	5	<1	<10	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<10	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<10	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<1	<10	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<10	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<10	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<10	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.0855	<0.0855	<0.080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<10	<0.0855	<0.0855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<10	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<10	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<10	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<10	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<10	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<1	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<3	<3	<3	<3	<3	<3	
2-Butanone (MEK)	ug/L	50	<10	<100	<0.630	<0.550	8.0 J	<10	0.42 J	0.84 J	<10	<10	0.39 J	9.0 J	<10	<10	1.59 J	
2-Hexanone	ug/L	50	<10	<100	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<100	<0.510	<0.350	<0.35	<10	<10	<10	<10	<10	<10	0.14 J	<10	<10	0.26 J	
Acetone	ug/L	50	2.46 J	26.7 J	<0.870	<0.280	<4.0	1.25 J	1.99 J	6.02 J	<10	0.69 J	<10	2.40 J	9.9 J	<10	2.39 J	4.88 J
Benzene	ug/L	1	<1	<10	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<10	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<10	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<10	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<10	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<10	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<10	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<10	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<10	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroform	ug/L	7	<1	<10	<0.340	<0.220	<0.15	<1	<1	<1	<1	<1	<1	<1	0.11 J	<1	<1	
Chlormethane	ug/L	5	<1	<10	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<10	<0.380	<0.300	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<10	<0.360	<0.250	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<10	<0.460	<0.380	<0.32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<10	<0.360	<0.240	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<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-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	DUP (MW-5DB)	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	
	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	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	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	105.3 - 115.3	
	Date Sampled:	5/5/2011	10/21/2011	5/2/2012	6/10/2013		11/15/2013 (Post ISCO)	11/15/2013 (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)	05/15/2018 (Post ISCO)		
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																			
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																			
1,1,1-Trichloroethane	ug/L	5	<0.420	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.280	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.320	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<0.570	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<0.440	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<0.550	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<0.340	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.660	<0.0855	<0.0855	<0.080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.400	<0.0855	<0.0855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<0.340	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.460	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<0.460	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<0.410	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<0.430	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<20.2	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<3	<3	
2-Butanone (MEK)	ug/L	50	<0.510	<0.630	<0.550	4.8 J	<10	0.47 J	0.79 J	<10	<10	<10	<10	<10	10	<10	<10	1.55 J		
2-Hexanone	ug/L	50	<0.370	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.410	<0.510	<0.350	<0.35	<10	<10	<10	<10	0.38 J	<10	<10	<10	0.15 J	<10	<10	0.26 J		
Acetone	ug/L	50	<0.610	<0.870	<0.280	<4.0	<10	0.89 J	3.42 J	4.48 J	<10	1.63 J	<10	2.01 J	9.9 J	<10	2.23 J	5.41 J		
Benzene	ug/L	1	<0.250	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<0.560	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<0.350	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<0.520	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<0.680	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<0.330	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<0.290	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<0.420	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<0.480	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.85 J	<1	<1	
Chloroform	ug/L	7	1.54	0.425 J	<0.220	0.26 J	0.27 J	0.26 J	0.29 J	0.23 J	0.25 J	0.30 J	0.25 J	0.26 J	0.23 J	0.29 J	0.25 J	0.33 J		
Chloromethane	ug/L	5	<0.430	<0.350	<0.280	<0.20	<1	<1	<1	0.44 J	0.52 J	0.46 J	<							

**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 due to

D = Diluted sample re

**units** = ug/L or parts per billion

NA = Not Available

**NC** = No Criteria

**Table 1**  
**Groundwater Quality VOC Data Summary**  
**Groundwater Sampling Report**  
**Brownfield Cleanup Program No. C360115**  
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above the MDL.

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**D** = Diluted sample result

**units** = ug/L or parts per

**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-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-7	MW-7	MW-7	MW-7	MW-7		
	Screen Interval (ft above msl):	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	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7		
	Date Sampled:	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)	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	10/18/2011	5/1/2012	6/11/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)
	6 NYCCR Part 703/TOGS 1.1.1 Class GA Groundwater Standards											Off-Site Downgradient Locations					
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>		<b>Units</b>															
1,1,1-Trichloroethane	ug/L	5	<0.27	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.330	<0.10	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.27	<1	<1	<1	<1	<1	<1	<1	<0.310	<0.320	<0.067	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.46	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.420	<0.15	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<0.34	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.039	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<0.15	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.260	<0.041	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<0.25	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.210	<0.030	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<0.24	<1	<1	<1	<1	<1	<1	<1	<0.390	<0.200	0.020 JB	<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	<0.12	<1	<1	<1	<1	<1	<1	<1	<0.00855	<0.00855	<0.045	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<0.13	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.230	<0.053	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.17	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.200	<0.039	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.250	<0.045	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.230	<0.027	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.230	<0.036	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<0.97	<5	<5	<5	<3	<1	<3	<1	<0.301	<0.97	<5	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	6.4 J	0.88 J	<10	<10	<10	<10	12	<10	1.43 J	<0.630	<0.550	4.3 J	0.79 J	<10	
2-Hexanone	ug/L	50	<0.19	<10	<10	<10	<10	<10	<10	<10	<0.260	<0.370	<0.30	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.35	<10	<10	<10	<10	<10	0.15 J	<10	<10	<0.510	<0.350	<0.14	<10	<10	
Acetone	ug/L	50	<4.0	5.39 J	<10	1.50 J	<10	1.68 J	13	<10	2.62 J	5.13 J	<0.870	<0.280	<3.0	5.40 J	<10
Benzene	ug/L	1	<0.11	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.250	<0.014	<1	<1	<1	
Bromochloromethane	ug/L	5	<0.36	<1	<1	<1	<1	<1	<1	<1	<0.470	<0.300	<0.13	<1	<1	<1	
Bromodichloromethane	ug/L	50	<0.19	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.260	<0.025	<1	<1	<1	
Bromoform	ug/L	50	<0.35	<1	<1	<1	<1	<1	<1	<1	<0.260	<0.460	<0.035	<1	<1	<1	
Bromomethane	ug/L	5	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.670	<0.250	<0.13	<1	<1	<1	
Carbon disulfide	ug/L	NC	<0.13	<1	<1	<1	<1	0.32 J	<1	<1	<0.500	<0.300	<0.028	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<0.19	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.360	<0.025	<1	<1	<1	
Chlorobenzene	ug/L	5	<0.16	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.220	<0.032	<1	<1	<1	
Chloroethane	ug/L	5	<0.21	<1	<1	<1	<1	<1	<1	<1	<0.780	<0.360	<0.11	<1	<1	<1	
Chloroform	ug/L	7	<0.15	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.220	0.080 J	<1	<1	<1	
Chlormethane	ug/L	5	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.280	<0.072	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<0.21	<1	<1	<1	<1	<1	<1	<1	<0.380	<0.300	<0.045	<1	0.22 J	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<0.17	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.250	<0.019	<1	<1	<1	
Cyclohexane	ug/L	NC	<0.32	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.380	<0.11	<1	<1	<1	
Dibromochloromethane	ug/L	50	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.240	<0.031	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<0.57	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.290	<0.058	<1	<1	<1	
Ethylbenzene	ug/L	5	<0.10	<1	&												

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

Notes

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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 Ground

\* = 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**

NA = Not Available

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**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-7SB	MW-7SB	MW-8	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	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	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	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	172.3 - 182.3	141.7 - 151.7	
	Date Sampled:	10/30/2017 (Post ISCO)	05/15/2018 (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)	05/15/2018 (Post ISCO)	10/20/2011						
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																						
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	Units																						
1,1,1-Trichloroethane	ug/L	5	<1	<1	<0.350	<0.330	<0.27	<1.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.700	
1,1,2-Tetrachloroethane	ug/L	5	<1	<1	<0.310	<0.320	<0.27	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.620	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<0.440	<0.420	<0.46	<2.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.880	
1,1,2-Trichloroethane	ug/L	1	<1	<1	<0.360	<0.220	<0.34	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.720	
1,1-Dichloroethane	ug/L	5	<1	<1	<0.430	<0.260	<0.15	<0.73	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.860	
1,1-Dichloroethene	ug/L	5	<1	<1	<0.710	<0.410	<0.27	<1.3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.42	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<0.420	<0.210	<0.25	<1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.840	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<0.390	<0.200	<0.24	<1.2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.780	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.0855	<0.0855	<0.080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.0855	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<0.0855	<0.0855	<0.12	<0.61	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.0855	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<0.360	<0.230	<0.13	<0.67	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.720	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<0.420	<0.200	<0.17	<0.86	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.840	
1,2-Dichloropropane	ug/L	1	<1	<1	<0.520	<0.250	<0.18	<0.91	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.04	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<0.420	<0.230	<0.20	<1.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.840	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<0.330	<0.230	<0.18	<0.90	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.660	
1,4-Dioxane	ug/L	NC	<1	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<45.1 R	
2-Butanone (MEK)	ug/L	50	<10	1.57 J	<0.630	<0.550	6.3 J	<16	0.75 J	<10	<10	<10	<10	<10	<10	<10	12	<10	<10	1.68 J	<1.26		
2-Hexanone	ug/L	50	<10	<10	<0.260	<0.370	<0.19	<0.94	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.520	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	0.28 J	<0.510	<0.350	<0.35	<1.8	<10	<10	<10	<10	<10	<10	0.13 J	<10	<10	<10	0.22 J	<1.02			
Acetone	ug/L	50	2.21 J	3.55 J	<0.870	<0.280	<4.0	<20	5.26 J	<10	1.53 J	<10	1.2 J	13	<10	2.21 J	5.34 J	<1.74					
Benzene	ug/L	1	<1	<1	<0.430	<0.250	<0.11	<0.56	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.860	
Bromochloromethane	ug/L	5	<1	<1	<0.470	<0.300	<0.36	<1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.940	
Bromodichloromethane	ug/L	50	<1	<1	<0.350	<0.260	<0.19	<0.96	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.700	
Bromoform	ug/L	50	<1	<1	<0.260	<0.460	<0.35	<1.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	
Bromomethane	ug/L	5	<1	<1	<0.510	<0.250	<0.18	<0.92	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1.34	
Carbon disulfide	ug/L	NC	<1	<1	<0.670	<0.300	<0.13	<0.63	<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-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:	4/30/2012	6/10/2013	(Post ISCO)	7/17/2014	10/10/2014	5/7/2015	10/9/2015	5/4/2016	10/26/2016	6/8/2017	10/30/2017	05/15/2018	(Post ISCO)	10/20/2011	5/1/2012		
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards														7/17/2014	10/10/2014		
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	Units																	
1,1,1-Trichloroethane	ug/L	5	<0.330	<1.4	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.330	<0.27	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<0.320	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.310	<0.320	<0.27	<1	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.420	<2.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.440	<0.420	<0.46	<1	<1
1,1-Dichloroethane	ug/L	1	<0.220	<1.7	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	<0.220	<0.34	<1	<1
1,1-Dichloroethene	ug/L	5	<0.260	<0.73	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.430	<0.260	<0.15	<1	<1
1,1-Dichloroethylene	ug/L	5	<0.410	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.410	<0.27	<1	<1	<1
1,2,3-Trichlorobenzene	ug/L	5	<0.210	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.210	<0.25	<1	<1
1,2,4-Trichlorobenzene	ug/L	5	<0.200	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.390	<0.200	<0.24	<1	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05	<0.05
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.00855	<0.61	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.00855	<0.00855	<0.12	<1	<1
1,2-Dichlorobenzene	ug/L	3	<0.230	<0.67	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	<0.230	<0.13	<1	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.200	<0.86	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.200	<0.17	<1	<1
1,2-Dichloropropane	ug/L	1	<0.250	<0.91	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.520	<0.250	<0.18	<1	<1
1,3-Dichlorobenzene	ug/L	3	<0.230	<1.0	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.230	<0.20	<1	<1
1,4-Dichlorobenzene	ug/L	3	<0.230	<0.90	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.330	<0.230	<0.18	<1	<1
1,4-Dioxane	ug/L	NC	<0.301	<0.97	<5	<5	<3	<1	<3	<1	<1	<1	<1	<22.5 R	<0.301	<0.97	<5	<5
2-Butanone (MEK)	ug/L	50	<0.550	<16	<50	<10	<100	1.7 J	<100	<200	<10	<50	<100	<0.630	<0.550	3.7 J	1.09 J	<10
2-Hexanone	ug/L	50	<0.370	<0.94	<50	<10	<100	<50	<100	<200	<10	<50	<100	<0.260	<0.370	<0.19	<10	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.350	<1.8	<50	<10	<100	<50	<100	<200	<10	<50	<100	<0.510	<0.350	<0.35	<10	<10
Acetone	ug/L	50	<0.280	<20	6.9 J	<10	<100	<50	<100	<200	<10	<50	23.7 J	<0.870	<0.280	<4.0	5.10 J	<10
Benzene	ug/L	1	<0.250	<0.56	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.430	<0.250	<0.11	<1	<1
Bromochloromethane	ug/L	5	<0.300	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.470	<0.300	<0.36	<1	<1
Bromodichloromethane	ug/L	50	<0.260	<0.96	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.260	<0.19	<1	<1
Bromoform	ug/L	50	<0.460	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.260	<0.460	<0.35	<1	<1
Bromomethane	ug/L	5	<0.250	<0.92	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.670	<0.250	<0.18	<1	<1
Carbon disulfide	ug/L	NC	<0.300	<0.63	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.500	<0.300	<0.13	<1	<1
Carbon tetrachloride	ug/L	5	<0.360	<0.94	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.400	<0.360	<0.19	<1	<1
Chlorobenzene	ug/L	5	<0.220	<0.78	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.480	<0.220	<0.16	<1	<1
Chloroethane	ug/L	5	<0.360	<1.1	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.780	<0.360	<0.21	<1	<1
Chloroform	ug/L	7	<0.220	<0.75	<5	5	<10	<5	<10	<20	<1	<5	<10	9.28	<0.220	<0.15	<1	<1
Chloromethane	ug/L	5	<0.280	<0.98	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.280	<0.20	<1	<1
cis-1,2-Dichloroethene	ug/L	5	3.98	4.4 J	<1	10	10	8.3 J	9.6 J	9	8	10	<0.380	<0.300	<0.21	<1	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<0.250	<0.84	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	&lt			

**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-9	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	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	
	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)	05/15/2018 (Post ISCO)	10/20/2011	5/2/2012	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 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	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-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<0.430	<0.260	<0.15	<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	<0.05	<0.00855	<0.00855	<0.0080	<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	<3	<1	<1	<1	
2-Butanone (MEK)	ug/L	50	<10	<10	<10	<10	<10	1.96 J	<0.630	<0.550	<3.3	0.69 J	<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	0.41 J	<0.510	<0.350	<10	<10	<10	<10	<10	0.10 J	
Acetone	ug/L	50	1.60 J	<10	2.63 J	41	<10	2.01 J	6.13 J	<0.870	<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	0.32 J	3.81	0.563 J	<0.94 J	0.88 J	0.88 J	0.86 J	0.83 J	0.61 J	
Chloromethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	1.55	1.14	0.36 J	<1	<1	<1	<1	<1	0.15 J	
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	<1	<1	
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<0.390	<0.210	<0.12	<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-9SB	MW-9SB	MW-9SB	
	Screen Interval (ft above msl):	<b>144.8 - 155.8</b>	<b>144.8 - 155.8</b>	<b>144.8 - 155.8</b>	
	Date Sampled:	<b>5/18/2017</b> <b>(Post ISCO)</b>	<b>10/30/2017</b> <b>(Post ISCO)</b>	<b>05/15/2018</b> <b>(Post ISCO)</b>	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards				
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>				
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1
1,1-Dichloroethene	ug/L	5	<1	<1	<1
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1
1,2-Dichloropropane	ug/L	1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1
1,4-Dioxane	ug/L	NC	<3	<1	<1
2-Butanone (MEK)	ug/L	50	<10	<10	1.31 J
2-Hexanone	ug/L	50	<10	<10	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	0.17 J
Acetone	ug/L	50	<10	2.61 J	4.95 J
Benzene	ug/L	1	<1	<1	<1
Bromochloromethane	ug/L	5	<1	<1	<1
Bromodichloromethane	ug/L	50	<1	<1	<1
Bromoform	ug/L	50	<1	<1	<1
Bromomethane	ug/L	5	<1	<1	<1
Carbon disulfide	ug/L	NC	<1	<1	<1
Carbon tetrachloride	ug/L	5	<1	<1	<1
Chlorobenzene	ug/L	5	<1	<1	<1
Chloroethane	ug/L	5	<1	<1	<1
Chloroform	ug/L	7	0.48 J	0.40 J	<1
Chloromethane	ug/L	5	0.70 J	<1	<1
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1
Cyclohexane	ug/L	NC	<1	<1	<1
Dibromochloromethane	ug/L	50	<1	<1	<1
Dichlorodifluoromethane	ug/L	5	<1	<1	<1
Ethylbenzene	ug/L	5	<1	<1	<1
Isopropylbenzene	ug/L	5	<1	<1	<1
Methyl acetate	ug/L	NC	<1	<1	<1
Methyl tert-butyl ether (MTBE)	ug/L	NC	<1	<1	<1
Methylcyclohexane	ug/L	NC	0.32 J	<1	<1
Methylene chloride	ug/L	5	<1	<1	<1
Styrene	ug/L	5	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	0.28 J
Toluene	ug/L	5	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	5	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1
Trichlorofluoromethane	ug/L	5	<1	<1	<1
Vinyl Chloride	ug/L	2	<1	<1	<1
Xylenes (Total)	ug/L	5	<3	<3	<3
Total VOCs	ug/L	NA	1.5 J	3.01 J	6.71 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

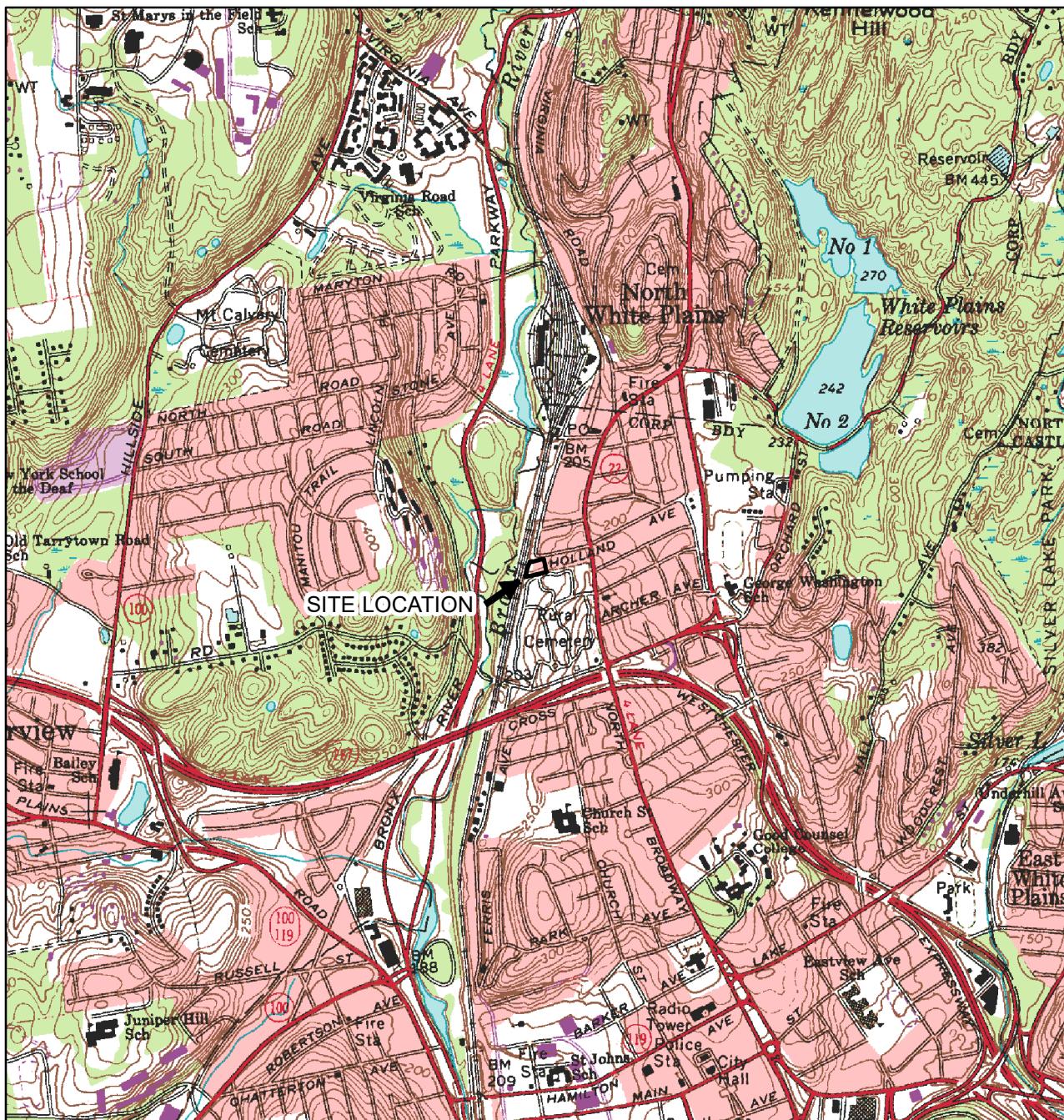
NC = No Criteria





## Figures

3/19/2019 3:58:15 PM



ADAPTED FROM: WHITE PLAINS, NY USGS QUADRANGLE

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



MAP LOCATION



SITE LOCATION

0 1,000 2,000 4,000  
Feet

1:22,000

MARCH 2019  
14206.69528

**OBG**  
Part of Ramboll

3/19/2019 4:06:23 PM

I:\Feinto-Ny.14206\47376.Ri-Implementati\Docs\DWG\MXD\Periodic Review Report\Site\_Plan\_Updated.mxd



## LEGEND



PROPERTY BOUNDARY

BROWNFIELD PERIODIC  
REVIEW REPORT  
PROGRAM NO. C360115  
1-5 HOLLAND AVENUE  
WHITE PLAINS, NY

0 50 100 200 300 400  
Feet

N



## SITE PLAN

MARCH 2019  
14206.47376

O'BRIEN &amp; GERE ENGINEERS, INC.

**FIGURE 3**

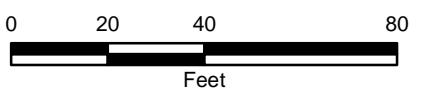


**LEGEND**

- APPROXIMATE SUB-SLAB DEPRESSURIZATION SYSTEM
- FAN
  - SUCTION POINT
  - EXHAUST PIPE
  - RETAINING WALL
- APPROXIMATE PROPERTY BOUNDARY AND LIMITS OF COMPOSITE COVER SYSTEM
- EXPOSED SURFACE SOIL AREA REMAINING IN PLACE
  - EXPOSED SURFACE SOIL AREA EXCAVATED
- IP CLUSTER LOCATION

PERIODIC REVIEW REPORT  
BROWNFIELD CLEANUP  
PROGRAM NO. C360115  
1-5 HOLLAND AVENUE  
WHITE PLAINS, NY

**REMEDIAL MEASURES  
ENGINEERING CONTROLS**

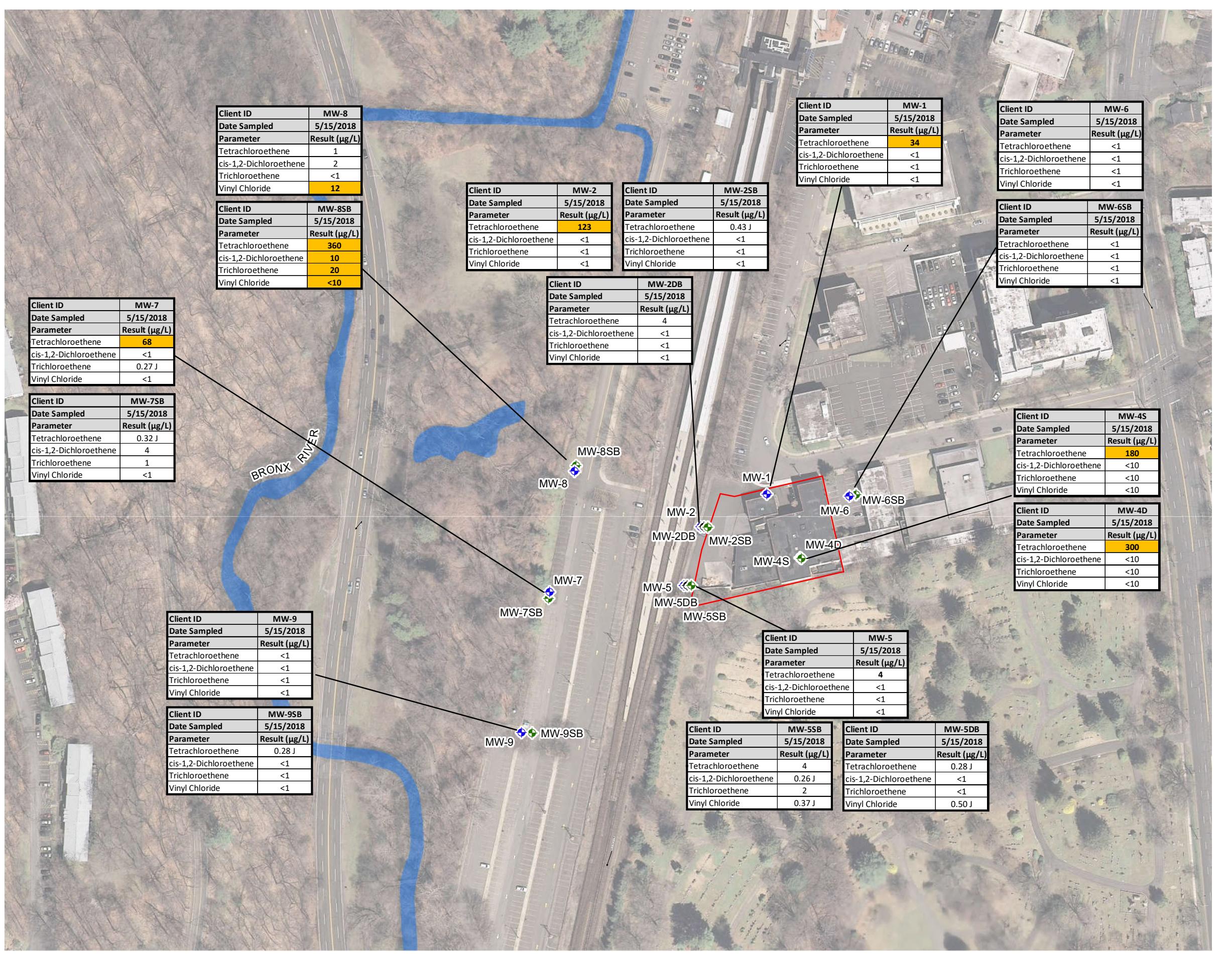


APRIL 2016  
14206.60464

**O'BRIEN & GERE**



**FIGURE 4**



### LEGEND

◆	OVERBURDEN MONITORING WELL
◆	SHALLOW BEDROCK MONITORING WELL
◆	DEEP BEDROCK MONITORING WELL
■	PROPERTY BOUNDARY
■	SURFACE WATER
■	Client ID MW-1 Date Sampled 5/15/2018 Parameter Result (µg/L) Tetrachloroethene 34 cis-1,2-Dichloroethene <1 Trichloroethene <1 Vinyl Chloride <1

(EXCEEDS TOGS 1.1 CLASS GA STANDARDS/CRITERIA)  
VALUES IN µg/L

J = THE CONCENTRATION WAS DETECTED AT A VALUE BELOW THE REPORTING LIMIT AND ABOVE THE METHOD DETECTION LIMIT.

PERIODIC REVIEW REPORT  
BROWNFIELD CLEANUP  
PROGRAM NO. C360115  
1-5 HOLLAND AVENUE  
WHITE PLAINS, NY

### TETRACHLOROETHENE AND DEGRADATION PRODUCTS GROUNDWATER RESULTS (MAY 2018)

0 75 150 300  
Feet

APRIL 2019  
14206.69528

O'BRIEN & GERE

## Attachments

**Inspection Forms (Site  
Wide, Wells, and Sub-slab  
Depressurization System)**

# Site Inspection Form

Date Performed: 12/7/2018  
 Site Name: 1-5 Holland Ave  
 Site Location: Westchester, NY

Weather: 35 sunny  
 Inspector Name: Trevor Tibbrine  
 Inspector Signature: Trevor Tibbrine

Well Integrity Inspection				
Well ID	Inspected (Y/N)	Acceptable (Y/N)	Maintenance Required (Y/N)	Description of Required Maintenance or Comments
MW-1	Y	N	Y	Bolts were stripped. Didn't have bolts large enough to replace the existing. The threads were tapped and bolts were tightened to ~25% original tightness.
MW-2	Y	Y	N	Bolts were stripped. Didn't have bolts large enough to replace the existing. The threads were tapped and bolts were tightened to ~50% original tightness.
MW-2SB	Y	Y	N	
MW-2DB	Y	Y	N	Small amount of water inside. Inserted new washer and tightened the lid.
MW-4S	Y	Y	N	
MW-4D	Y	Y	N	
MW-5				Cars were parked on top of wells and couldn't get them moved. MW-5 had dirt covering flushmount, but were overall in good condition.
MW-5SB				
MW-5DB	Y	Y	N	
MW-6	N			
MW-6SB	N			
MW-7	Y	Y	N	
MW-7SB	Y	N	N	Inundated by water. Inserted new washer and tightened the lid.
MW-8	Y	Y	N	
MW-8SB	Y	Y	N	
MW-9	Y	Y	N	
MW-9SB	Y	Y	N	Small amount of water below PVC opening. Tightened down the well lid.

## Conditions to Review

- a. depth Sounding matches construction
- b. well pad is not broken or falling apart
- c. lock functions properly
- d. well cap is functional and properly preventing water infiltration
- e. well casing or flush mount protective cover is protective the well

VI System Inspection*			
Inspected (Y/N)	Acceptable (Y/N)	Maintenance Required (Y/N)	Description of Required Maintenance or Comments
Y	Y	N	Inspection conducted January 7, 2019.

\* Complete VI System Field Inspection Form contained in Operation and Maintenance Manual and append.

# Site Inspection Form

Date Performed: 12/20/2018  
Site Name: 1-5 Holland Ave  
Site Location: White Plains, NY

Weather: Cloudy  
Inspector Name: Mark Randazzo  
Inspector Signature: 

Cap/Cover Inspection					
Cap/Cover Type (e.g. gravel, pavement)	Cap/Cover Area (e.g. west lot, building south)	Inspected (Y/N)	Acceptable (Y/N)	Maintenance Required (Y/N)	Description of Required Maintenance or Comments
Concrete	Interior of building	Y	Y	No	No penetrations noted.
Asphalt	West side of building	Y	Y	No	No penetrations noted.
Asphalt	North side of building	Y	Y	No	No penetrations noted.
Gravel	South side of building	Y	Y	No	No penetrations noted.

## Conditions to Review

- a. erosion
- b. missing cap/cover material
- c. vegetation growing through cap/cover (excluding vegetated covers)
- d. areas of ponded water
- e. areas of settlement
- f. damage from burrowing animals

Site Fence Inspection			
Inspected (Y/N)	Acceptable (Y/N)	Maintenance Required	Description of Required Maintenance or Comments
Y	Y	No	



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## System Inspection Field Form

### STRUCTURE INSPECTION

Routine or Non-Routine (circle one)

Address: 1 Holland Ave

Structure ID #: \_\_\_\_\_

Performed by: EA

Date: 1/7/19

*Have the following items changed since the last visit?*

	Yes	No
Building Foot Print	_____	_____
Basement/Slab Occupancy	_____	_____
Heating / Ventilating Systems	_____	_____
Basement Finish	_____	_____
Crawlspaces	_____	_____
Drains, Sumps, Floor Cracks	_____	_____
Wall Penetrations, Cracks	_____	_____
Appliances (in basement)	_____	_____
Siding	_____	_____

Are there any new buildings on the property or conversion of spaces  
in previously existing building?

If Yes, describe in comments section below.

Ownership

If Yes, write new owner name contact information below

Date of Ownership Change \_\_\_\_\_

Owner Name \_\_\_\_\_

Telephone No. \_\_\_\_\_

*If any of these items have changed, a redesign may be required. Contact the  
maintenance supervisor for field review.*

### Documentation

- Were digital photographs taken of the entire system?  Yes  No
- Was Property Owner provided "Operational Fact Sheet"?  Yes  No  N/A - has already been provided
- Was the drawing updated to show any changes?  Yes  No  N/A
- Was a Service Call filed for items that could  
not be addressed during this visit?  Yes  No  N/A

### Comments

GP READING AT 7-1 HOLLAND WAS -0.007 in.w.c.



## System Inspection Field Form

### FAN AND ELECTRICAL

Routine or Non-Routine (circle one)

Address: 1 Holland Ave  
Performed by: EA

Structure ID #: \_\_\_\_\_  
Date: 1/7/19

#### Equipment Documentation

##### Manometer Reading at Fan Inlet (" w.c. vacuum)

Fan #	2A	3A	3B	4A	4B						
Fan Model	HP-220	GP-501	GP-501	HS-3000	GP-501						
Manometer Reading (Prior Commissioned)	-2 1/4	NAC	NAC	-1 3/8	-2 3/8						
Manometer Reading (As Found)	-2 1/8	-4	-3 1/4	-1 3/8	-2 3/8						
Manometer Reading (As Left)	-2 1/8	-4	-3 1/4	-1 3/8	-2 3/8						

##### Manometer Reading at Sub-Slab SSPs (" w.c. vacuum)

Note: For SSPs located in accessible crawlspaces with EPDM membrane, use the crawlspace field form to record the SSP manometer reading.

SSP #	ZA-A	ZA-B	3A-A	3A-B	3B-A	3B-B	4B-A	4B-B	4A-A	4A-B	4B-C
Manometer Reading (Prior Commissioned)	-2 3/8	-2 1/4	NAC	-4	NAC	-3 1/4	NAC	NAC	-1 3/8	-1 1/8	NAC
Manometer Reading (As Found)	-2 3/8	-2 1/4	NAC	-4	NAC	-3 1/4	NAC	NAC	-1 1/4	-1 1/4	NAC
Meet Criteria?**	YES	YES	-	YES	-	YES	-	-	YES	YES	-
Manometer Reading (As Left)	-2 3/8	-2 1/4	NAC	-4	NAC	-3 1/4	NAC	NAC	-1 1/4	-1 1/4	NAC

#### Fan System Inspection

	As Found			As Left		
Is fan cover still present?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Each fan mounted securely?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Coupling connections secure?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is excessive noise heard when fan is running?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Switch is locked in the ON position?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is set point indicated on speed controller?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Has fan been in continuous operation since previous visit?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is the pipe penetration sealed on the structure's exterior?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is the downspout/PVC junction sufficiently sealed?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is conduit penetration sealed on the structure's exterior?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Each fan runs when switch is ON position?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Each fan stops when switch is in OFF position?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Does the condensate line appear to be functioning correctly?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is each fan below its maximum vacuum?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC

(HP220 = 2.5" w.c., GP501 = 4.25" w.c., FR-250 = 2.6" w.c., HS-5000 = 53" w.c.)

If fan vacuum is at maximum, measure velocity at each SSP (record below).

SSP #											
Velocity at SSP (As Found)											
Velocity at SSP (As Left)											

Does the SSP velocity meet criteria (> 1 ft/min)?  Yes  No  NA  Yes  No  UC

#### Electrical System Inspection

Are all electrical connections secure?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Each junction box closed?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Conduit/Wire properly supported?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Are audible alarm(s) present and working properly?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Are appliances affected by fan operation?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC

#### Labeling Inspection

Correct labels applied in proper location? ***	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Are labels still legible?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Is SSDS breaker identified in the electrical panel?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC
Commissioned value written on SSP sticker?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> UC

#### Comments/Corrective Action

NAC - Not Accessible. FAN cover 4B is CRACKED

\* As Found conditions = before corrective action. [NA = Not Applicable]

\* As Left conditions = after corrective action. [UC = Unchanged From As Found conditions]

\*\* Criteria is met if deviation is less than or equal to 0.25"wc (for all fans with the exception of the HS-5000). For an HS-5000 fan, criteria is met if deviation is less than or equal to 10% of the prior commissioned value or less than or equal to 0.25"wc, whichever is greater.

If deviation exceeds criteria (0.25"wc or 10% of prior commissioned value, as applicable), conduct communication testing and document on Re-Commissioning Field Form.

\*\*\* Correct labels are at least one green label per floor and one white sticker at every suction point.



OBRIEN &amp; GERE

## System Inspection Field Form

PIPING, SLAB AND WALL

Routine or Non-Routine (circle one)

Address: 1 HOLLAND AVE  
Performed by: EAStructure ID #: \_\_\_\_\_  
Date: 1/1/19**Piping Check**

- System suction point seals are accessible? Not All Are Accessible  
 System suction points are sealed to the slab? (accessible ones)  
 Each component is installed?  
 Piping system is properly supported (6'-horizontal/8'-vertical)  
 Excessive noise is heard in piping joints?  
 Smoke 10% of all pipe joints and/or piping modifications?  
 Did smoke enter joints? \*\*

	<u>As Found</u>	<u>As Left</u>
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC

**Floor Check**

- Are areas of the slab not visible (e.g. floor covering)?  
 Are areas of the slab not accessible (e.g. stored items)?  
 Were drawing-identified slab crack repairs/modifications smoke tested?  
 Did smoke enter? \*\*  
 Are other cracks present that did not draw smoke?  
 Are other cracks present that did draw smoke?\*\*  
 Were newly identified slab cracks indicated on drawing?  
 Check and clean Dranjer(s)?  
 Smoke Dranjer(s)?

	<u>As Found</u>	<u>As Left</u>
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC

**Wall Check**

- Are areas of the walls not visible (e.g. finished walls)?  
 Are areas of the walls not accessible (e.g. stored items)?  
 Were drawing-identified wall crack repairs/modifications smoke tested?  
 Did smoke enter wall crack(s)? \*\*  
 Are other wall cracks/penetrations present that did not draw smoke?  
 Are other wall cracks/penetrations present that did draw smoke?\*\*  
 Were newly identified wall cracks indicated on drawing?  
 Is top course of block wall open?  
 Smoke top course of block wall (open-top block only)?  
 Did smoke enter top course? \*\*  
 Are utility penetrations sealed so they don't draw smoke?

	<u>As Found</u>	<u>As Left</u>
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC

**Sump Check**

- Have any non-approved modifications been made to sump cover?  
 Is sump cover structurally sound?  
 Verify integrity of sump cover seal?  
 Does sealed sump cover draw smoke? \*\*

	<u>As Found</u>	<u>As Left</u>
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA <input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC

**Exhaust Stack Check**

- Distance above eave Commissioned distance: >1' Criteria: ≥ 1 ft  
 Distance from nearest opening Commissioned distance: Varying >10' Criteria: ≥ 10 ft  
 Distance above nearest opening Commissioned distance: Varying >2' Criteria: ≥ 2 ft  
 Are vertical exhaust stack supports installed every 8' maximum?  
 Distances from stack exhaust to openings appear to be unchanged?  
 \*\*\* If the existing exhaust stack is modified and/or removed and replaced as part of non-routine system maintenance, complete the "Stack Modification Field Form" and attach

<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC
<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> NA	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> UC

**Comments**


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**Notes:**

- \* As Found conditions = before corrective action. [NA = Not Applicable]
- \* As Left conditions = after corrective action. [UC = Unchanged from As Found conditions]
- \*\* If answered YES to this question, perform corrective action and re-test.



O'BRIEN &amp; GERE

## System Inspection Field Form

CRAWLSPACE

Routine or Non-Routine (circle one)

Address: 1 Holland Ave Structure ID #: \_\_\_\_\_Performed by: EA Date: 1/7/19Inaccessible Crawlspace (Ventilation)  NA

As Found*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Target Velocity (fpm)				
Measured Velocity (fpm)				
Meets Criteria? **				

As Left*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Target Velocity (fpm)				
Measured Velocity (fpm)				
Meets Criteria? **				

Is sampling port to Inaccessible crawl space threaded with a plug?  Yes  No  Yes  No  UCAccessible Crawlspace (Sub-Membrane Depressurization)  NA

As Found*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Prior Commissioned Manometer reading (" w.c.)				
As found Manometer reading (" w.c.)				

As Left*	Crawlspace 1	Crawlspace 2	Crawlspace 3	Crawlspace 4
SSP#				
Manometer reading (" w.c.)				

## Accessible Crawlspace Performance Inspection

	As Found		As Left	
Was each membrane joint smoke tested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> UC
Did smoke enter? ***	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> UC
Was the membrane perimeter smoke tested?	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> UC
Did smoke enter? ***	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> UC
Is the suction point manometer(s) reading $\leq -1/10$ " w.c.?****	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No <input type="checkbox"/> UC

## Comments

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\* As Found conditions = before corrective action. [NA = Not Applicable]

\* As Left conditions = after corrective action. [UC = Unchanged from As Found conditions]

\*\* Inaccessible Crawlspace Criteria: Measured velocity  $\geq 90\%$  of Target Velocity (adjust if  $>110\%$  of target velocity)

\*\*\* If answered YES to this question, perform corrective action and re-test.

\*\*\*\* If answered NO to this question, adjust valve accordingly and re-check all SSP and fan readings.

**IC/EC Certification Form**



Enclosure 2  
NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION  
Site Management Periodic Review Report Notice  
Institutional and Engineering Controls Certification Form



Site Details

Box 1

Site No. C360115

Site Name 1-5 Holland Avenue

Site Address: 1-5 Holland Avenue Zip Code: 10603

City/Town: White Plains

County: Westchester

Site Acreage: 0.722

Reporting Period: March 23, 2018 to March 23, 2019

YES  NO

1. Is the information above correct?

If NO, include handwritten above or on a separate sheet.

2. Has some or all of the site property been sold, subdivided, merged, or undergone a tax map amendment during this Reporting Period?  NO

3. Has there been any change of use at the site during this Reporting Period (see 6NYCRR 375-1.11(d))?  NO

4. Have any federal, state, and/or local permits (e.g., building, discharge) been issued for or at the property during this Reporting Period?  NO

If you answered YES to questions 2 thru 4, include documentation or evidence that documentation has been previously submitted with this certification form.

5. Is the site currently undergoing development?  YES

Box 2

YES  NO

6. Is the current site use consistent with the use(s) listed below?  
Commercial and Industrial

7. Are all ICs/ECs in place and functioning as designed?  YES

IF THE ANSWER TO EITHER QUESTION 6 OR 7 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

N/A

Signature of Owner, Remedial Party or Designated Representative

Date

**Box 2A**

YES  NO

8. Has any new information revealed that assumptions made in the Qualitative Exposure Assessment regarding offsite contamination are no longer valid?

If you answered YES to question 8, include documentation or evidence that documentation has been previously submitted with this certification form.

9. Are the assumptions in the Qualitative Exposure Assessment still valid?  
(The Qualitative Exposure Assessment must be certified every five years)

*YES*

If you answered NO to question 9, the Periodic Review Report must include an updated Qualitative Exposure Assessment based on the new assumptions.

**SITE NO. C360115**

**Box 3**

**Description of Institutional Controls**

<u>Parcel</u>	<u>Owner</u>	<u>Institutional Control</u>
125.07-1-1	1 Holland LLC	Ground Water Use Restriction Soil Management Plan Landuse Restriction Monitoring Plan Site Management Plan O&M Plan IC/EC Plan

Imposition of an institutional control in the form of an environmental easement for the controlled property that:

- requires the remedial party or site owner to complete and submit to the Department a periodic certification of institutional and engineering controls in accordance with Part 375-1.8 (h)(3);
- allows the use and development of the controlled property for commercial and industrial uses as defined by Part 375-1.8(g), although land use is subject to local zoning laws;
- restricts the use of groundwater as a source of potable or process water, without necessary water quality treatment as determined by the NYSDOH or County DOH; and
- requires compliance with the Department approved Site Management Plan.

**Box 4**

**Description of Engineering Controls**

<u>Parcel</u>	<u>Engineering Control</u>
125.07-1-1	Vapor Mitigation Cover System

1. Site cover system which is comprised of structures such as buildings, pavement, sidewalks comprising the site development and a soil cover in areas where the upper one foot of exposed surface soil will exceed the applicable soil cleanup objectives (SCOs) for commercial use.
2. Vapor mitigation system in the on-site building, consisting of five separate sub-slab depressurization systems to mitigate the entire building. The system also influences a portion of the adjacent property building.

**Periodic Review Report (PRR) Certification Statements**

1. I certify by checking "YES" below that:
  - a) the Periodic Review report and all attachments were prepared under the direction of, and reviewed by, the party making the certification;
  - b) to the best of my knowledge and belief, the work and conclusions described in this certification are in accordance with the requirements of the site remedial program, and generally accepted engineering practices; and the information presented is accurate and complete.
  
2. If this site has an IC/EC Plan (or equivalent as required in the Decision Document), for each Institutional or Engineering control listed in Boxes 3 and/or 4, I certify by checking "YES" below that all of the following statements are true:
  - (a) the Institutional Control and/or Engineering Control(s) employed at this site is unchanged since the date that the Control was put in-place, or was last approved by the Department;
  - (b) nothing has occurred that would impair the ability of such Control, to protect public health and the environment;
  - (c) access to the site will continue to be provided to the Department, to evaluate the remedy, including access to evaluate the continued maintenance of this Control;
  - (d) nothing has occurred that would constitute a violation or failure to comply with the Site Management Plan for this Control; and
  - (e) if a financial assurance mechanism is required by the oversight document for the site, the mechanism remains valid and sufficient for its intended purpose established in the document.

YES       NO

YES       NO

IF THE ANSWER TO QUESTION 2 IS NO, sign and date below and  
DO NOT COMPLETE THE REST OF THIS FORM. Otherwise continue.

A Corrective Measures Work Plan must be submitted along with this form to address these issues.

N/A

Signature of Owner, Remedial Party or Designated Representative

Date

IC CERTIFICATIONS  
SITE NO. C360115

Box 6

SITE OWNER OR DESIGNATED REPRESENTATIVE SIGNATURE

I certify that all information and statements in Boxes 1,2, and 3 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

I Tom Attone, Jr at 1 Holland LLC  
print name 1-5 Holland Ave, White Plains, NY 10603  
print business address

am certifying as Owner (Owner or Remedial Party)

for the Site named in the Site Details Section of this form.

X T. Attone  
Signature of Owner, Remedial Party, or Designated Representative  
Rendering Certification

X 4/9/2019  
Date

IC/EC CERTIFICATIONS

Box 7

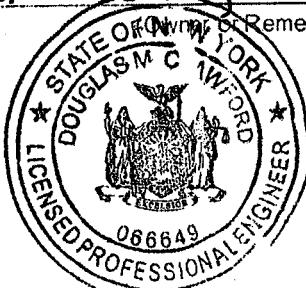
Professional Engineer Signature

I certify that all information in Boxes 4 and 5 are true. I understand that a false statement made herein is punishable as a Class "A" misdemeanor, pursuant to Section 210.45 of the Penal Law.

O'Brien + Gere Engineers, Inc.

I Douglas M. Crawford at 333 W. Washington St., Syracuse, N.Y. 13221  
print name print business address

am certifying as a Professional Engineer for the Remedial Party



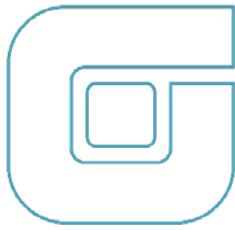
Douglas M. Crawford  
Signature of Professional Engineer, for the Owner or  
Remedial Party, Rendering Certification

Stamp  
(Required for PE)

4/11/19  
Date



## Groundwater Sampling Report



OBG | There's a way

July 5, 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, New York  
FILE: 14206/69528

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 first of two rounds scheduled in 2018, which is the fourth year the SMP has been implemented. As detailed in the Periodic Review Report (PRR) for reporting year 2017, One Holland Avenue Development, LLC has requested a reduction in the groundwater monitoring frequency from semi-annual to annual, and discontinuing monitoring of the two upgradient wells (MW-6 and 6SB) on the 7-11 Holland Avenue property and decommissioning those wells.

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 April 29 and May 1, 2018, 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 May 15, 2018. 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	05/15/18		
MW-4S	1,040		10	21 (BD 21)	890		327	460	730	400	107	158	151	180
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)	270(BD 300)

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 and -4S are within the same order of magnitude. The blind duplicate sample collected at MW-4D also indicates a PCE concentration within the same order of magnitude compared to the prior sampling event. PCE degradation compounds were not detected in source area wells. A review of the current and two prior sampling events indicates that the concentrations of PCE have stabilized in source area wells.

#### ■ 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	05/15/18
MW-1 (Sidegrad)	2	0.39	3	<b>16</b>	3	<b>10</b>	3	1	2	<b>29</b>	2	<b>34</b>
MW-2 (Downgrad)	<b>27</b>	<b>6</b>	<b>19</b>	<b>94</b>	<b>158</b>	<b>33</b>	<b>64</b>	<b>55</b>	<b>15</b>	<b>44</b>	<b>83</b>	<b>123</b>
MW-2SB (Downgrad)	0.78	0.71	1	0.52	0.48	0.34	0.24	0.36	0.22	<1.0	0.37	0.43
MW-2DB (Downgrad)	3	0.42	3	4	4	3	3	3	2	2	4	4
MW-5 (Downgrad)	<b>165</b>	<b>5</b>	<b>67</b>	<b>5</b>	4	4	2	2	<b>32</b>	<b>42</b>	<b>7</b>	<b>4</b>
MW-5SB (Downgrad)	4	3	3	3	2	2	2	1	2	0.43 J	2	4
MW-5DB (Downgrad)	1	0.81	0.95	0.41	0.48	0.55	0.39	0.31	0.25	3	0.34	0.28

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 =  $\mu\text{g/L}$ , ppb

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	10/30/17	05/15/18
MW-7	<b>14</b>	<b>57</b>	<b>71</b>	<b>47</b>	<b>32</b>	<b>34</b>	<b>15</b>	<b>32</b>	<b>31</b>	<b>68</b>
MW-7SB	6	7	3	1	0.97	0.86	0.59	0.27 J	<1.0	0.32
MW-8	1 (BD <0.67)	4	1	2	1	1	1	3	2	1
MW-8SB	<b>265</b>	<b>292</b>	3	<b>280</b>	<b>359</b>	<b>240</b>	<b>190</b>	<b>229</b>	<b>271</b>	<b>360</b>
MW-9	0.18	<1.0	0.38	<1.0	0.25	<1.0	0.31	<1.0	0.31	<1.0
MW-9SB	0.3	0.34	0.26	0.21	<1.0	<1.0	<1.0	<1.0	<1.0	0.28

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 =  $\mu\text{g/L}$ , ppb

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 12  $\mu\text{g/L}$  in MW-8; and cis-1,2-dichloroethene at 10  $\mu\text{g/L}$  and trichloroethene at 20



$\mu\text{g}/\text{L}$  in MW-8SB. The GA standards for vinyl chloride, cis-1,2-dichloroethene, and trichloroethene are 2  $\mu\text{g}/\text{L}$ , 5  $\mu\text{g}/\text{L}$ , and 5  $\mu\text{g}/\text{L}$ , respectively.

#### **4. REMEDIAL ACTION OBJECTIVES ASSESSMENT**

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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 seven rounds of groundwater monitoring completed during the first 3.5 years of implementing the SMP and consistent with the recommendations in the PRR for reporting year 2017, the following proposed modifications to the scope and frequency of groundwater monitoring are presented below:

- 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 or have stabilized in source area wells over the first 3.5 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**

Parameter	Well ID: Screen Interval (ft above msl): Date Sampled:	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-1	MW-2		
		182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	182.7 - 192.7	181.4 - 191.4	181.4 - 191.4	
		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)	05/15/2018 (Post ISCO)	10/21/2011	5/2/2012					
		<b>6 NYCRR Part 703/TOGS</b> <b>1.1.1 Class GA</b> <b>Groundwater Standards</b>	<b>On-Site Locations</b>																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																		
1,1,1-Trichloroethane	ug/L	5	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.330
1,1,2,2-Tetrachloroethane	ug/L	5	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.310	<0.320
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.420
1,1,2-Trichloroethane	ug/L	1	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.220
1,1-Dichloroethane	ug/L	5	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.260
1,1-Dichloroethene	ug/L	5	<0.710	<0.410	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.710	<0.410
1,2,3-Trichlorobenzene	ug/L	5	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.210
1,2,4-Trichlorobenzene	ug/L	5	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<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	<0.05	<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	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.00855	<0.00855
1,2-Dichlorobenzene	ug/L	3	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.230
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.200
1,2-Dichloropropane	ug/L	1	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.250
1,3-Dichlorobenzene	ug/L	3	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.230
1,4-Dichlorobenzene	ug/L	3	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.230
1,4-Dioxane	ug/L	NC	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<5	<3	<3	<3	<3	<3	<3	<3	<22.5 R	<0.301
2-Butanone (MEK)	ug/L	50	<0.630	<0.550	3.4 J	<10	0.79 J	0.63 J	<10	<10	0.43 J	8.3 J	<10	<10	1.30 J	<0.630	<0.550		
2-Hexanone	ug/L	50	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<0.260	<0.370
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.510	<0.350	<0.35	<10	<10	<10	0.37 J	<10	<10	<10	<10	<10	<10	<10	<10	<0.510	<0.350
Acetone	ug/L	50	<0.870	<0.280	<4.0	1.38 J	4.24 J	2.67 J	<10	1.27 J	<10	2.89 J	18	<10	2.44 J	4.60 J	<0.870	<0.280	
Benzene	ug/L	1	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.250
Bromochloromethane	ug/L	5	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.470	<0.300
Bromodichloromethane	ug/L	50	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.260
Bromoform	ug/L	50	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.260	<0.460
Bromomethane	ug/L	5	<0.510	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.670	<0.250
Carbon disulfide	ug/L	NC	<0.670	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.500	<0.300
Carbon tetrachloride	ug/L	5	<0.500	<0.360	.....	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.360
Chlorobenzene	ug/L	5	<0.400	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.220
Chloroethane	ug/L	5	<0.480	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.780	<0.360
Chloroform	ug/L	7	<0.340	<0.220	<0.15	<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**

No

**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

### Ambient Water Limitations.

**ft above msl** = feet above mean sea level

**BOLD** = Exceeds TOGS 1.1.1 Class GA Groundwater Standard

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

The concentration was detected at a value below the reporting above the MDL.

**R** = The result was rejected during data validation.

**D** = Diluted sample result

**units = ug/L or parts**

**NA** = Not Available

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

No

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 Ground

\* = 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 =  $\mu\text{g/L}$  or parts per million**

NA = Not Available

NC = No Criteria

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-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-2SB	MW-4D	MW-4D	MW-4D	MW-4D			
	Screen Interval (ft above msl):	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	148.9 - 158.9	148.9 - 158.9	158 - 168	158 - 168	158 - 168	158 - 168			
	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)	05/15/2018 (Post ISCO)	5/5/2011	10/19/2011	5/1/2012	6/10/2013 (Post ISCO)		
	6 NYCCR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																	
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<17.5	<16.5	<54	<1		
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.60	<15.5	<16.0	<53	<1		
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.40	<22.0	<21.0	<93	<1		
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.4	<18.0	<11.0	<69	<1		
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.80	<21.5	<13.0	<29	<1		
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.20	<35.5	<20.5	<54	<1		
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.80	<19.5	<10.0	<49	<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	<0.05	<13.2	<0.00855	<0.00855	<0.0080	<0.05		
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.00	<0.00855	<0.00855	<24	<1		
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.80	<18.0	<11.5	<27	<1		
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.20	<21.0	<10.0	<34	<1		
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.20	<26.0	<12.5	<36	<1		
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.20	<21.0	<11.5	<40	<1		
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.60	<16.5	<11.5	<36	<1		
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<3	<3	<3	<1	<404	<1130 R	<301	<97	<5		
2-Butanone (MEK)	ug/L	50	<10	0.62 J	0.64 J	<10	<10	<10	<10	12	<10	2.76 J	<10.2	<31.5	<27.5	<650	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<10	<10	<10	<10	<7.40	<13.0	<18.5	<37	<10		
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	<10	<10	<10	<10	0.17 J	<10	0.35 J	<8.20	<25.5	<17.5	<70	<10		
Acetone	ug/L	50	1.38 J	3.13 J	3.81 J	<10	2.26 J	<10	2.07 J	13	53 J	4.96 J	7.60 J	<12.2	<43.5	<14.0	<800	5.06 J
Benzene	ug/L	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.00	<21.5	<12.5	<22	<1		
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.2	<23.5	<15.0	<72	<1		
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<7.00	<17.5	<13.0	<38	<1		
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<10.4	<13.0	<23.0	<70	<1		
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<13.6	<33.5	<12.5	<37	<1		
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.60	<25.0	<15.0	<25	<1		
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<5.80	<20.0	<18.0	<38	<1		
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<24.0	<11.0	<31	<1		
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<9.60	<39.0	<18.0	<43	<1		
Chloroform	ug/L	7	0.96 J	0.84 J	0.60 J	0.63 J	0.55 J	0.36 J	0.36 J	0.32 J	0.25 J	0.32 J	0.23 J	<8.20	<17.0	<11.0	<30	<1
Chlormethane	ug/L	5	<1	<1	<1	<1	<1	<1	0.15 J	<1	<1	<8.60	<17.5	<14.0	<39	<1		
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<11.2	<19.0	<15.0	<42	<1		
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<7.20	<18.0	<12.5	<33	<1		
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<1	<1	<1	<1	<4.60	<23.0	<19.0	<65	<1		
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.60	<18.0	<12.0	<40	<1		
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<8.40	<21.0	<14.5	<110	<1		
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.80	<17.0	<11.0	<20	<1		
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<6.00	<19.5	<10.5	<23	<1		
Methyl acetate	ug/L	NC	<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-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-4D	(DUP) MW-4D	MW-4D	
	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	158 - 168	158 - 168	158 - 168	
	Date Sampled:	1/14/2014 (Post ISCO)	7/17/2014 (Post ISCO)	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	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)	5/18/2017 (Post ISCO)	10/30/2017 (Post ISCO)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>		<b>Units</b>																
1,1,1-Trichloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1,2-Tetrachloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1-Dichloroethane	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,1-Dichloroethene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2,3-Trichlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2,4-Trichlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.02	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,2-Dichloropropane	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,3-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,4-Dichlorobenzene	ug/L	3	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
1,4-Dioxane	ug/L	NC	<5	<5	<5	<5	<5	<5	<3	<1	<3	<3	<5	<5	<3	<3	<1	
2-Butanone (MEK)	ug/L	50	0.78 J	<200	<200	<10	<10	<10	20 J	2.9 J	<1000	<1000	<500	<500	<500	<500	1.5 J	
2-Hexanone	ug/L	50	<10	<200	<200	<10	<10	<10	<100	<1000	<1000	<500	<500	<500	<500	<50		
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<200	<200	<10	<10	<10	<100	<1000	<1000	<500	<500	<500	<500	<500		
Acetone	ug/L	50	4.61 J	12 J	<200	<10	<10	1.97 J	2.02 J	<500	<1000	<1000	<500	<500	<500	<500	4.4 J	
Benzene	ug/L	1	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromochloromethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromodichloromethane	ug/L	50	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromoform	ug/L	50	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Bromomethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Carbon disulfide	ug/L	NC	<1	<20	<20	0.35 J	0.19 J	<1	0.28 J	<50	<10	<100	<100	<50	<50	<50	<5	
Carbon tetrachloride	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chlorobenzene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloroethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloroform	ug/L	7	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Chloromethane	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
cis-1,2-Dichloroethene	ug/L	5	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Cyclohexane	ug/L	NC	<1	<20	<20	<1	<1	<1	<50	<10	<100	<100	<50	<50	<50	<50	<5	
Dibromochloromethane	ug/L	50	<1	<20	<20	<1	<1	<1	&lt									

**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-4S	MW-4S	MW-4S	DUP (MW-4S)	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	MW-4S	
	Screen Interval (ft above msl):	158 - 168	158 - 168	158 - 168	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	178.4 - 188.5	178.4 - 188.5	
	Date Sampled:	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	05/15/2018 (Post ISCO)	10/19/2011	5/1/2012	6/10/2013	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)
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																
1,1,1-Trichloroethane	ug/L	5	<1	<10	<10	<3.50	<3.30	<14	<1	<1	<1	<10	<1	<20	<10	<10	
1,1,2-Tetrachloroethane	ug/L	5	<1	<10	<10	<3.10	<3.20	<13	<1	<1	<1	<10	<1	<20	<10	<10	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<10	<10	<4.40	<4.20	<23	<1	<1	<1	<10	<1	<20	<10	<10	
1,1-Dichloroethane	ug/L	1	<1	<10	<10	<3.60	<2.20	<17	<1	<1	<1	<10	<1	<20	<10	<10	
1,1-Dichloroethene	ug/L	5	<1	<10	<10	<4.30	<2.60	<b>7.3</b>	<1	<1	<1	<10	<1	<20	<10	<10	
1,2,3-Trichlorobenzene	ug/L	5	<1	<10	<10	<4.20	<2.10	<12	<1	<1	<1	<10	<1	<20	<10	<10	
1,2,4-Trichlorobenzene	ug/L	5	<1	<10	<10	<3.90	<2.00	<12	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<10	<10	<0.00855	<0.00855	<6.1	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichlorobenzene	ug/L	3	<1	<10	<10	<3.60	<2.30	<6.7	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<10	<10	<4.20	<2.00	<8.6	<1	<1	<1	<10	<1	<20	<10	<10	
1,2-Dichloropropane	ug/L	1	<1	<10	<10	<5.20	<2.50	<9.1	<1	<1	<1	<10	<1	<20	<10	<10	
1,3-Dichlorobenzene	ug/L	3	<1	<10	<10	<4.20	<2.30	<10	<1	<1	<1	<10	<1	<20	<10	<10	
1,4-Dichlorobenzene	ug/L	3	0.31 J	<10	<10	<3.30	<2.30	<9.0	<1	<1	<1	<10	<1	<20	<10	<10	
1,4-Dioxane	ug/L	NC	<1	<1	<1	<225 R	<0.301	<0.97	<5	<5	<5	<5	<5	<3	<1	<3	
2-Butanone (MEK)	ug/L	50	<10	<100	<100	<6.30	<5.50	<160	<10	0.71 J	1.00 J	<100	<10	<200	3.0 J	<100	
2-Hexanone	ug/L	50	<10	<100	<100	<2.60	<3.70	<9.4	<10	<10	<10	<100	<10	<200	<100	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<100	<100	<5.10	<3.50	<18	<10	<10	<10	<100	<10	<200	<100	0.12 J	
Acetone	ug/L	50	3.81 J	28.3 J	30.2 J	<8.70	<2.80	<200	3.71 J	2.65 J	3.06 J	9.3 J	4.6 J	<200	<100	11	
Benzene	ug/L	1	<1	<10	<10	<4.30	<2.50	<5.6	<1	<1	<1	<10	<1	<20	<10	<1	
Bromochloromethane	ug/L	5	<1	<10	<10	<4.70	<3.00	<18	<1	<1	<1	<10	<1	<20	<10	<1	
Bromodichloromethane	ug/L	50	<1	<10	<10	<3.50	<2.60	<9.6	<1	<1	<1	<10	<1	<20	<10	<1	
Bromoform	ug/L	50	<1	<10	<10	<2.60	<4.60	<18	<1	<1	<1	<10	<1	<20	<10	<1	
Bromomethane	ug/L	5	<1	<10	<10	<5.10	<2.50	<9.2	<1	<1	<1	<10	<1	<20	<10	<1	
Carbon disulfide	ug/L	NC	<1	<10	<10	<6.70	<3.00	<6.3	<1	<1	<1	<10	<1	<20	<10	<1	
Carbon tetrachloride	ug/L	5	<1	<10	<10	<5.00	<3.60	<9.4	<1	<1	<1	<10	<1	<20	<10	<1	
Chlorobenzene	ug/L	5	<1	<10	<10	<4.00	<2.20	<7.8	<1	<1	<1	<10	<1	<20	<10	<1	
Chloroethane	ug/L	5	<1	<10	<10	<4.80	<3.60	<11	<1	<1	<1	<10	<1	<20	<10	<1	
Chloroform	ug/L	7	<1	<10	<10	<3.40	<2.20	<7.5	<1	<1	<1	<10	<1	<20	<10	<1	
Chlormethane	ug/L	5	<1	<10	<10	<3.50	<2.80	<9.8	<1	<1	<1	<10	<1	<20	<10	0.16 J	
cis-1,2-Dichloroethene	ug/L	5	<1	<10	<10	<3.80	<3.00	<11	<1	<1	<1	<10	<1	<20	<10	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<10	<10	<3.60	<2.50	<8.4	<1	<1	<1	<10	<1	<20	<10	<1	
Cyclohexane	ug/L	NC	<1	<10	<10	<4.60	<3.80	<16	<1	<1	<1	<10	<1	<20	<10	<1	
Dibromochloromethane	ug/L	50	<1	<10	<10	<3.60	<2.40	<10.0	<1	<1	<1	<10	<1	<20	<10	<1	
Dichlorodifluoromethane	ug/L	5	<1	<10	<10	<4.20	<2.90	<29	<1	<1	<1	<10	<1	<20	<10	<1	
Ethylbenzene	ug/L	5	<1	<10	<10	<3.40	<2.20	<5.1	<1	<1	<1	<10	<1	<20	<10	<1	
Isopropylbenzene	ug/L	5	<1	<10													

**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	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	MW-5	
	Screen Interval (ft above msl):	178.4 - 188.5	178.4 - 188.5	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	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	
	Date Sampled:	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	10/21/2011	5/2/2012	6/10/2013	11/15/2013 (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)	5/15/2018 (Post ISCO)	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																	
1,1,1-Trichloroethane	ug/L	5	<1	<10	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<10	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<10	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<1	<10	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<10	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<10	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<10	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	<0.0855	<0.0855	<0.080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<10	<0.0855	<0.0855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<10	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<10	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<10	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<10	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<10	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<1	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<3	<3	<3	<3	<3	<3	
2-Butanone (MEK)	ug/L	50	<10	<100	<0.630	<0.550	8.0 J	<10	0.42 J	0.84 J	<10	<10	0.39 J	9.0 J	<10	<10	1.59 J	
2-Hexanone	ug/L	50	<10	<100	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<100	<0.510	<0.350	<0.35	<10	<10	<10	<10	<10	<10	0.14 J	<10	<10	0.26 J	
Acetone	ug/L	50	2.46 J	26.7 J	<0.870	<0.280	<4.0	1.25 J	1.99 J	6.02 J	<10	0.69 J	<10	2.40 J	9.9 J	<10	2.39 J	4.88 J
Benzene	ug/L	1	<1	<10	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<10	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<10	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<10	<0.260	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<10	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<10	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<10	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<10	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<10	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroform	ug/L	7	<1	<10	<0.340	<0.220	<0.15	<1	<1	<1	<1	<1	<1	<1	0.11 J	<1	<1	
Chlormethane	ug/L	5	<1	<10	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<10	<0.380	<0.300	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<10	<0.360	<0.250	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<10	<0.460	<0.380	<0.32	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<10	<0.360	<0.240	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dichlorodifluoromethane	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-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	DUP (MW-5DB)	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	MW-5DB	
	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	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	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:	5/5/2011	10/21/2011	5/2/2012	6/10/2013		11/15/2013 (Post ISCO)	11/15/2013 (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)	05/15/2018 (Post ISCO)			
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																				
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>																				
1,1,1-Trichloroethane	ug/L	5	<0.420	<0.350	<0.330	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.280	<0.310	<0.320	<0.27	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.320	<0.440	<0.420	<0.46	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<0.570	<0.360	<0.220	<0.34	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<0.440	<0.430	<0.260	<0.15	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<0.550	<0.420	<0.210	<0.25	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<0.340	<0.390	<0.200	<0.24	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.660	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.400	<0.00855	<0.00855	<0.12	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<0.340	<0.360	<0.230	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.460	<0.420	<0.200	<0.17	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<0.460	<0.520	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<0.410	<0.420	<0.230	<0.20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<0.430	<0.330	<0.230	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<20.2	<22.5 R	<0.301	<0.97	<5	<5	<5	<5	<5	<5	<5	<5	<3	<3	<3	<3	<3	<3	
2-Butanone (MEK)	ug/L	50	<0.510	<0.630	<0.550	4.8 J	<10	0.47 J	0.79 J	<10	<10	<10	<10	<10	10	<10	<10	1.55 J			
2-Hexanone	ug/L	50	<0.370	<0.260	<0.370	<0.19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.410	<0.510	<0.350	<0.35	<10	<10	<10	<10	0.38 J	<10	<10	<10	0.15 J	<10	<10	0.26 J			
Acetone	ug/L	50	<0.610	<0.870	<0.280	<4.0	<10	0.89 J	3.42 J	4.48 J	<10	1.63 J	<10	2.01 J	9.9 J	<10	2.23 J	5.41 J			
Benzene	ug/L	1	<0.250	<0.430	<0.250	<0.11	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<0.560	<0.470	<0.300	<0.36	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<0.350	<0.350	<0.260	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<0.520	<0.460	<0.35	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<0.680	<0.670	<0.250	<0.18	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<0.330	<0.500	<0.300	<0.13	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<0.290	<0.400	<0.360	<0.19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<0.420	<0.480	<0.220	<0.16	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<0.480	<0.780	<0.360	<0.21	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	0.85 J	<1	<1	<1	
Chloroform	ug/L	7	1.54	0.425 J	&																

**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 due to

D = Diluted sample re

**units** = ug/L or parts per bi

**NA** = Not Available

**NC = No Criteria**

**Table 1**  
**Groundwater Quality VOC Data Summary**  
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**Brownfield Cleanup Program No. C360115**  
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Notes

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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 Ground

\* = Analyzed for but Not Detected at

J = The concentration was detected at a value below :

above the MDL.

**R** = The result was rejected.

R = Diluted sample result

D = Diluted sample result  
units =  $\mu\text{g/l}$  or parts per billion

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-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-6SB	MW-7	MW-7	MW-7	MW-7	MW-7		
	Screen Interval (ft above msl):	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	174.7 - 184.7	174.7 - 184.7	174.7 - 184.7		
	Date Sampled:	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)	10/30/2017 (Post ISCO)	05/15/2018 (Post ISCO)	10/18/2011	5/1/2012	6/11/2013	7/17/2014 (Post ISCO)	10/10/2014 (Post ISCO)	5/8/2015 (Post ISCO)
	6 NYCR Part 703/TOGS 1.1.1 Class GA Groundwater Standards											Off-Site Downgradient Locations					
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>		<b>Units</b>															
1,1,1-Trichloroethane	ug/L	5	<0.27	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.330	<0.10	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<0.27	<1	<1	<1	<1	<1	<1	<1	<0.310	<0.320	<0.067	<1	<1	<1	
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.46	<1	<1	<1	<1	<1	<1	<1	<0.440	<0.420	<0.15	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<0.34	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.039	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<0.15	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.260	<0.041	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<0.25	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.210	<0.030	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<0.24	<1	<1	<1	<1	<1	<1	<1	<0.390	<0.200	0.020 JB	<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	<0.0855	<0.00855	<0.0080	<0.05	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.12	<1	<1	<1	<1	<1	<1	<1	<0.0855	<0.00855	<0.045	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<0.13	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.230	<0.053	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.17	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.200	<0.039	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.520	<0.250	<0.045	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.230	<0.027	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.330	<0.230	<0.036	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<0.97	<5	<5	<5	<3	<1	<3	<1	<0.301	<0.97	<5	<5	<5	<5	
2-Butanone (MEK)	ug/L	50	6.4 J	0.88 J	<10	<10	<10	<10	12	<10	1.43 J	<0.630	<0.550	4.3 J	0.79 J	<10	
2-Hexanone	ug/L	50	<0.19	<10	<10	<10	<10	<10	<10	<10	<0.260	<0.370	<0.30	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.35	<10	<10	<10	<10	<10	0.15 J	<10	<10	<0.510	<0.350	<0.14	<10	<10	
Acetone	ug/L	50	<4.0	5.39 J	<10	1.50 J	<10	1.68 J	13	<10	2.62 J	5.13 J	<0.870	<0.280	<3.0	5.40 J	<10
Benzene	ug/L	1	<0.11	<1	<1	<1	<1	<1	<1	<1	<0.430	<0.250	<0.014	<1	<1	<1	
Bromochloromethane	ug/L	5	<0.36	<1	<1	<1	<1	<1	<1	<1	<0.470	<0.300	<0.13	<1	<1	<1	
Bromodichloromethane	ug/L	50	<0.19	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.260	<0.025	<1	<1	<1	
Bromoform	ug/L	50	<0.35	<1	<1	<1	<1	<1	<1	<1	<0.260	<0.460	<0.035	<1	<1	<1	
Bromomethane	ug/L	5	<0.18	<1	<1	<1	<1	<1	<1	<1	<0.670	<0.250	<0.13	<1	<1	<1	
Carbon disulfide	ug/L	NC	<0.13	<1	<1	<1	<1	0.32 J	<1	<1	<0.500	<0.300	<0.028	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<0.19	<1	<1	<1	<1	<1	<1	<1	<0.400	<0.360	<0.025	<1	<1	<1	
Chlorobenzene	ug/L	5	<0.16	<1	<1	<1	<1	<1	<1	<1	<0.480	<0.220	<0.032	<1	<1	<1	
Chloroethane	ug/L	5	<0.21	<1	<1	<1	<1	<1	<1	<1	<0.780	<0.360	<0.11	<1	<1	<1	
Chloroform	ug/L	7	<0.15	<1	<1	<1	<1	<1	<1	<1	<0.340	<0.220	0.080 J	<1	<1	<1	
Chlormethane	ug/L	5	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.350	<0.280	<0.072	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<0.21	<1	<1	<1	<1	<1	<1	<1	<0.380	<0.300	<0.045	<1	0.22 J	<1	
cis-1,3-Dichloropropene	ug/L	0.4	<0.17	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.250	<0.019	<1	<1	<1	
Cyclohexane	ug/L	NC	<0.32	<1	<1	<1	<1	<1	<1	<1	<0.460	<0.380	<0.11	<1	<1	<1	
Dibromochloromethane	ug/L	50	<0.20	<1	<1	<1	<1	<1	<1	<1	<0.360	<0.240	<0.031	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<0.57	<1	<1	<1	<1	<1	<1	<1	<0.420	<0.290	<0.058	<1	<1	<1	
Ethylbenzene	ug/L	5	<0.10	<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-7SB	MW-7SB	MW-7SB	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	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	145.8 - 155.8	145.8 - 155.8	145.8 - 155.8	
	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)	05/15/2018 (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)	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																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	Units																
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.330	<0.10	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.310	<0.320	<0.067	<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	<0.15	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane	ug/L	1	<1	<1	<1	<1	<1	<0.360	<0.220	<0.039	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	<0.430	<0.260	<0.041	<1	<1	<1	<1	<1	<1	
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.210	0.040 JB	<1	<1	<1	<1	<1	<1	
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.390	<0.200	0.040 JB	<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	<0.00855	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1	<1	<1	<0.00855	<0.00855	<0.045	<1	<1	<1	<1	<1	<1	
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.360	<0.230	<0.053	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1	<1	<1	<0.420	<0.200	<0.039	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane	ug/L	1	<1	<1	<1	<1	<1	<0.520	<0.250	<0.045	<1	<1	<1	<1	<1	<1	
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.420	<0.230	<0.027	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1	<1	<1	<0.330	<0.230	<0.036	<1	<1	<1	<1	<1	<1	
1,4-Dioxane	ug/L	NC	<3	<1	<3	<1	<1	<22.5 R	<0.301	<0.97	<5	<5	<5	<3	<1	<3	
2-Butanone (MEK)	ug/L	50	<10	<10	11	<10	1.70 J	<0.630	<0.550	4.6 J	0.65 J	<10	<10	0.56 J	13	<10	
2-Hexanone	ug/L	50	<10	<10	<10	<10	<10	<0.260	<0.370	<0.30	<10	<10	<10	<10	<10	<10	
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	0.14 J	<10	<10	0.32 J	<0.510	<0.350	<0.14	<10	<10	<10	<10	0.18 J	
Acetone	ug/L	50	<10	1.79 J	13	<10	2.14 J	6.22 J	<0.870	<0.280	<3.0	5.50 J	<10	1.43 J	<10	3.06 J	
Benzene	ug/L	1	<1	<1	<1	<1	<1	<0.430	<0.250	0.030 J	<1	<1	<1	<1	<1	<1	
Bromochloromethane	ug/L	5	<1	<1	<1	<1	<1	<0.470	<0.300	<0.13	<1	<1	<1	<1	<1	<1	
Bromodichloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.350	<0.260	<0.025	<1	<1	<1	<1	<1	<1	
Bromoform	ug/L	50	<1	<1	<1	<1	<1	<0.260	<0.460	<0.035	<1	<1	<1	<1	<1	<1	
Bromomethane	ug/L	5	<1	<1	<1	<1	<1	<0.510	<0.250	<0.13	<1	<1	<1	<1	<1	<1	
Carbon disulfide	ug/L	NC	<1	<1	<1	<1	<1	<0.670	<0.300	<0.028	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride	ug/L	5	<1	<1	<1	<1	<1	<0.500	<0.360	<0.025	<1	<1	<1	<1	<1	<1	
Chlorobenzene	ug/L	5	<1	<1	<1	<1	<1	<0.400	<0.220	<0.032	<1	<1	<1	<1	<1	<1	
Chloroethane	ug/L	5	<1	<1	<1	<1	<1	<0.480	<0.360	<0.11	<1	<1	<1	<1	<1	<1	
Chloroform	ug/L	7	<1	<1	<1	<1	<1	0.635 J	0.868 J	0.810 J	0.92 J	0.72 J	0.22 J	<1	<1	<1	
Chlormethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.280	<0.072	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	0.26 J	<1	<1	1.03	<0.300	<0.045	<1	<1	0.29 J	<1	0.15 J	
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1	<1	<1	<0.360	<0.250	<0.019	<1	<1	<1	<1	<1	<1	
Cyclohexane	ug/L	NC	<1	<1	<1	<1	<1	<0.460	<0.380	<0.11	<1	<1	<1	<1	<1	<1	
Dibromochloromethane	ug/L	50	<1	<1	<1	<1	<1	<0.360	<0.240	<0.031	<1	<1	<1	<1	<1	<1	
Dichlorodifluoromethane	ug/L	5	<1	<1	<1	<1	<1	<0.420	<0.290	<0.058	<1	<1	<1	<1	<1	<1	
Ethylbenzene	ug/L	5	<1	<1	<1	<1	<1	<0.340	<0.220	<0.011	<1	<1	<1	<1	<1	<1	
Isopropylbenzene	ug/L	5	<1	<1	<1	<1	<1	<0.390	<0.210	&lt							

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

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## 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

\* = 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

D = Diluted sample result

D = Diluted sample results

**NA = Net 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-8SB	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:	4/30/2012	6/10/2013	(Post ISCO)	7/17/2014	10/10/2014	5/7/2015	10/9/2015	5/4/2016	10/26/2016	6/8/2017	10/30/2017	05/15/2018	(Post ISCO)	10/20/2011	5/1/2012
<b>6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards</b>																	
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>		<b>Units</b>															
1,1,1-Trichloroethane	ug/L	5	<0.330	<1.4	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.330	<0.27	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<0.320	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.310	<0.320	<0.27	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<0.420	<2.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.440	<0.420	<0.46	<1
1,1-Dichloroethane	ug/L	1	<0.220	<1.7	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	<0.220	<0.34	<1
1,1-Dichloroethene	ug/L	5	<0.260	<0.73	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.430	<0.260	<0.15	<1
1,1-Dichloroethylene	ug/L	5	<0.410	<1.3	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.410	<0.27	<1	<1
1,2,3-Trichlorobenzene	ug/L	5	<0.210	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.210	<0.25	<1
1,2,4-Trichlorobenzene	ug/L	5	<0.200	<1.2	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.390	<0.200	<0.24	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.00855	<0.0080	<0.05	<0.05	<0.05	<0.02	<0.05	<0.05	<0.05	<0.05	<0.05	<0.00855	<0.00855	<0.0080	<0.05
1,2-Dibromoethane (EDB)	ug/L	0.0006	<0.00855	<0.61	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.00855	<0.00855	<0.12	<1
1,2-Dichlorobenzene	ug/L	3	<0.230	<0.67	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	<0.230	<0.13	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<0.200	<0.86	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.200	<0.17	<1
1,2-Dichloropropane	ug/L	1	<0.250	<0.91	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.520	<0.250	<0.18	<1
1,3-Dichlorobenzene	ug/L	3	<0.230	<1.0	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.420	<0.230	<0.20	<1
1,4-Dichlorobenzene	ug/L	3	<0.230	<0.90	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.330	<0.230	<0.18	<1
1,4-Dioxane	ug/L	NC	<0.301	<0.97	<5	<5	<3	<1	<3	<1	<1	<1	<1	<22.5 R	<0.301	<0.97	<5
2-Butanone (MEK)	ug/L	50	<0.550	<16	<50	<10	<100	1.7 J	<100	<200	<10	<50	<100	<0.630	<0.550	3.7 J	1.09 J
2-Hexanone	ug/L	50	<0.370	<0.94	<50	<10	<100	<50	<100	<200	<10	<50	<100	<0.260	<0.370	<0.19	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<0.350	<1.8	<50	<10	<100	<50	<100	<200	<10	<50	<100	<0.510	<0.350	<0.35	<10
Acetone	ug/L	50	<0.280	<20	6.9 J	<10	<100	<50	<100	<200	<10	<50	23.7 J	<0.870	<0.280	<4.0	5.10 J
Benzene	ug/L	1	<0.250	<0.56	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.430	<0.250	<0.11	<1
Bromochloromethane	ug/L	5	<0.300	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.470	<0.300	<0.36	<1
Bromodichloromethane	ug/L	50	<0.260	<0.96	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.260	<0.19	<1
Bromoform	ug/L	50	<0.460	<1.8	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.260	<0.460	<0.35	<1
Bromomethane	ug/L	5	<0.250	<0.92	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.670	<0.250	<0.18	<1
Carbon disulfide	ug/L	NC	<0.301	<0.97	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.500	<0.300	<0.13	<1
Carbon tetrachloride	ug/L	5	<0.360	<0.94	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.400	<0.360	<0.19	<1
Chlorobenzene	ug/L	5	<0.220	<0.78	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.480	<0.220	<0.16	<1
Chloroethane	ug/L	5	<0.360	<1.1	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.780	<0.360	<0.21	<1
Chloroform	ug/L	7	<0.220	<0.75	<5	5	<10	<5	<10	<20	<1	<5	<10	9.28	<0.220	<0.15	<1
Chloromethane	ug/L	5	<0.280	<0.98	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.350	<0.280	<0.20	<1
cis-1,2-Dichloroethene	ug/L	5	3.98	4.4 J	9	<1	10	10	8.3 J	9.6 J	9	8	10	<0.380	<0.300	<0.21	<1
cis-1,3-Dichloropropene	ug/L	0.4	<0.250	<0.84	<5	<1	<10	<5	<10	<20	<1	<5	<10	<0.360	<0.250	<0.17	<1
Cyclohexane	ug/L	NC	<0.380	&													

**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-9	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	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		
	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)	05/15/2018 (Post ISCO)	10/20/2011	5/2/2012	6/10/2013 (Post ISCO)	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 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards																
<b>VOLATILE ORGANIC COMPOUNDS (VOCs) Units</b>																	
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-Dichloroethene	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	<0.05	<0.00855	<0.00855	<0.0080	<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	<3	<1	<1	<1	
2-Butanone (MEK)	ug/L	50	<10	<10	<10	<10	<10	1.96 J	<0.630	<0.550	<3.3	0.69 J	<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	0.41 J	<0.510	<0.350	<10	<10	<10	<10	<10	0.10 J	
Acetone	ug/L	50	1.60 J	<10	2.63 J	41	<10	2.01 J	6.13 J	<0.870	<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	<0.32 J	3.81	0.563 J	<0.94 J	0.88 J	0.88 J	0.86 J	0.83 J	0.53 J	
Chlormethane	ug/L	5	<1	<1	<1	<1	<1	<0.350	<0.280	<0.20	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1	<1	<1	1.55	1.14	0.36 J	<1	<1	<1	<1	<1	0.15 J	
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	

**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	MW-9SB	MW-9SB	
	Screen Interval (ft above msl):	<b>144.8 - 155.8</b>	<b>144.8 - 155.8</b>	<b>144.8 - 155.8</b>	
	Date Sampled:	<b>5/18/2017</b> <b>(Post ISCO)</b>	<b>10/30/2017</b> <b>(Post ISCO)</b>	<b>05/15/2018</b> <b>(Post ISCO)</b>	
	6 NYCRR Part 703/TOGS 1.1.1 Class GA Groundwater Standards				
<b>VOLATILE ORGANIC COMPOUNDS (VOCs)</b>	<b>Units</b>				
1,1,1-Trichloroethane	ug/L	5	<1	<1	<1
1,1,2,2-Tetrachloroethane	ug/L	5	<1	<1	<1
1,1,2-Trichloro-1,2,2-trifluoroethane	ug/L	5	<1	<1	<1
1,1,2-Trichloroethane	ug/L	1	<1	<1	<1
1,1-Dichloroethane	ug/L	5	<1	<1	<1
1,1-Dichloroethene	ug/L	5	<1	<1	<1
1,2,3-Trichlorobenzene	ug/L	5	<1	<1	<1
1,2,4-Trichlorobenzene	ug/L	5	<1	<1	<1
1,2-Dibromo-3-chloropropane	ug/L	0.04	<0.05	<0.05	
1,2-Dibromoethane (EDB)	ug/L	0.0006	<1	<1	<1
1,2-Dichlorobenzene	ug/L	3	<1	<1	<1
1,2-Dichloroethane (EDC)	ug/L	0.6	<1	<1	<1
1,2-Dichloropropane	ug/L	1	<1	<1	<1
1,3-Dichlorobenzene	ug/L	3	<1	<1	<1
1,4-Dichlorobenzene	ug/L	3	<1	<1	<1
1,4-Dioxane	ug/L	NC	<3	<1	<1
2-Butanone (MEK)	ug/L	50	<10	<10	1.31 J
2-Hexanone	ug/L	50	<10	<10	<10
4-Methyl-2-pentanone (MIBK)	ug/L	NC	<10	<10	0.17 J
Acetone	ug/L	50	<10	2.61 J	4.95 J
Benzene	ug/L	1	<1	<1	<1
Bromochloromethane	ug/L	5	<1	<1	<1
Bromodichloromethane	ug/L	50	<1	<1	<1
Bromoform	ug/L	50	<1	<1	<1
Bromomethane	ug/L	5	<1	<1	<1
Carbon disulfide	ug/L	NC	<1	<1	<1
Carbon tetrachloride	ug/L	5	<1	<1	<1
Chlorobenzene	ug/L	5	<1	<1	<1
Chloroethane	ug/L	5	<1	<1	<1
Chloroform	ug/L	7	0.48 J	0.40 J	<1
Chloromethane	ug/L	5	0.70 J	<1	<1
cis-1,2-Dichloroethene	ug/L	5	<1	<1	<1
cis-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1
Cyclohexane	ug/L	NC	<1	<1	<1
Dibromochloromethane	ug/L	50	<1	<1	<1
Dichlorodifluoromethane	ug/L	5	<1	<1	<1
Ethylbenzene	ug/L	5	<1	<1	<1
Isopropylbenzene	ug/L	5	<1	<1	<1
Methyl acetate	ug/L	NC	<1	<1	<1
Methyl tert-butyl ether (MTBE)	ug/L	NC	<1	<1	<1
Methylcyclohexane	ug/L	NC	0.32 J	<1	<1
Methylene chloride	ug/L	5	<1	<1	<1
Styrene	ug/L	5	<1	<1	<1
Tetrachloroethene	ug/L	5	<1	<1	0.28 J
Toluene	ug/L	5	<1	<1	<1
trans-1,2-Dichloroethene	ug/L	5	<1	<1	<1
trans-1,3-Dichloropropene	ug/L	0.4	<1	<1	<1
Trichloroethene	ug/L	5	<1	<1	<1
Trichlorofluoromethane	ug/L	5	<1	<1	<1
Vinyl Chloride	ug/L	2	<1	<1	<1
Xylenes (Total)	ug/L	5	<3	<3	<3
Total VOCs	ug/L	NA	1.5 J	3.01 J	6.71 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



**FIGURE 1**

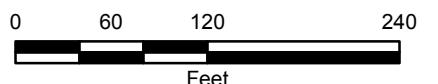


**LEGEND**

- ◆ 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**



JUNE 2015  
14206.60464



## 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	4/29/2018	1245	10.54	5/15/2018	1445	10.78	7.33	14.01	1.04	60.1	698	1.27
MW-2	204.7	204.39	191.4	181.4	13-23	Overburden	4/29/2018	1130	16.69	5/15/2018	1400	16.94	7.52	13.16	1.27	62.8	852	0.26
MW-2DB	204.3	204.04	136.3	126.3	68-78	Deep Bedrock	4/29/2018	1100	16.26	5/15/2018	1330	16.28	7.88	13.61	0.33	50.6	223	0.11
MW-2SB	203.9	203.55	158.9	148.9	45-55	Shallow Bedrock	4/29/2018	1115	15.65	5/15/2018	1345	15.84	7.89	13.96	0.35	-3.8	235	0.13
MW-4S	202.5	202.27	188.5	178.4	14-24	Overburden	4/29/2018	1310	13.92	5/15/2018	1500	14.13	10.75	14.84	0.97	10.5	651	0.38
MW-4D	202.5	202.07	168.0	158.0	34.5-44.5	Shallow Bedrock	4/29/2018	1315	13.74	5/15/2018	1515	13.93	9.18	14.65	0.54	48.1	358	0.7
MW-5	203.7	203.39	189.7	179.7	14-24	Overburden	4/29/2018	1215	15.67	5/15/2018	1300	22.92	7.62	11.77	0.15	35.7	101	1.5
MW-5DB	203.4	203.07	115.4	105.4	88-98	Deep Bedrock	5/1/2018	730	15.02	5/15/2018	1230	15.28	8.99	12.86	0.35	-125.7	236	-0.05
MW-5SB	203.1	202.80	155.1	145.1	48-58	Shallow Bedrock	5/1/2018	740	14.97	5/15/2018	1245	15.01	7.97	13.16	0.60	-98.9	403	0.07
MW-6	204.0	203.63	190.0	180.0	14-24	Overburden	4/29/2018	1015	15.28	5/15/2018	830	15.16	7.29	13.55	2.42	100.8	1621	1.04
MW-6SB	204.2	203.83	162.4	152.4	41.9-51.9	Shallow Bedrock	4/29/2018	1020	15.44	5/15/2018	840	15.55	7.4	14.49	0.72	44.3	483	2.89
MW-7	200.2	199.73	185.2	175.2	15-25	Overburden	4/29/2018	1050	13.78	5/15/2018	945	14.2	7.26	12.93	1.71	62.6	1143	0.91
MW-7SB	200.2	199.79	156.2	146.2	44-54	Shallow Bedrock	4/29/2018	1040	14.4	5/15/2018	1000	14.08	7.62	12.98	2.82	-12.1	1891	0.12



## 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	4/29/2018	1120	10.81	5/15/2018	1115	11.23	6.67	12.99	4.32	-72	2891	0.11
MW-8SB	197.3	196.68	152.3	142.3	45-55	Shallow Bedrock	4/29/2018	1125	10.79	5/15/2018	1130	10.21	7.11	13.31	2.56	-6.1	1717	0.13
MW-9	201.3	200.80	186.3	176.3	15-25	Overburden	4/29/2018	1100	14.81	5/15/2018	1030	15.13	7.3	10.78	2.29	49.9	1536	0.37
MW-9SB	201.3	200.76	155.3	145.3	46-56	Shallow Bedrock	4/29/2018	1105	15.46	5/15/2018	1045	15.1	7.8	12.76	0.98	-82.8	655	0.06

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

Sampler Deployment: Mark Randazzo

Sampler Retrieval: Mark Randazzo





# INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

92 North Main St, Building 20

Windsor, NJ 08561

Toll-free: (800) 301-9663

## Pine Environmental Services, Inc.

Instrument ID 2685

Description YSI 600 XL

Calibrated 5/14/2018 8:34:06AM

Manufacturer YSI	State Certified
Model Number 600 XL	Status Pass
Serial Number/ Lot 01L0629AC	Temp °C 21.2
Number	Humidity % 45
Location New Jersey	
Department	

### Calibration Specifications

Group # 1

Group Name PH

Stated Accy Pct of Reading

Range Acc % 0.0000

Reading Acc % 3.0000

Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
7.00 / 7.00	PH	7.00	PH	6.89	7.00	0.00%	Pass
4.00 / 4.00	PH	4.00	PH	4.06	4.00	0.00%	Pass
10.00 / 10.00	PH	10.00	PH	10.09	10.00	0.00%	Pass

Group # 2

Group Name Conductivity

Stated Accy Pct of Reading

Range Acc % 0.0000

Reading Acc % 3.0000

Plus/Minus 0.00

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
1.413 / 1.413	ms/cm	1.413	ms/cm	1.402	1.413	0.00%	Pass

Group # 3

Group Name Redox (ORP)

Stated Accy Pct of Reading

Range Acc % 0.0000

Reading Acc % 3.0000

Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
240.0 / 240.0	mv	240.0	mv	233.6	240.0	0.00%	Pass

Group # 4

Group Name Dissolved Oxygen Span

Stated Accy Pct of Reading

Range Acc % 0.0000

Reading Acc % 3.0000

Plus/Minus 0.0

Nom In Val / In Val	In Type	Out Val	Out Type	Fnd As	Lft As	Dev%	Pass/Fail
100.0 / 100.0	%	100.0	%	94.3	100.0	0.00%	Pass



## INSTRUMENT CALIBRATION REPORT

Pine Environmental Services LLC

92 North Main St, Building 20  
Windsor, NJ 08561  
Toll-free: (800) 301-9663

### Pine Environmental Services, Inc.

Instrument ID 2685

Description YSI 600 XL

Calibrated 5/14/2018 8:34:06AM

<u>Test Instruments Used During the Calibration</u>					<u>(As Of Cal Entry Date)</u>	
<u>Test Standard ID</u>	<u>Description</u>	<u>Manufacturer</u>	<u>Model Number</u>	<u>Serial Number / Lot Number</u>	<u>Last Cal Date/ Expiration Date</u>	<u>Next Cal Date / Opened Date</u>
NJ COND 1.413 LOT: 7GL100	1413 conductivity standard	AquaPhoenix Scientific	1413	7GL100	3/30/2018	12/31/2018
NJ ORP 240: 2062	ORP solution 240mv	Hanna	HI7021L	2062	1/19/2018	10/31/2022
NJ PH 10: 7GL670	BUFFER, PH10 BLUE	AquaPhoenix Scientific	PH10	7GL670	3/30/2018	12/31/2019
NJ PH 4: 7GI837	BUFFER, PH4 RED	AquaPhoenix Scientific	PH4	7GI837	3/30/2018	9/30/2019
NJ PH 7: 8GB386	BUFFER, PH7 YELLOW	AquaPhoenix Scientific	PH7	8GB386	3/30/2018	2/29/2020

#### Notes about this calibration

**Calibration Result** Calibration Successful

**Who Calibrated** William Bass

All instruments are calibrated by Pine Environmental Services LLC according to the manufacturer's specifications, but it is the customer's responsibility to calibrate and maintain this unit in accordance with the manufacturer's specifications and/or the customer's own specific needs.

**Notify Pine Environmental Services LLC of any defect within 24 hours of receipt of equipment**

**Please call 800-301-9663 for Technical Assistance**



## PDB Groundwater Sampling Log

Well ID: MW-1

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 15.9 ft. bmp\*  
Depth to Water: 10.54 ft. bmp\*  
Length of Water Column (LWC): 5.4 ft.  
PDB Midpoint: 13.2 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-2

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 23 ft. bmp\*  
Depth to Water: 16.69 ft. bmp\*  
Length of Water Column (LWC): 6.3 ft.  
PDB Midpoint: 19.85 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-2SB

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 55 ft. bmp\*  
Depth to Water: 15.65 ft. bmp\*  
Length of Water Column (LWC): 39.4 ft.  
PDB Midpoint: 50 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes: MS/MSD collected



## PDB Groundwater Sampling Log

Well ID: MW-2DB

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 78 ft. bmp\*  
Depth to Water: 16.26 ft. bmp\*  
Length of Water Column (LWC): 61.74 ft.  
PDB Midpoint: 73 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-4S

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 24 ft. bmp\*  
Depth to Water: 13.9 ft. bmp\*  
Length of Water Column (LWC): 10.1 ft.  
PDB Midpoint: 19 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-4D

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 44.5 ft. bmp\*  
Depth to Water: 13.7 ft. bmp\*  
Length of Water Column (LWC): 30.8 ft.  
PDB Midpoint: 39.5 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3/10	No	HCL	<2

Notes: BD-1 collected



## PDB Groundwater Sampling Log

Well ID: MW -5

Project No.: 69528  
 Site Name: 1-5 Holland Avenue  
 Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
 Date: 4/29/18  
 Weather: Cloudy

## Well Information:

Depth of Well: 24 ft. bmp\*  
 Depth to Water: 15.7 ft. bmp\*  
 Length of Water Column (LWC): 8.3 ft.  
 PDB Midpoint: 19.8 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
 PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW -5S-B

Project No.: 69528  
 Site Name: 1-5 Holland Avenue  
 Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
 Date: 5/11/18  
 Weather: Cloudy

## Well Information:

Depth of Well: 58 ft. bmp\*  
 Depth to Water: 49.7 ft. bmp\*  
 Length of Water Column (LWC): 24.3 ft.  
 PDB Midpoint: 53 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 5/11/18  
 PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW - SD 8

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 5/11/18  
Weather: Cloudy

## Well Information:

Depth of Well: 98 ft. bmp\*  
Depth to Water: 15.0 ft. bmp\*  
Length of Water Column (LWC): 83 ft.  
PDB Midpoint: 93 ft.

\* Measurement Point:  
 Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 5/11/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW - 6

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 24 ft. bmp\*  
Depth to Water: 15.3 ft. bmp\*  
Length of Water Column (LWC): 8.7 ft.  
PDB Midpoint: 19.6 ft.

\* Measurement Point:  
 Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-6SB

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 81.9 ft. bmp\*  
Depth to Water: 15.4 ft. bmp\*  
Length of Water Column (LWC): 36.5 ft.  
PDB Midpoint: 46.9 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-7

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 25 ft. bmp\*  
Depth to Water: 13.8 ft. bmp\*  
Length of Water Column (LWC): 11.2 ft.  
PDB Midpoint: 20 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-75B

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 54 ft. bmp\*  
Depth to Water: 14.7 ft. bmp\*  
Length of Water Column (LWC): 39.6 ft.  
PDB Midpoint: 49 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-8

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 25 ft. bmp\*  
Depth to Water: 10.8 ft. bmp\*  
Length of Water Column (LWC): 14.2 ft.  
PDB Midpoint: 20 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-85B

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 55 ft. bmp\*  
Depth to Water: 10.8 ft. bmp\*  
Length of Water Column (LWC): 44.2 ft.  
PDB Midpoint: 50 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW-9

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: \_\_\_\_\_  
Weather: Cloudy

## Well Information:

Depth of Well: 25 ft. bmp\*  
Depth to Water: 14.8 ft. bmp\*  
Length of Water Column (LWC): 10.2 ft.  
PDB Midpoint: 20 ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: MW - 9SB

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: 4/29/18  
Weather: Cloudy

## Well Information:

Depth of Well: 56 ft. bmp\*  
Depth to Water: 15.5 ft. bmp\*  
Length of Water Column (LWC): 40.5 ft.  
PDB Midpoint: 51 ft.

\* Measurement Point:

- Well Casing  
 Protective Casing  
 Other: \_\_\_\_\_

PDB Installation Date: 4/29/18  
PDB Removal Date: 5/15/18

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



## PDB Groundwater Sampling Log

Well ID: \_\_\_\_\_

Project No.: 69528  
Site Name: 1-5 Holland Avenue  
Site Loc.: One Holland Avenue Development

Field Personnel: MAR  
Date: \_\_\_\_\_  
Weather: Cloudy

## Well Information:

Depth of Well: \_\_\_\_\_ ft. bmp\*  
Depth to Water: \_\_\_\_\_ ft. bmp\*  
Length of Water Column (LWC): \_\_\_\_\_ ft.  
PDB Midpoint: \_\_\_\_\_ ft.

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

PDB Installation Date: 4/29/18  
PDB Removal Date: \_\_\_\_\_

## Samples collected:

Container Size	Container Type	# Collected	Field Filtered	Preservative	Container pH
40 ml	VOA	3	No	HCL	<2

Notes:



**Merit's Laboratory  
Analytical Report**





# Analytical Laboratory Report

Report ID: S89857.01(01)  
Generated on 06/06/2018

## 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): S89857.01-S89857.21

Project: Feintool  
Collected Date: 05/15/2018  
Submitted Date/Time: 05/16/2018 10:00  
Sampled by: Mark Randazzo  
P.O. #: 11800507

## Table of Contents

Cover Page (Page 1)  
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Report Narrative (Page 2)  
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A handwritten signature in black ink, appearing to read "Maya Murshak".

Maya Murshak  
Technical Director



# Analytical Laboratory Report

## General Report Notes

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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

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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
LN	Linear
BR	Branched



# 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
S89857.01	MW-1	Groundwater	05/15/18 14:45
S89857.02	MW-2	Groundwater	05/15/18 14:00
S89857.03	MW-2SB	Groundwater	05/15/18 13:30
S89857.04	MW-2SB MS	Groundwater	05/15/18 13:30
S89857.05	MW-2SB MSD	Groundwater	05/15/18 13:30
S89857.06	MW-2DB	Groundwater	05/15/18 13:45
S89857.07	MW-4S	Groundwater	05/15/18 15:00
S89857.08	MW-4D	Groundwater	05/15/18 15:15
S89857.09	MW-5	Groundwater	05/15/18 13:00
S89857.10	MW-5SB	Groundwater	05/15/18 12:45
S89857.11	MW-5DB	Groundwater	05/15/18 12:30
S89857.12	MW-6	Groundwater	05/15/18 10:15
S89857.13	MW-6SB	Groundwater	05/15/18 10:20
S89857.14	MW-7	Groundwater	05/15/18 10:50
S89857.15	MW-7SB	Groundwater	05/15/18 11:00
S89857.16	MW-8	Groundwater	05/15/18 11:15
S89857.17	MW-8SB	Groundwater	05/15/18 11:30
S89857.18	MW-9	Groundwater	05/15/18 10:30
S89857.19	MW-9SB	Groundwater	05/15/18 10:45
S89857.20	BD-1	Groundwater	05/15/18 00:01
S89857.21	TB-5/15/18	Liquid	05/15/18 00:01



# Analytical Laboratory Report

Lab Sample ID: S89857.01

Sample Tag: MW-1

Collected Date/Time: 05/15/2018 14:45

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 19:32	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 19:32	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.18	
Acetone	4.60	ug/L	10	SW5030C/8260C	05/16/18 14:37	JGH	0.56	JB
Carbon disulfide	0.27	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.24	J
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.19	
2-Butanone (MEK)	1.30	ug/L	10	SW5030C/8260C	05/16/18 14:37	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.26	
Chloroform	0.20	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	J
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	05/16/18 14:37	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 14:37	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.28	
Tetrachloroethene	34	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.01 (continued)

Sample Tag: MW-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 14:37	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:37	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.02

Sample Tag: MW-2

Collected Date/Time: 05/15/2018 14:00

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 19:54	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 19:54	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.18	
Acetone	4.67	ug/L	10	SW5030C/8260C	05/16/18 14:56	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.19	
2-Butanone (MEK)	1.28	ug/L	10	SW5030C/8260C	05/16/18 14:56	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.26	
Chloroform	0.32	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	JB
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.16	ug/L	10	SW5030C/8260C	05/16/18 14:56	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 14:56	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.28	
Tetrachloroethene	123	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.02 (continued)

Sample Tag: MW-2

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 14:56	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:56	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.03

Sample Tag: MW-2SB

Collected Date/Time: 05/15/2018 13:30

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 19:11	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 19:11	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.18	
Acetone	7.60	ug/L	10	SW5030C/8260C	05/16/18 14:18	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.19	
2-Butanone (MEK)	2.76	ug/L	10	SW5030C/8260C	05/16/18 14:18	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.26	
Chloroform	0.23	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	JB
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.35	ug/L	10	SW5030C/8260C	05/16/18 14:18	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 14:18	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.28	
Tetrachloroethene	0.43	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.03 (continued)

Sample Tag: MW-2SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 14:18	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 14:18	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.04

Sample Tag: MW-2SB MS

Collected Date/Time: 05/15/2018 13:30

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	0.11	ug/L	0.05	SW8260B - SIM	05/25/18 17:10	JML	0.026	1
1,4-Dioxane*	43	ug/L	1	SW8260B - SIM	05/25/18 17:10	JML	0.71	1
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	46	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.18	1
Acetone	49	ug/L	10	SW5030C/8260C	05/16/18 12:23	JGH	0.56	B1
Carbon disulfide	40	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.24	1
Methyl Acetate	40	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.25	1
tert-Methyl butyl ether (MTBE)	44	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.19	1
2-Butanone (MEK)	47	ug/L	10	SW5030C/8260C	05/16/18 12:23	JGH	0.26	1
Dichlorodifluoromethane	39	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.50	1
Chloromethane	37	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.26	1
Vinyl chloride	39	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.31	1
Bromomethane	42	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.32	1
Chloroethane	40	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.34	1
Trichlorofluoromethane	45	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.33	1
1,1-Dichloroethene	38	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.27	1
Methylene chloride	43	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.29	1
trans-1,2-Dichloroethene	43	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
1,1-Dichloroethane	44	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
cis-1,2-Dichloroethene	46	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.26	1
Chloroform	46	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
Bromochloromethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.38	1
1,1,1-Trichloroethane	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.28	1
Cyclohexane	39	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.29	1
4-Methyl-2-pentanone (MIBK)	45	ug/L	10	SW5030C/8260C	05/16/18 12:23	JGH	0.14	1
2-Hexanone	45	ug/L	10	SW5030C/8260C	05/16/18 12:23	JGH	0.29	1
Carbon tetrachloride	52	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
Benzene	47	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
1,2-Dichloroethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.16	1
Trichloroethene	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.23	1
1,2-Dichloropropane	45	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
Bromodichloromethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.23	1
Methyl cyclohexane	44	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.21	1
cis-1,3-Dichloropropene	50	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.19	1
Toluene	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.25	1
trans-1,3-Dichloropropene	51	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.25	1
1,1,2-Trichloroethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.28	1

1-spiked at 50ug/L

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.04 (continued)

Sample Tag: MW-2SB MS

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	52	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	1
Dibromochloromethane	52	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.24	1
1,2-Dibromoethane	50	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.30	1
Chlorobenzene	51	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.17	1
Ethylbenzene	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.26	1
Total Xylenes	148	ug/L	3	SW5030C/8260C	05/16/18 12:23	JGH	0.66	1
Styrene	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.18	1
Isopropylbenzene	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.25	1
Bromoform	54	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.22	1
1,1,2,2-Tetrachloroethane	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.18	1
1,3-Dichlorobenzene	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.24	1
1,4-Dichlorobenzene	49	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.23	1
1,2-Dichlorobenzene	48	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.28	1
1,2,4-Trichlorobenzene	47	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.19	B1
1,2,3-Trichlorobenzene	46	ug/L	1	SW5030C/8260C	05/16/18 12:23	JGH	0.20	B1

1-Spiked at 50ug/L

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.05

Sample Tag: MW-2SB MSD

Collected Date/Time: 05/15/2018 13:30

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	0.09	ug/L	0.05	SW8260B - SIM	05/25/18 17:30	JML	0.026	1
1,4-Dioxane*	39	ug/L	1	SW8260B - SIM	05/25/18 17:30	JML	0.71	1
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	49	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.18	1
Acetone	50	ug/L	10	SW5030C/8260C	05/16/18 12:42	JGH	0.56	B1
Carbon disulfide	44	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.24	1
Methyl Acetate	43	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.25	1
tert-Methyl butyl ether (MTBE)	48	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.19	1
2-Butanone (MEK)	51	ug/L	10	SW5030C/8260C	05/16/18 12:42	JGH	0.26	1
Dichlorodifluoromethane	42	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.50	1
Chloromethane	39	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.26	1
Vinyl chloride	42	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.31	1
Bromomethane	45	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.32	1
Chloroethane	43	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.34	1
Trichlorofluoromethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.33	1
1,1-Dichloroethene	42	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.27	1
Methylene chloride	47	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.29	1
trans-1,2-Dichloroethene	46	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
1,1-Dichloroethane	48	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
cis-1,2-Dichloroethene	50	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.26	1
Chloroform	49	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
Bromochloromethane	52	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.38	1
1,1,1-Trichloroethane	53	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.28	1
Cyclohexane	42	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.29	1
4-Methyl-2-pentanone (MIBK)	49	ug/L	10	SW5030C/8260C	05/16/18 12:42	JGH	0.14	1
2-Hexanone	47	ug/L	10	SW5030C/8260C	05/16/18 12:42	JGH	0.29	1
Carbon tetrachloride	56	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
Benzene	51	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
1,2-Dichloroethane	53	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.16	1
Trichloroethene	53	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.23	1
1,2-Dichloropropane	49	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
Bromodichloromethane	52	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.23	1
Methyl cyclohexane	48	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.21	1
cis-1,3-Dichloropropene	53	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.19	1
Toluene	52	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.25	1
trans-1,3-Dichloropropene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.25	1
1,1,2-Trichloroethane	52	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.28	1

1-spiked at 50ug/L

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.05 (continued)

Sample Tag: MW-2SB MSD

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	56	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	1
Dibromochloromethane	58	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.24	1
1,2-Dibromoethane	56	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.30	1
Chlorobenzene	55	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.17	1
Ethylbenzene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.26	1
Total Xylenes	164	ug/L	3	SW5030C/8260C	05/16/18 12:42	JGH	0.66	1
Styrene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.18	1
Isopropylbenzene	55	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.25	1
Bromoform	61	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.22	1
1,1,2,2-Tetrachloroethane	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.18	1
1,3-Dichlorobenzene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.24	1
1,4-Dichlorobenzene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.23	1
1,2-Dichlorobenzene	54	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.28	1
1,2,4-Trichlorobenzene	53	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.19	B1
1,2,3-Trichlorobenzene	51	ug/L	1	SW5030C/8260C	05/16/18 12:42	JGH	0.20	B1

1-Spiked at 50ug/L

B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.06

Sample Tag: MW-2DB

Collected Date/Time: 05/15/2018 13:45

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 20:14	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 20:14	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.18	
Acetone	2.49	ug/L	10	SW5030C/8260C	05/16/18 15:16	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.19	
2-Butanone (MEK)	1.80	ug/L	10	SW5030C/8260C	05/16/18 15:16	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.29	ug/L	10	SW5030C/8260C	05/16/18 15:16	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 15:16	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.28	
Tetrachloroethene	4	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.06 (continued)

Sample Tag: MW-2DB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 15:16	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 15:16	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.07

Sample Tag: MW-4S

Collected Date/Time: 05/15/2018 15:00

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 20:35	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 20:35	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.8	Y
Acetone	26.7	ug/L	100	SW5030C/8260C	05/18/18 15:15	JGH	5.6	JYB
Carbon disulfide	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.4	Y
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.5	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.9	Y
2-Butanone (MEK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:15	JGH	2.6	Y
Dichlorodifluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	5.0	Y
Chloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.6	Y
Vinyl chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.1	Y
Bromomethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.2	Y
Chloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.4	Y
Trichlorofluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.3	Y
1,1-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.7	Y
Methylene chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.9	Y
trans-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
1,1-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
cis-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.6	Y
Chloroform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
Bromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.8	Y
1,1,1-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.8	Y
Cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.9	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:15	JGH	1.4	Y
2-Hexanone	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:15	JGH	2.9	Y
Carbon tetrachloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
Benzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
1,2-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.6	Y
Trichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.3	Y
1,2-Dichloropropane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
Bromodichloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.3	Y
Methyl cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.1	Y
cis-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.9	Y
Toluene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.5	Y
trans-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.5	Y
1,1,2-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.8	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.07 (continued)

Sample Tag: MW-4S

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	180	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y
Dibromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.4	Y
1,2-Dibromoethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	3.0	Y
Chlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.7	Y
Ethylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.6	Y
Total Xylenes	Not detected	ug/L	30	SW5030C/8260C	05/18/18 15:15	JGH	6.6	Y
Styrene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.8	Y
Isopropylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.5	Y
Bromoform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.8	Y
1,3-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.4	Y
1,4-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.3	Y
1,2-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	1.9	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:15	JGH	2.0	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S89857.08

Sample Tag: MW-4D

Collected Date/Time: 05/15/2018 15:15

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 20:56	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 20:56	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.8	Y
Acetone	28.3	ug/L	100	SW5030C/8260C	05/18/18 15:34	JGH	5.6	JYB
Carbon disulfide	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.4	Y
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.5	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.9	Y
2-Butanone (MEK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:34	JGH	2.6	Y
Dichlorodifluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	5.0	Y
Chloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.6	Y
Vinyl chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.1	Y
Bromomethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.2	Y
Chloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.4	Y
Trichlorofluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.3	Y
1,1-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.7	Y
Methylene chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.9	Y
trans-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
1,1-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
cis-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.6	Y
Chloroform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
Bromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.8	Y
1,1,1-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.8	Y
Cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.9	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:34	JGH	1.4	Y
2-Hexanone	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:34	JGH	2.9	Y
Carbon tetrachloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
Benzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
1,2-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.6	Y
Trichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.3	Y
1,2-Dichloropropane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
Bromodichloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.3	Y
Methyl cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.1	Y
cis-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.9	Y
Toluene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.5	Y
trans-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.5	Y
1,1,2-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.8	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.08 (continued)

Sample Tag: MW-4D

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	270	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y
Dibromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.4	Y
1,2-Dibromoethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	3.0	Y
Chlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.7	Y
Ethylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.6	Y
Total Xylenes	Not detected	ug/L	30	SW5030C/8260C	05/18/18 15:34	JGH	6.6	Y
Styrene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.8	Y
Isopropylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.5	Y
Bromoform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.8	Y
1,3-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.4	Y
1,4-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.3	Y
1,2-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	1.9	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:34	JGH	2.0	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S89857.09

Sample Tag: MW-5

Collected Date/Time: 05/15/2018 13:00

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 21:18	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 21:18	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.18	
Acetone	4.88	ug/L	10	SW5030C/8260C	05/18/18 13:20	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.19	
2-Butanone (MEK)	1.59	ug/L	10	SW5030C/8260C	05/18/18 13:20	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.26	ug/L	10	SW5030C/8260C	05/18/18 13:20	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 13:20	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.28	
Tetrachloroethene	4	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.09 (continued)

Sample Tag: MW-5

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 13:20	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:20	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.10

Sample Tag: MW-5SB

Collected Date/Time: 05/15/2018 12:45

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 21:39	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 21:39	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.18	
Acetone	4.97	ug/L	10	SW5030C/8260C	05/18/18 13:40	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.19	
2-Butanone (MEK)	1.67	ug/L	10	SW5030C/8260C	05/18/18 13:40	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.26	
Vinyl chloride	0.37	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.31	J
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	
cis-1,2-Dichloroethene	0.26	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.26	J
Chloroform	0.21	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	J
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.25	ug/L	10	SW5030C/8260C	05/18/18 13:40	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 13:40	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.16	
Trichloroethene	2	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.28	
Tetrachloroethene	4	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.10 (continued)

Sample Tag: MW-5SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 13:40	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:40	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.11

Sample Tag: MW-5DB

Collected Date/Time: 05/15/2018 12:30

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 22:00	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 22:00	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.18	
Acetone	5.41	ug/L	10	SW5030C/8260C	05/18/18 13:59	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.19	
2-Butanone (MEK)	1.55	ug/L	10	SW5030C/8260C	05/18/18 13:59	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.50	
Chloromethane	0.30	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.26	J
Vinyl chloride	0.50	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.31	J
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.26	
Chloroform	0.33	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	JB
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.26	ug/L	10	SW5030C/8260C	05/18/18 13:59	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 13:59	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.28	
Tetrachloroethene	0.28	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.11 (continued)

Sample Tag: MW-5DB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 13:59	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 13:59	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.12

Sample Tag: MW-6

Collected Date/Time: 05/15/2018 10:15

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 22:21	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 22:21	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.18	
Acetone	5.35	ug/L	10	SW5030C/8260C	05/18/18 14:18	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.19	
2-Butanone (MEK)	1.37	ug/L	10	SW5030C/8260C	05/18/18 14:18	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.22	ug/L	10	SW5030C/8260C	05/18/18 14:18	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 14:18	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.12 (continued)

Sample Tag: MW-6

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 14:18	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:18	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.13

Sample Tag: MW-6SB

Collected Date/Time: 05/15/2018 10:20

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 22:42	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 22:42	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.18	
Acetone	5.13	ug/L	10	SW5030C/8260C	05/16/18 17:28	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.19	
2-Butanone (MEK)	1.43	ug/L	10	SW5030C/8260C	05/16/18 17:28	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	05/16/18 17:28	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 17:28	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.13 (continued)

Sample Tag: MW-6SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 17:28	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:28	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.14

Sample Tag: MW-7

Collected Date/Time: 05/15/2018 10:50

Matrix: Groundwater

COC Reference: 110362

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 23:02	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 23:02	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.18	
Acetone	6.22	ug/L	10	SW5030C/8260C	05/16/18 17:47	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.19	
2-Butanone (MEK)	1.70	ug/L	10	SW5030C/8260C	05/16/18 17:47	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.32	ug/L	10	SW5030C/8260C	05/16/18 17:47	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 17:47	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.16	
Trichloroethene	0.27	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.23	J
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.28	
Tetrachloroethene	68	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.14 (continued)

Sample Tag: MW-7

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 17:47	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 17:47	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.15

Sample Tag: MW-7SB

Collected Date/Time: 05/15/2018 11:00

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 23:23	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 23:23	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.18	
Acetone	3.55	ug/L	10	SW5030C/8260C	05/16/18 18:06	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.19	
2-Butanone (MEK)	1.57	ug/L	10	SW5030C/8260C	05/16/18 18:06	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
cis-1,2-Dichloroethene	4	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.28	ug/L	10	SW5030C/8260C	05/16/18 18:06	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 18:06	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.16	
Trichloroethene	1	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.28	
Tetrachloroethene	0.32	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.15 (continued)

Sample Tag: MW-7SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 18:06	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:06	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.16

Sample Tag: MW-8

Collected Date/Time: 05/15/2018 11:15

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 23:44	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 23:44	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.18	
Acetone	5.34	ug/L	10	SW5030C/8260C	05/16/18 18:25	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.19	
2-Butanone (MEK)	1.68	ug/L	10	SW5030C/8260C	05/16/18 18:25	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.26	
Vinyl chloride	12	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.29	
trans-1,2-Dichloroethene	0.20	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	J
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	
cis-1,2-Dichloroethene	2	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	
Bromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.22	ug/L	10	SW5030C/8260C	05/16/18 18:25	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 18:25	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.28	
Tetrachloroethene	1	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.16 (continued)

Sample Tag: MW-8

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 18:25	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 18:25	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.17

Sample Tag: MW-8SB

Collected Date/Time: 05/15/2018 11:30

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/26/18 00:05	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/26/18 00:05	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.8	Y
Acetone	23.7	ug/L	100	SW5030C/8260C	05/18/18 15:53	JGH	5.6	JBY
Carbon disulfide	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.4	Y
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.5	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.9	Y
2-Butanone (MEK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:53	JGH	2.6	Y
Dichlorodifluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	5.0	Y
Chloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.6	Y
Vinyl chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.1	Y
Bromomethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.2	Y
Chloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.4	Y
Trichlorofluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.3	Y
1,1-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.7	Y
Methylene chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.9	Y
trans-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
1,1-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
cis-1,2-Dichloroethene	10	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.6	Y
Chloroform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
Bromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.8	Y
1,1,1-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.8	Y
Cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.9	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:53	JGH	1.4	Y
2-Hexanone	Not detected	ug/L	100	SW5030C/8260C	05/18/18 15:53	JGH	2.9	Y
Carbon tetrachloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
Benzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
1,2-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.6	Y
Trichloroethene	20	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.3	Y
1,2-Dichloropropane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
Bromodichloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.3	Y
Methyl cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.1	Y
cis-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.9	Y
Toluene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.5	Y
trans-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.5	Y
1,1,2-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.8	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.17 (continued)

Sample Tag: MW-8SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	360	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y
Dibromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.4	Y
1,2-Dibromoethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	3.0	Y
Chlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.7	Y
Ethylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.6	Y
Total Xylenes	Not detected	ug/L	30	SW5030C/8260C	05/18/18 15:53	JGH	6.6	Y
Styrene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.8	Y
Isopropylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.5	Y
Bromoform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.8	Y
1,3-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.4	Y
1,4-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.3	Y
1,2-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	1.9	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 15:53	JGH	2.0	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S89857.18

Sample Tag: MW-9

Collected Date/Time: 05/15/2018 10:30

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/26/18 00:26	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/26/18 00:26	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.18	
Acetone	6.13	ug/L	10	SW5030C/8260C	05/18/18 14:37	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.19	
2-Butanone (MEK)	1.96	ug/L	10	SW5030C/8260C	05/18/18 14:37	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.26	
Chloroform	0.32	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	JB
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.41	ug/L	10	SW5030C/8260C	05/18/18 14:37	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 14:37	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.18 (continued)

Sample Tag: MW-9

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 14:37	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:37	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.19

Sample Tag: MW-9SB

Collected Date/Time: 05/15/2018 10:45

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/26/18 00:47	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/26/18 00:47	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.18	
Acetone	4.95	ug/L	10	SW5030C/8260C	05/18/18 14:56	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.19	
2-Butanone (MEK)	1.31	ug/L	10	SW5030C/8260C	05/18/18 14:56	JGH	0.26	J
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	0.17	ug/L	10	SW5030C/8260C	05/18/18 14:56	JGH	0.14	J
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/18/18 14:56	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.28	
Tetrachloroethene	0.28	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	J

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.19 (continued)

Sample Tag: MW-9SB

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/18/18 14:56	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/18/18 14:56	JGH	0.20	



# Analytical Laboratory Report

Lab Sample ID: S89857.20

Sample Tag: BD-1

Collected Date/Time: 05/15/2018 00:01

Matrix: Groundwater

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
3	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/26/18 01:08	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/26/18 01:08	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.8	Y
Acetone	30.2	ug/L	100	SW5030C/8260C	05/18/18 16:13	JGH	5.6	JBY
Carbon disulfide	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.4	Y
Methyl Acetate	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.5	Y
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.9	Y
2-Butanone (MEK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 16:13	JGH	2.6	Y
Dichlorodifluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	5.0	Y
Chloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.6	Y
Vinyl chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.1	Y
Bromomethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.2	Y
Chloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.4	Y
Trichlorofluoromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.3	Y
1,1-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.7	Y
Methylene chloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.9	Y
trans-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
1,1-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
cis-1,2-Dichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.6	Y
Chloroform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
Bromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.8	Y
1,1,1-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.8	Y
Cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.9	Y
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	100	SW5030C/8260C	05/18/18 16:13	JGH	1.4	Y
2-Hexanone	Not detected	ug/L	100	SW5030C/8260C	05/18/18 16:13	JGH	2.9	Y
Carbon tetrachloride	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
Benzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
1,2-Dichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.6	Y
Trichloroethene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.3	Y
1,2-Dichloropropane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
Bromodichloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.3	Y
Methyl cyclohexane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.1	Y
cis-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.9	Y
Toluene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.5	Y
trans-1,3-Dichloropropene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.5	Y
1,1,2-Trichloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.8	Y

Y-Elevated reporting limit due to high target concentration

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.20 (continued)

Sample Tag: BD-1

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Tetrachloroethene	300	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y
Dibromochloromethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.4	Y
1,2-Dibromoethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	3.0	Y
Chlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.7	Y
Ethylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.6	Y
Total Xylenes	Not detected	ug/L	30	SW5030C/8260C	05/18/18 16:13	JGH	6.6	Y
Styrene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.8	Y
Isopropylbenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.5	Y
Bromoform	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.2	Y
1,1,2,2-Tetrachloroethane	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.8	Y
1,3-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.4	Y
1,4-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.3	Y
1,2-Dichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.8	Y
1,2,4-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	1.9	Y
1,2,3-Trichlorobenzene	Not detected	ug/L	10	SW5030C/8260C	05/18/18 16:13	JGH	2.0	Y

Y-Elevated reporting limit due to high target concentration



# Analytical Laboratory Report

Lab Sample ID: S89857.21

Sample Tag: TB-5/15/18

Collected Date/Time: 05/15/2018 00:01

Matrix: Liquid

COC Reference: 110363

## Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	40ml Glass	HCL	Yes	2.9	IR

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Extraction / Prep.</b>								
pH check for VOCs*	<2	STD Units		N/A	05/17/18 11:30	KCV		
<b>Organics - Volatiles</b>								
1,2-Dibromo-3-chloropropane*	Not detected	ug/L	0.05	SW8260B - SIM	05/25/18 18:50	JML	0.026	
1,4-Dioxane*	Not detected	ug/L	1	SW8260B - SIM	05/25/18 18:50	JML	0.71	
<b>TCL Volatile Organics 8260</b>								
1,1,2-Trichloro-1,2,2-trifluoroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.18	
Acetone	4.07	ug/L	10	SW5030C/8260C	05/16/18 13:59	JGH	0.56	JB
Carbon disulfide	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.24	
Methyl Acetate	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.25	
tert-Methyl butyl ether (MTBE)	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.19	
2-Butanone (MEK)	Not detected	ug/L	10	SW5030C/8260C	05/16/18 13:59	JGH	0.26	
Dichlorodifluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.50	
Chloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.26	
Vinyl chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.31	
Bromomethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.32	
Chloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.34	
Trichlorofluoromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.33	
1,1-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.27	
Methylene chloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.29	
trans-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
1,1-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
cis-1,2-Dichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.26	
Chloroform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.38	
1,1,1-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.28	
Cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.29	
4-Methyl-2-pentanone (MIBK)	Not detected	ug/L	10	SW5030C/8260C	05/16/18 13:59	JGH	0.14	
2-Hexanone	Not detected	ug/L	10	SW5030C/8260C	05/16/18 13:59	JGH	0.29	
Carbon tetrachloride	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
Benzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
1,2-Dichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.16	
Trichloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.23	
1,2-Dichloropropane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	
Bromodichloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.23	
Methyl cyclohexane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.21	
cis-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.19	
Toluene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.25	
trans-1,3-Dichloropropene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.25	
1,1,2-Trichloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.28	
Tetrachloroethene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	

J-Estimated value less than reporting limit, but greater than MDL B-Compound also found in associated method blank



# Analytical Laboratory Report

Lab Sample ID: S89857.21 (continued)

Sample Tag: TB-5/15/18

Analysis	Results	Units	RL	Method	Run Date/Time	Tech	MDL	Flags
<b>Organics - Volatiles (continued)</b>								
<b>TCL Volatile Organics 8260 (continued)</b>								
Dibromochloromethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.24	
1,2-Dibromoethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.30	
Chlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.17	
Ethylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.26	
Total Xylenes	Not detected	ug/L	3	SW5030C/8260C	05/16/18 13:59	JGH	0.66	
Styrene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.18	
Isopropylbenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.25	
Bromoform	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.22	
1,1,2,2-Tetrachloroethane	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.18	
1,3-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.24	
1,4-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.23	
1,2-Dichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.28	
1,2,4-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.19	
1,2,3-Trichlorobenzene	Not detected	ug/L	1	SW5030C/8260C	05/16/18 13:59	JGH	0.20	



2680 East Lansing Dr., East Lansing, MI 48823  
 Phone (517) 332-0167 Fax (517) 332-4034  
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C.O.C. PAGE # 1 OF 2

110362

**REPORT TO**

CONTACT NAME Mark A. Randazzo  
 COMPANY O'Brien & Gere Engineers, Inc.  
 ADDRESS 50 Main St., Suite 1060  
 CITY White Plains STATE NY ZIP CODE 10606  
 PHONE NO. 781-883-6432 FAX NO. \_\_\_\_\_ P.O. NO. \_\_\_\_\_  
 E-MAIL ADDRESS Mark.Randazzo@OBG.com QUOTE NO. \_\_\_\_\_

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

SAME

CONTACT NAME \_\_\_\_\_

COMPANY \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_

STATE \_\_\_\_\_ ZIP CODE \_\_\_\_\_

PHONE NO. \_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME Feintool SAMPLER(S) - PLEASE PRINT/SIGN NAME Mark Randazzo M/R/S

TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS  STANDARD  OTHER

DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV  EDD  OTHER

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

# Containers & Preservatives

09260

09260

Certifications

OHIO VAP  Drinking Water

DoD  NPDES

Project Locations

Detroit  New York

Other QCD

Special Instructions

MS/MSD

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives						
	DATE	TIME				HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	
89857.01	5/15/18	1445	MW-1	GW	3	X						
.02	5/15/18	1400	MW-2	GW	3	X						
03/04/03	5/15/18	1330	MW-2SB	GW	9	X						
.04	5/15/18	1345	MW-2DB	GW	3	X						
.07	5/15/18	1800	MW-4S	GW	3	X						
.08	5/15/18	1515	MW-4D	GW	3	X						
.09	5/15/18	1300	MW-5	GW	3	X						
.10	5/15/18	1245	MW-5SB	GW	3	X						
.11	5/15/18	1230	MW-5DB	GW	3	X						
.12	5/15/18	0105	MW-6	GW	3	X						
.13	5/15/18	1020	MW-6SB	GW	3	X						
.14	5/15/18	1050	MW-7	GW	3	X						

RELINQUISHED BY:  
 SIGNATURE/ORGANIZATION MAR/18/18 OBG Sampler DATE 5/15/18 TIME 1635

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 5/16/18 TIME 1000

RECEIVED BY:  
 SIGNATURE/ORGANIZATION DATE 5/16/18 TIME 0000

SEAL NO. SEAL INTACT INITIALS NOTES: TEMP. ON ARRIVAL

SEAL NO. SEAL INTACT INITIALS

YES  NO

2.9

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



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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

110363

**REPORT TO**

CONTACT NAME **Mark A. Randazzo**  
COMPANY **O'Brien & Gere Engineers Inc.**  
ADDRESS **50 Main St., Suite 1060**  
CITY **White Plains** STATE **NY** ZIP CODE **10606**  
PHONE NO. **781-883-6432** FAX NO.  P.O. NO.   
E-MAIL ADDRESS **mark.randazzo@obg.com** QUOTE NO.

**CHAIN OF CUSTODY RECORD**

**INVOICE TO**

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

**ANALYSIS (ATTACH LIST IF MORE SPACE IS REQUIRED)**

PROJECT NO./NAME **Feintool** SAMPLER(S) - PLEASE PRINT/SIGN NAME **Mark Randazzo /mark**

TURNAROUND TIME REQUIRED  1 DAY  2 DAYS  3 DAYS **X** STANDARD  OTHER

DELIVERABLES REQUIRED  STD  LEVEL II  LEVEL III  LEVEL IV **X** ADD  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  
Certifications  
 OHIO VAP  Drinking Water  
 DoD  NPDES  
Project Locations  
 Detroit **X** New York  
 Other **QCD**  
Special Instructions

MERIT LAB NO. FOR LAB USE ONLY	YEAR		SAMPLE TAG IDENTIFICATION-DESCRIPTION	MATRIX	# OF BOTTLES	# Containers & Preservatives						
	DATE	TIME				HCl	HNO <sub>3</sub>	H <sub>2</sub> SO <sub>4</sub>	NaOH	MeOH	OTHER	
89857.15	5/15/18	1000	MW-7SB	GW	3	X						X
.16	5/15/18	1115	MW-8	GW	3		X					X
.17	5/15/18	1130	MW-8SB	GW	3		X					X
.18	5/15/18	1030	MW-9	GW	3		X					X
.19	5/15/18	1045	MW-9SB	GW	3		X					X
.20	5/15/18	-	BD-1	GW	3		X					X
.21	-	-	TB-5/15/18	-	1		X					X

RELINQUISHED BY: **Mark OBG**  Sampler DATE **5/15/18** TIME **1025**  
SIGNATURE/ORGANIZATION  
RECEIVED BY: **FedEx** DATE **5/16/18** TIME **1000**  
SIGNATURE/ORGANIZATION

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

SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	NOTES:	TEMP. ON ARRIVAL <b>219</b>
SEAL NO.	SEAL INTACT YES <input type="checkbox"/> NO <input type="checkbox"/>	INITIALS	<b>Shipped FedEx</b>	

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



## Data Usability Summary Report



# DATA VALIDATION MEMORANDUM

**TO:** Mark Randazzo  
**FROM:** KA Storne  
**RE:** Data Usability Summary Report for One Holland Avenue Site, Sampling May 2018  
**FILE:** 14206/69528  
**DATE:** June 25, 2018

cc: Douglas Crawford

This Data Usability Summary Report (DUSR) presents the results of data validation performed for groundwater samples collected by O'Brien & Gere (OBG) in May 2018 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
<b>Volatile Organic Compounds (VOCs)</b>	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

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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 5/15/18, the courier tracking number was not listed on the chain-of-custody record.

### II. DOCUMENT COMPLETENESS

The laboratory provided supplemental data as requested during data validation. The supplemental information was necessary to complete the validation.

### III. CALIBRATIONS

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

# DATA VALIDATION MEMORANDUM

- Results for bromoform 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-5/15/18.
- Tetrachloroethene in samples MW-1, MW-2, MW-2SB, MW-2DB, MW-4S, MW-4D, MW-5, MW-5SB, MW-5DB, MW-7, MW-7SB, MW-8, MW-8SB, MW-9SB and BD-1 [MW-4D].

## 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-8SB, 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 SMP 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	5/15/2018	S89857.01	MW-1	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.02	MW-2	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.03	MW-2SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.04	MW-2SB MS	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.05	MW-2SB MSD	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.06	MW-2DB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.07	MW-4S	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.08	MW-4D	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.09	MW-5	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.10	MW-5SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.11	MW-5DB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.12	MW-6	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.13	MW-6SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.14	MW-7	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.15	MW-7SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.16	MW-8	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.17	MW-8SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.18	MW-9	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.19	MW-9SB	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.20	BD-1 [MW-4D]	Groundwater	1,2-Dibromo-3-chloropropane- SIM, 1,4-Dioxane- SIM, TCL VOCs- 8260
Merit	5/15/2018	S89857.21	TB-5/15/18	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)**

<b>General Validation Approach</b>	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.
<b>Applying professional judgment</b>	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.
<b>Validation Parameter</b>	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.
<b>Validation Qualifiers - Organics</b>	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.
<b>Cooler Temperature</b>	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)***

<b>Holding Time</b>	<p>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).</p> <p>Non-detected results for samples analyzed greater than two times the holding time window for preparation and/or analysis are rejected (R).</p> <p>Detected results for samples analyzed greater than two times the holding time window for preparation and/or analysis are qualified as approximate (J).</p> <p>The entire sample target list for a VOC sample impacted by a holding time excursion is qualified.</p>
<b>General Calibration Actions</b>	<p>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.</p> <p>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.</p>
<b>VOCs Calibration Evaluation</b>	<p>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.</p> <p>For response factor excursions, detected results are qualified as approximate (J) and non-detected results are rejected (R).</p> <p>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.</p>
<b>Associating samples with Field and Laboratory QC Samples</b>	<p>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.</p> <p>Calibration verifications are evaluated using a criterion of 20 percent difference (%D) for target analytes.</p> <p>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 <math>\geq 0.05</math>, RF <math>\geq 0.01</math> for other poor responding analytes. ICV recoveries are evaluated using laboratory control limits if available or 70 to 130%.</p> <p>Trip blanks are associated with samples in the same sample cooler.</p> <p>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.</p> <p>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.</p>

**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>
<b>Evaluation and Action for MS/MSD, LCS,</b>	<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>
<b>Surrogate and Laboratory Duplicate Data for VOCs</b>	<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>
<b>Evaluation of MS/MSD, Surrogate, and Field Duplicate Data for VOCs</b>	<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>

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

**Evaluation and Actions for Blank Results for VOC Data**

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".

Source O'Brien & Gere

TABLE 4

**Table 4. Laboratory QA/QC analysis definitions**

QA/QC Term	Definition
<b>Accuracy</b>	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".
<b>Precision</b>	A measure of mutual agreement between two or more individual measurements of the same property, obtained under similar conditions.
<b>Representativeness</b>	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.
<b>Sensitivity</b>	The capability of a method or instrument to discriminate between measurement responses representing different levels of a variable of interest.
<b>Completeness</b>	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.
<b>Detection limit</b>	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.
<b>Quantitation limit</b>	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.
<b>Method detection limit</b>	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.
<b>Instrument detection limit</b>	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.
<b>Gas chromatography/mass spectrometry (GC/MS) instrument performance check</b>	Performed to verify mass resolution, identification, and to some degree, instrument sensitivity. These criteria are not sample specific; conformance is determined using standard materials.
<b>Control limits</b>	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.
<b>Calibration</b>	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.
<b>Relative Response Factor</b>	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
<b>Relative standard deviation</b>	The standard deviation divided by the mean; a unit-free measure of variability.
<b>Correlation coefficient</b>	A measure of the strength of the relationship between two variables.
<b>Relative Percent Difference</b>	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.
<b>Percent Difference</b>	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.
<b>Drift</b>	The deviation in instrument response from its set or reference value over a period of time.
<b>Percent Recovery</b>	The act of determining whether or not the methodology measures all of the target analytes contained in a sample.
<b>Blanks</b>	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.
<b>Reagent blank</b>	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.
<b>Instrument blank</b>	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.
<b>Calibration blank</b>	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.
<b>Method blank</b>	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.
<b>Field/equipment</b>	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.
<b>Trip blank</b>	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
<b>Storage blank</b>	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.
<b>Internal standards performance</b>	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.
<b>Surrogate recovery</b>	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.
<b>Laboratory control sample</b> <b>Matrix spike blank analyses</b>	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.
<b>Laboratory duplicate</b>	Two or more representative portions taken from one homogeneous sample by the analyst and analyzed in the same laboratory.
<b>Matrix</b>	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.
<b>Matrix Spike (MS)</b>	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.
<b>Matrix spike duplicate (MSD)</b>	A second aliquot of the same matrix as the matrix spike that is spiked in order to determine the precision of the method.
<b>Retention time</b>	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.
<b>Relative retention time</b>	The ratio of the retention time of a compound to that of a standard.
<b>Resolution</b>	The separation between peaks on a chromatogram.
<b>Interference</b>	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.
<b>Percent Moisture</b>	An approximation of the amount of water in a soil/sediment sample made by drying an aliquot of the sample.
<b>Raw data</b>	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.

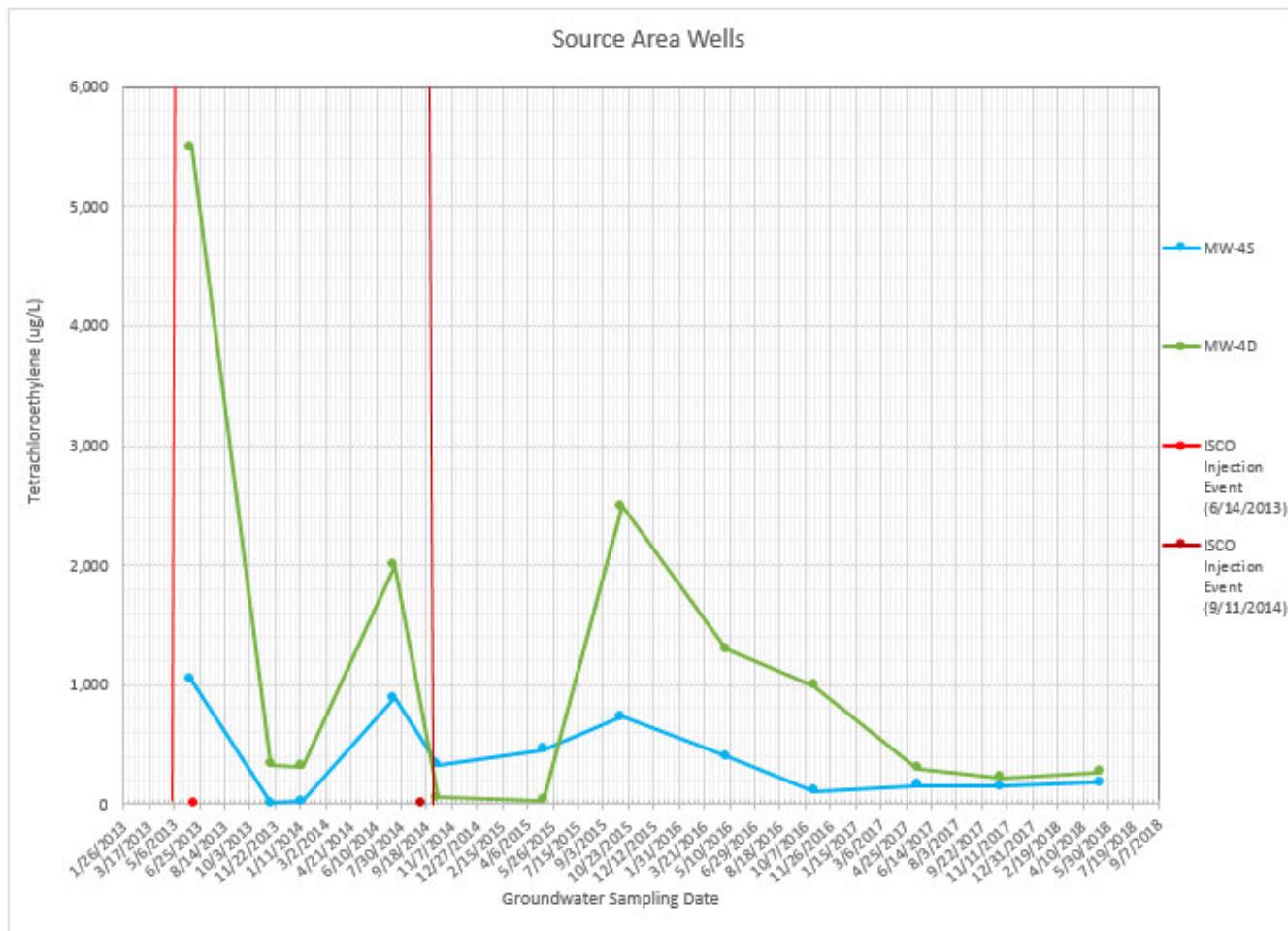
Source: O'Brien &amp; Gere



## Graphical Presentation of PCE Groundwater Data

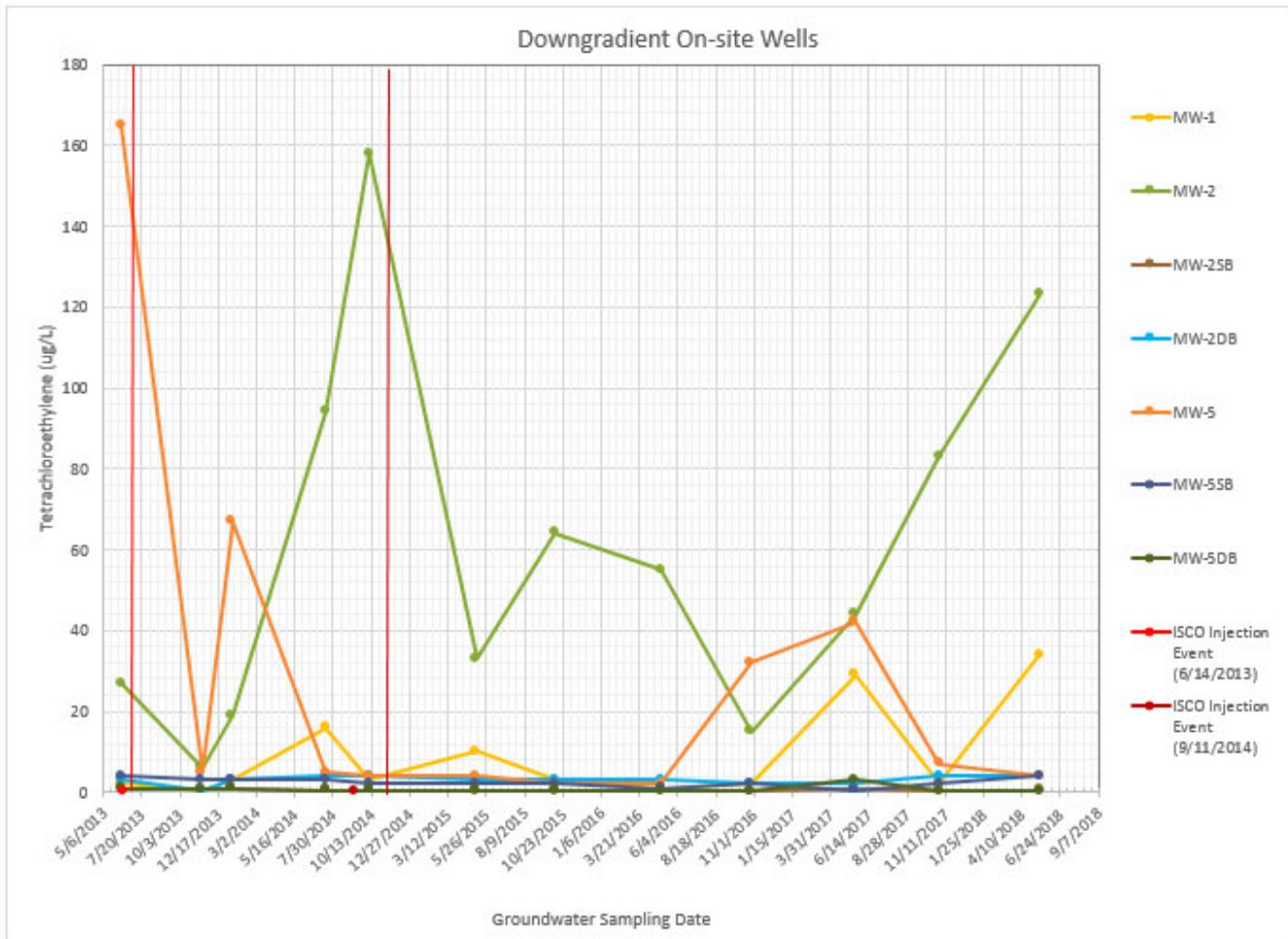
**GRAPHICAL PRESENTATION OF PCE GROUNDWATER CONCENTRATIONS**  
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**1-5 HOLLAND AVENUE**  
**WHITE PLAINS, NEW YORK**

**SOURCE AREA WELLS**



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